SUSTAINABILITY ENGINE

Start

04
2016

Digital evolution and the value of sharing

OUR SUSTAINABILITY:
Global ambitions, concrete measures

PRODUCTS:
Innovation for mobility in tomorrow's world

PROCESSES:
Manufacturing processes in the fourth industrial revolution

MAGNETI MARELLI

START 04 | READER'S GUIDE

Now in its fourth edition, Start is the communication and sustainability report magazine published by Magneti Marelli. This is a voluntarily-produced document, with which we address the company's approach, strategy, actions and results in this field. Start accompanies the official report on Magneti Marelli's activities, present in the FCA Group Sustainability Report, with the relative information and data. However, the publication makes reference to the indicators contained in the GRI-G4 Guidelines, recognised on an international level in the field of non-financial reporting. The complete list of indicators is available online, in the Sustainability section of the Magneti Marelli website. The magazine is made up of five sections which describe how Magneti Marelli is positioning itself and how it is facing up to important global challenges regarding sustainability. In particular, explanation is given on how environmental and social factors represent elements of risk/opportunity and how, as such, these are managed. Furthermore, an explanation is provided on how the company sees its role in the collective efforts of all of the public and private figures involved in pursuing, among others, the common objectives established by the United Nations in order to ensure a more sustainable future for the planet. The magazine will therefore address product innovation and how the Company contributes to sustainable mobility, but also about innovation in manufacturing processes, and the way in which this responds to the challenges that the digital revolution is presenting. This is a process based on involvement and the support of all of the stakeholders who work on a daily basis alongside, within and outside of the organisation, and who contribute to increasing competitiveness and the ability to change. Stories, first-person accounts and interviews will accompany you throughout the document, as we believe that the true protagonists of change are the very people who live it, implement it and experience it every day. Happy reading.

sustainability.magnetimarelli.com

The context and the sector in which we work, which will be subject to important technological changes over the next few years, certainly has an influence on our choices, just as our choices are capable of influencing our context. New technology in the automotive field, including the progress being made towards autonomous driving, is based on the concepts of connectivity and sharing. These very concepts are also at the base of our idea of sustainability: our openness towards, and willingness to listen to, our stakeholders are fundamental elements in targeting our strategies in terms of environmental, social and economic matters.

On the pages that follow, while remaining in line with the Sustainability program that was launched over seven years ago, we have decided to present our role in business in a manner which differs slightly from the past, seeking to answer the important challenges regarding technology and sustainability that are being set on a global level. There are two important innovations which we would like to examine: the Industry 4.0 model and the Sustainable Development Goals set by the United Nations, 17 global objectives to be reached by 2030.

What active role could Magneti Marelli have in this context?

On examining our core business, the most immediate aspect which we can influence is related to products and the technology that can have an impact in terms of eco-efficiency, safety, connectivity and digitalisation on our customers' vehicles.

Secondly, we need to look at how we make our products: we are aware of the impact that our activities can have on the environment which surrounds us, and this is why we are ever-more committed to rendering our manufacturing processes increasingly more efficient, technological and safe.

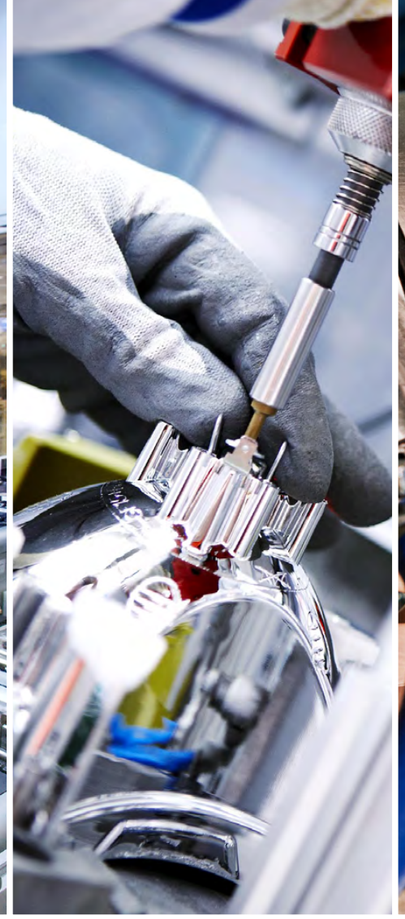
The manufacturing processes on which we are concentrating our efforts are, however, to be considered as a part of the relationships we have with all of the stakeholders with which we interact, from Suppliers to Customers, as well as, of course, the Employees. Employees are the principal resource of a Company, and it is our responsibility, as you will see in Start, to render them the true driver of change in order to continue with processes of change and to be competitive in the market.

PIETRO GORLIER
CEO Magneti Marelli

Lastly, but certainly no less important, we must be aware of the economic and social impact that we have on the territories in which we are present. As well as the economic balance of our performance, we are in fact aware that local communities also represent value: our willingness and our commitment is to lead them to grow together with us.

Products, processes, people and consequences, with sustainability as the common theme: this sums up what you are about to read.

Start 04 2016



COLOPHON

This publication has been produced thanks to the collaboration of all of Magneti Marelli's functions and Business Lines.

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OUR SUSTAINABILITY

NEW SCENARIOS OF SUSTAINABILITY: HOW THE ROLE OF INDUSTRY IS CHANGING

Magneti Marelli is committed to assisting the process of automotive evolution.

Since 2015, a radical change in the international perception of sustainability has been under way. The last two years have, in fact, represented a turning point, in particular with regards to the debate on the sustainability of development. The Paris agreements on the fight against climate change and the General Assembly of the United Nations approval of the Sustainable Development Goals (SDGs) represent important milestones. For example, themes such as the fight against poverty, the elimination of famine and the fight against climate change, which were once addressed solely by the scientific community, non-profit organisations and a few leaders in the business community, are nowadays important matters on the agendas of international institutions, governments and important financial institutions.

In this radical international transformation, the private sector is being called on for an epic change: it is no longer just about making processes and products more efficient, but also about radically re-thinking business models, systems of offer and value chains.

The important challenge that the business world has to understand and overcome for long-term success is that of learning to interpret implicit expectations and needs, looking to the future, in such a way as to generate value for its customers and for the community as a whole.

The processes of transformation of our society are reflected in the way in which we live our daily experiences - we work, we communicate, we dress, and we eat differently - and they also involve mobility, which now follows rules which were unimaginable until just a few years ago. The car is no longer a status symbol, something to possess, but an instrument which carries out a series of complex functions. It has to take us from one place to another, of course, but it also has to guarantee safety, give and receive information, interact with the external environment, ensure environmentally-compatible performance.

THE VOCATION FOR QUALITY AND EXCELLENCE IS COMBINED WITH ATTENTION TOWARDS INNOVATION AND A VISION FOR A MORE SUSTAINABLE SOCIETY

The automotive sector is committed to a process of profound transformation, stimulated by macro-trends, some of which, such as environmental efficiency and safety, have already been clear for some time and are rapidly being joined by the multifunctional nature of the car. The cars of the future will have little in common with those which we see in circulation nowadays: they will have more in common with living and working spaces, and they will take us where we ask them to. The contribution of the driver will be ever less necessary, as the vehicle gradually gains autonomy. With Autonomous Driving, cars which are hyperconnected, sensitive, intelligent, capable of making decisions will reduce the risks associated with circulation and will allow travellers to free up time to be dedicated to other things.

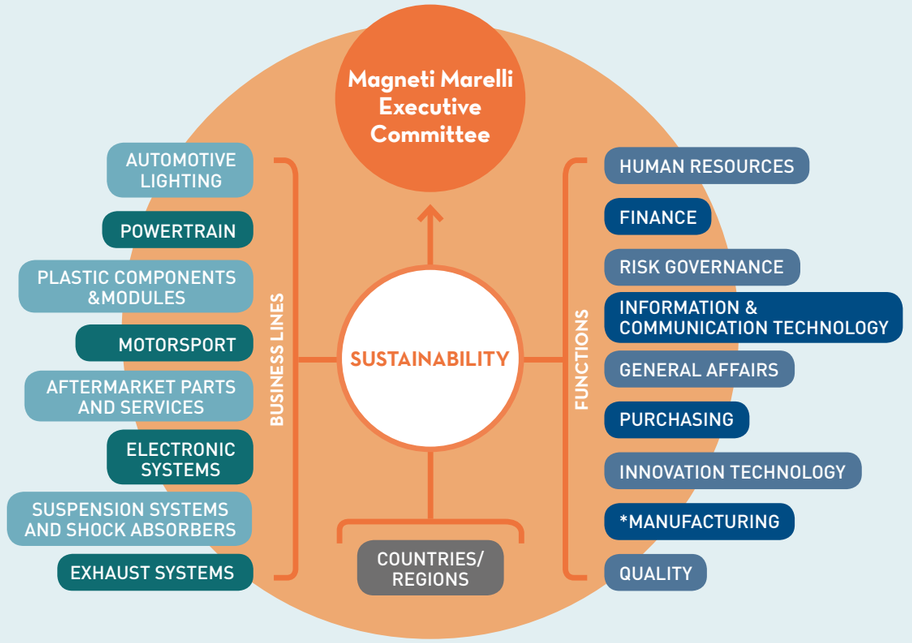
Magneti Marelli, a global player in automotive components, accompanies the development of traditional products with its total commitment to this process of evolution, through investments in research and development which continuously generate new solutions. The vocation for quality and excellence is combined with continuous attention towards innovation, together with a vision for a more sustainable society.

The strategic choice of Magneti Marelli is that of valorising all of the possible synergies between its Business Lines, ever-increasingly integrating the competences present in the Company. A car is no longer simply the sum of various components, inasmuch as it is, and will be ever-increasingly, a kind of complex organism, in which every element interacts with the others, under the coordination of a single "brain". For this reason, the collaboration between the various divisions and upstream (car makers) and downstream (distribution and post-sales assistance) systems is fundamental.

Integrated responsibility

In response to the ever-increasingly important global challenge regarding sustainability, in line with commitments made by the FCA Group, Magneti Marelli has applied new systems at all levels of the organisation, with a view to increasingly-integrated management in this field as well. In particular, each Business Line has a sustainability contact who is charged with bringing in line projects and initiatives created, in order to see that the experiences and knowledge from the various Business Lines become common assets on an international level.

The sustainability team serves as a liaison with MMEC, the Company Board, which is presented with news regarding progress made in terms of sustainability.



*IT INCLUDES ENVIRONMENT HEALTH & SAFETY AND ENERGY FUNCTIONS

GLOBAL AMBITIONS, SOLID MEASURES

The United Nations Sustainable Development Goals and Magneti Marelli's contribution to reaching them.

The Sustainable Development Goals set out by the United Nations serve as a call for action addressed to all entities which can make a contribution to their accomplishment, beginning with governments, businesses, civil society organisations, right down to individual citizens.
Magneti Marelli has identified six themes on which its activities have significant impact on sustainability, and it undertakes to act in a concrete manner in regard to these.
Specifically, the six themes on which Magneti Marelli can have an impact are:

8. Ensure the highest standards of health and safety and protection of human rights in all of its manufacturing sites.

9. Valorise its own capacities for innovation not only for efficiency and profitability, but also to improve the quality of life for the citizens and communities.

11. Work towards a form of mobility which renders cities safer and better to live in, and contribute to the economic and social development of all of the countries in which it operates.

12. Render its manufacturing processes ever more efficient and environmentally compatible, and supply products which render vehicles less polluting and safer.

13. Promote the reduction of both direct and indirect climate-altering gas emissions.

17. Share - with governments, private sectors and society - visions, principles, values and objectives that place people and the planet at the centre of attention.

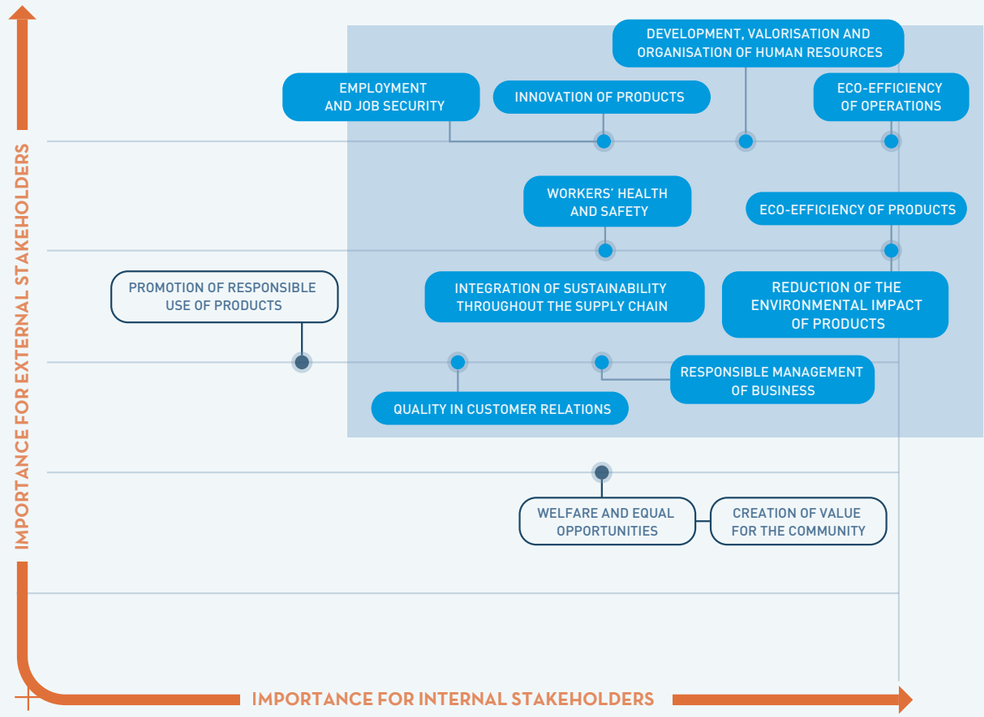
SUSTAINABLE DEVELOPMENT GOALS

The 17 Sustainable Development Goals (SDGs) are the objectives contained in the 2030 Agenda for Sustainable Development, and represent the United Nation's global plan of action for the undermining of poverty, the protection of the plant and the guaranteeing of prosperity for all. Never before has such a wide-ranging level of agreement been reached on a global level with regards to environmental, social and economic sustainability. Laid out via 169 specific objectives, the SDGs officially came into force on 1 January 2016.

The implementation of the SDGs in business activity is a long and articulated process. How can the global ambitions be translated into concrete measures? How can we identify the themes on which to concentrate? An attempt to answer these questions is made by the analysis of materiality, a series of assessments which the Company began to carry out last year and which allows for the selection of the aspects of the life of a company which are truly important, in order to render it more sustainable. This is a process which Magneti Marelli has again defined this year, also taking into account the point of view of the stakeholders.

The themes in which Magneti Marelli is particularly active can be grouped into three main areas:
- products, which must be designed, created and used in an ever more environmentally and socially responsible manner;
- company governance, in order to ensure that business is carried out according to rules of legality and correctness, with respect for the declared principles and values;
- research and innovation, in order to ensure that the patrimony of knowledge and instruments that the Company can put into action are oriented towards bringing all-round improvements to society.

The materiality matrix



The matrix shows the important themes which have a relevant impact on the Company's activity.
The highlighted area contained the so-called "material" aspects, or rather the most important, on which the commitments and the work of the Company is focused.

2016 HIGHLIGHTS

+7,3%
OF REFUSE RECYCLED COMPARED TO 2015

+8%
INCOME IN 2016

ALMOST **92%**
OF WATER RECYCLED IN MANUFACTURING PROCESSES

2,4 million
EUROS INVESTED IN TRAINING

95,2%
OF EMPLOYEES WITH OPEN-ENDED CONTRACTS

ITALY
Tolmezzo
EXPANSION OF THE AUTOMOTIVE LIGHTING PLANT

+6%
IN EMPLOYEES COMPARED TO 2015

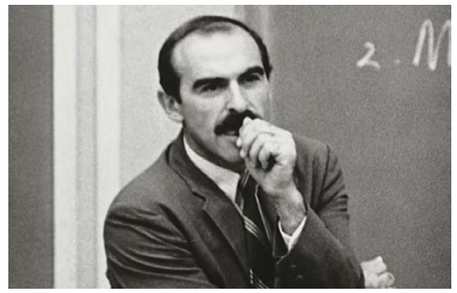
APPROXIMATELY **450.000** HOURS
OF TRAINING GIVEN IN 2016

HIGH SPEED CAMERA
AWARDED AT THE "MOTORSPORT TECHNOLOGY OF THE YEAR" 2016 AWARD

-16%
IN INJURIES COMPARED TO 2015

-16,7%
ON INJURIES FREQUENCY RATE

CHINA
Guangzhou
NEW SUSPENSION PLANT



An american economist and professor at the Harvard Business School.

Just as energy is the basis of life itself, and ideas the source of innovation, so is innovation the vital spark of all human change, improvement and progress.

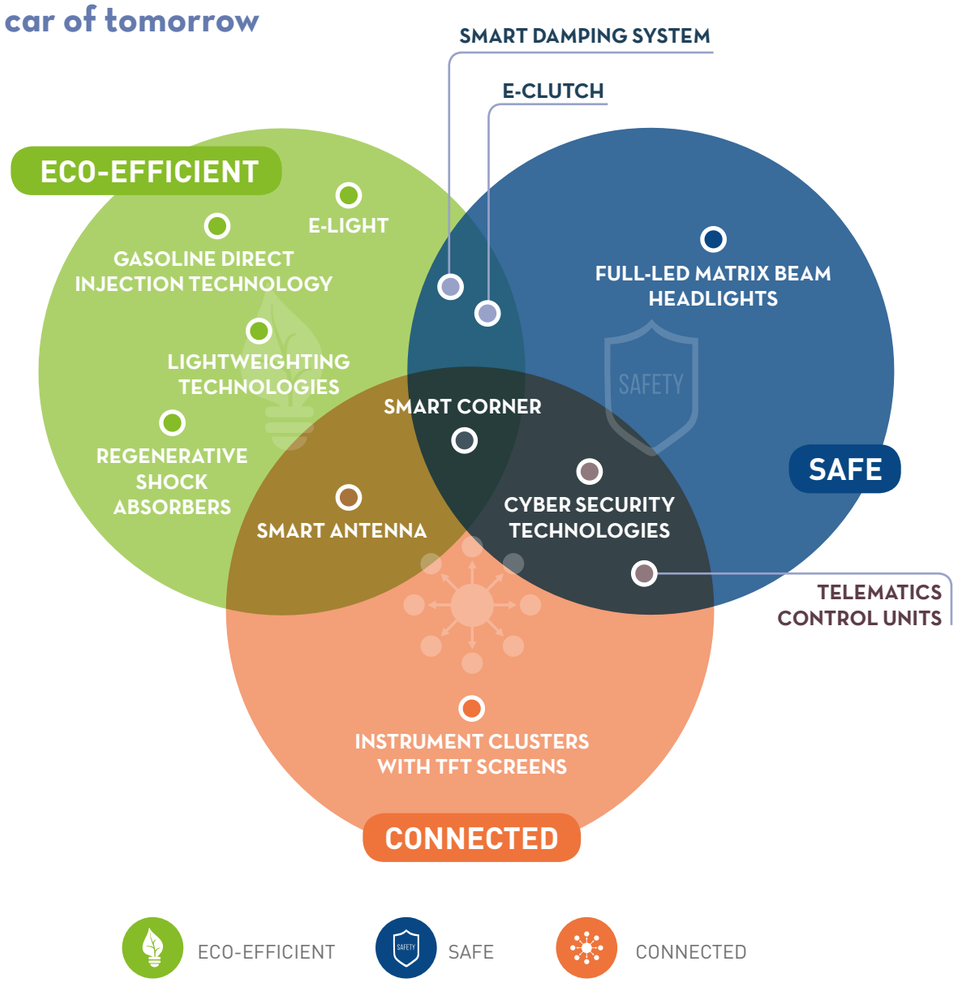
Theodore Levitt

PRODUCTS

INNOVATION FOR THE MOBILITY OF TOMORROW

The most modern vehicles already contain a number of technological elements which will soon render them ever more autonomous. Over the years to come, we will begin to use intelligent vehicles, capable of elaborating large quantities of information, thanks to which it will be possible to reach higher levels of efficiency and safety, as well as being able to make use of a series of additional functions. This is the direction in which Magneti Marelli is moving, with various products and technologies, serving Customers and drivers.

The car of tomorrow



1. TELEMATICS CONTROL UNITS

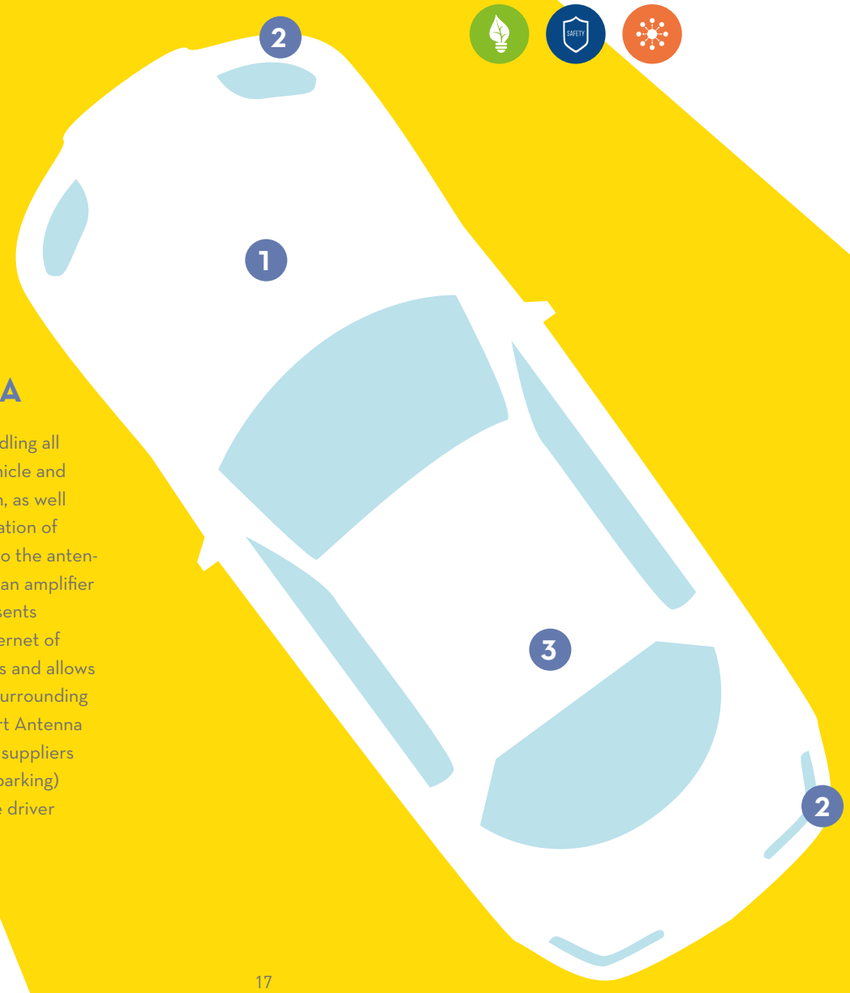
Driven by European and Russian eCall legislation, Magneti Marelli has created a device which, in the case of an accident, allows for a manual or automatic call to the relative national emergency services in order to facilitate assistance and reduce response times. Furthermore there are many other possible applications for this tool: insurance services area (like insurance "black box"), fleet management, tracking, car pooling, e-call, tele-diagnostics (the remote monitoring of vehicle operation that allows a central infrastructure to identify possible breakdowns or anomalies) and the obtainment of information on car parks, limited traffic areas, traffic and road conditions.

2. SMART CORNER

This is an advanced and flexible system aimed at enabling autonomous driving in a modular and progressive manner, thanks to the positioning in the said "smart corners" of the vehicle - represented by the four corners of the vehicle which normally house the lighting systems - of ultrasound sensors, cameras, video cameras, radar and LiDAR (Laser Imaging Detection and Ranging) devices, which together make up an autonomous and efficient technological structure. The Smart Corners are, however, not independent solutions, but rather integrate the strategies of the Car Makers, simplifying the structure of assembly systems, allowing for improvements in terms of quality and reliability for the end client on a general level.

3. SMART ANTENNA

An intelligent antenna, capable of handling all broadcast communications for the vehicle and connected to the display. This solution, as well as reducing weight through the elimination of coaxial cables and connectors linked to the antenna, and allowing for the elimination of an amplifier (weighing approximately 1.5 kg), represents technology which enables the IoT (Internet of Things) to be brought into automobiles and allows for the exchange of information with surrounding infrastructures. For example, the Smart Antenna can be used to communicate with the suppliers of various services (for example paid parking) and carry out transactions without the driver needing to get out of the car.



4.
FULL-LED MATRIX BEAM HEADLIGHTS

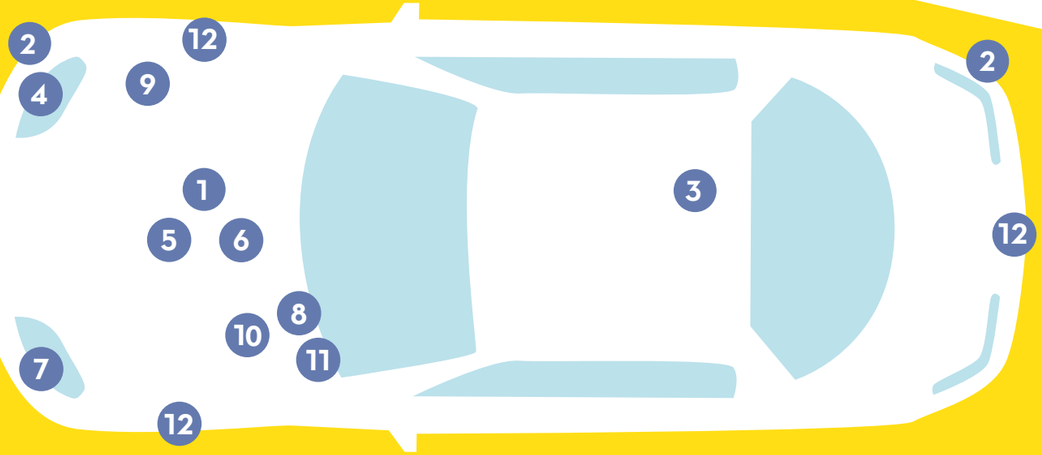
Headlights made up of LED modules which divide the light beam into various segments. These headlights can be fitted with adaptive technology for the light beam, where the electronic control unit, communicating in real time with a video camera and front sensors, allows for the continuous regulation of the high- and low-beam according to the speed and driving conditions. The front camera also allows for the detection of preceding or oncoming traffic, sending the information to the control electronics. The control system then manages the automatic and sequential switching on and off of the LED segments, thus creating a tunnel of shade in order to avoid dazzling other drivers, and thus improving the handling of traffic conditions.

5.
GASOLINE INJECTION TECHNOLOGY

An evolved system of direct fuel injection, which vaporises the petrol fed directly into the combustion chamber. Used together with a turbocharger, it allows for the reduction of the engine's capacity (downsizing) while maintaining the same performance. This leads to an improvement in performance and a reduction in consumption and emissions. Technological developments in the Powertrain field have led to the creating of high-pressure injection systems (over 600 bar), compatible with GDI (Gasoline Direct Injection) and Advanced Combustion motors.

6.
CYBER SECURITY TECHNOLOGIES

Via on-board diagnostics, generally accessible via the OBD port, it is possible to access information regarding the "state of health" of the vehicle's various subsystems. With a view to an interconnected vehicle and to the provision of evolved services for mobility and diagnostics, the current trend is for the wireless transmission of this flow of information to and from the vehicle. Magneti Marelli is developing solutions which allow all of the vehicle's components to dialogue safely and efficiently, without the risk that the information transmitted can be illegally intercepted. The Data Diode, which protects the information from the threat of hackers, blocks harmful signals, prevents malfunctions and ensures the continuity of the service.



7.
E-LIGHT

A LED low-beam module which allows for energy savings for illumination, at the same time offering an improvement in the intensity of the light beam. The E-light consumes approximately 1/6 of the energy of a normal halogen bulb. The innovative content of the E-light LED low-beam module lies in the use of sophisticated techniques of refraction-reflection of light through the lenses which concentrate the light beam produced by a limited number of LEDs. In 2014 the E-light was officially recognised by the European Commission as an innovative and efficient product for the reduction of CO_2 emissions produced by cars.

8.
E-CLUTCH

A new prototype clutch which uses by-wire technology, a continuous electric signal which monitors the position of the pedal and thus manages the clutch without the use of hydraulic drivers. The main benefits can be summed up in an improvement of drive sensitivity for the driver, an increase in safety with the anti-stall system, and a contribution to the reduction of CO_2 emissions in Euro 7 vehicles through connection with the engine control system.

9.
SMART DAMPING SYSTEM

This system allows, via the electronic control of shock absorbers, for the reduction of oscillation of the car body in all driving conditions, thus guaranteeing the highest levels of safety thanks to special sensors capable of identifying the driving situation. Thanks to an electronic control unit characterised by a high capacity for calculation, and sophisticated solenoid valves capable of responding instantly, commands are applied in real time, neutralising disturbance from the road surface at the origin.

11.
INSTRUMENT CLUSTERS WITH TFT SCREEN

(Thin Film Transistor)

These are instrument clusters fitted with black panel-effect displays and optical bonding technology, which communicate information transmitted by the vehicle and infotainment systems to the driver, contributing to the optimisation and improvement of the Human Machine Interface (HMI). The instrument clusters, as well as being reconfigurable, are enriched with displays with 3D technology, improving the experience of use.

12.
REGENERATING SHOCK ABSORBERS

A mechatronic system for the recovery of kinetic energy from the suspension system which can contribute to the reduction of the vehicles' CO_2 emissions. The shock absorber carries out its prime function of damping of the movements produced by the suspension system and, at the same time, by using these movements, generates electrical energy which can be used to recharge the car battery.

10.
LIGHTWEIGHTING TECHNOLOGIES

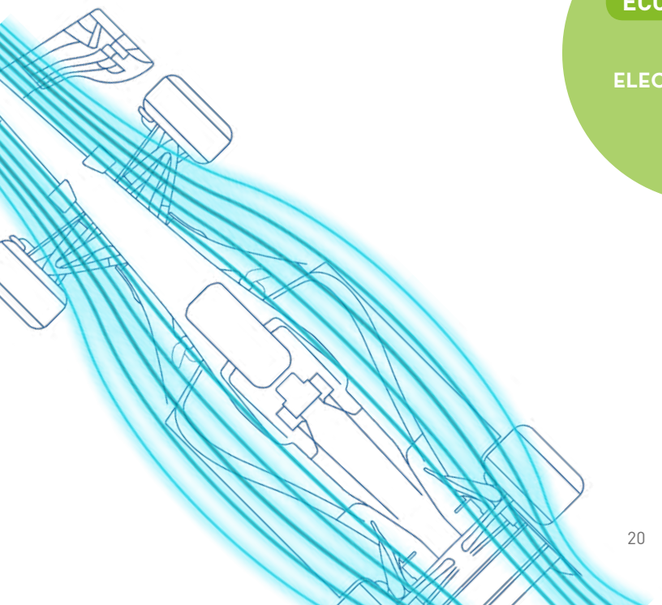
Solutions for the reduction of component weight aimed at optimising vehicle performance and the consequential reduction of CO_2 emissions, created for:

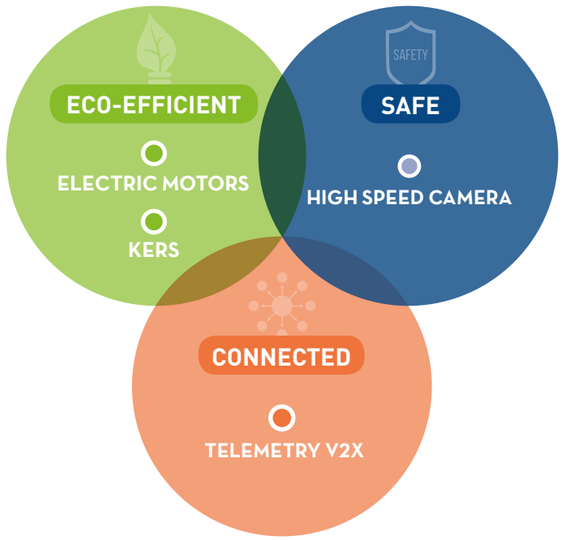
- Exhaust systems, thanks to the reduction of silencer thickness (-0.5 kg) and the cold-end pipes (-0.4 kg).
- Suspension systems, through comparative Life Cycle Assessment Studies which have allowed for the lightening of crossbars through the substitution of steel with innovative materials such as primary aluminium (-18% in weight) or aluminium composite (-51% in weight).
- Plastic materials used in the pedals, thanks to the partial substitution of glass fibres with glass spheres combined with Polyamides and Polypropylene, allowing a reduction in weight of up to 15%.

MOTORSPORT: WORKSHOP FOR TECHNOLOGY ON THE RACETRACK

Technological progress in mass production also takes place thanks to innovations tested in competitive events.

Magneti Marelli has always been present on the most important racetracks, circuits and Championships in the world, from Formula 1 to MotoGP, via World SBK to the Le Mans Series. Magneti Marelli Motorsport's activities bring together all of the companies capacities and capabilities in order to favour the technological growth of the automotive sector through the exchange of know-how between competition and mass-production. Over the years, motorsport has moved from being a sector completely assimilated by high-performance to playing an active role in the development of products in line with trends of mobility, eco-efficiency, safety and multi-functionality. The development of products is driven by the concept of "Road Relevance", which promotes the development of technologies which are also applicable to road-going vehicles. Electric motors, High Speed Cameras and V2X technology are Magneti Marelli's racetrack solutions. In recent years, Magneti Marelli Motorsport's activities and actions have earned numerous awards from various sector organisations, including FIA (the International Automobile Federation) and Dorna (a company which manages the main international motorcycle championships), with which Magneti Marelli collaborates for the development of products which are capable of improving safety in two- and four-wheeled competitions. Magneti Marelli has made its technology available in Formula 1 championships in particular, such as in the case of the V2X telemetry systems, communication systems which, via a bi-directional broad-band wireless network, allow for the real-time transmission of enormous quantities of data to racetrack engineers regarding the state of health »





MAHINDRA RACING: 225 KM/H ELECTRIC MOTORS

Magneti Marelli is also a lead player in the field dedicated to single-seater electric cars - Formula E - in which it collaborates with the Mahindra Racing Team for the development of components for electric propulsion. The electric motor, in fact, represents one of the few variables of the cars, which are standardised in terms of the chassis, suspension and tyres, and is capable of generating 200 kW, allowing the single-seater to reach speeds of over 225 km/h. Compared to combustion engines, thanks to the aid of inverters, the motor's efficiency has been registered at 98.9%.
On braking, the paddle dedicated to the recharging of the batteries works on the friction created by the brakes on the rear axle, transforming kinetic energy into electricity which is immediately available for acceleration. Formula E is an excellent opportunity for Magneti Marelli to put its abilities and knowledge in the field of hybrid-electric propulsion to the test.

»
of the vehicles, collected from the electronic control units.
An example of osmosis from the racetrack to the road is KERS technology, developed for Formula 1, which consists in the transformation of kinetic energy to electric energy, which the driver can re-use during the race to have an extra surge of power. Thanks to the technological know-how acquired in competitions, Magneti Marelli has contributed to the HY-KERS system for the road-going LaFerrari car, equipped with two motor-generators and components for the electronic control of electric propulsion, which allows for elevated performance and the simultaneous reduction of emissions by around 40%.
The GDI injection system is, instead, an example of how a product conceived for use on road-going vehicles was later adapted and developed by Motorsport for Formula 1 application.

FROM THE RACETRACK TO THE SMART CITY

V2X is a system which is capable not only of transmitting data, but also of rendering the driver permanently connected with their team, and of receiving information. This system acts as a very useful study in light of that which is defined as the Smart City, in which cars will be connected to a distributed infrastructure of contact points external to the vehicle, interacting with them. In this sense, the racetrack is seen as a small intelligent city: just as a racing driver is able to see in advance what is happening on his or her route, the car driver of the future will be able to be informed of what he or she will find, for example at an upcoming intersection, or be informed of an accident near a blind bend.

HIGH SPEED CAMERA: INCREASED SAFETY ON THE RACE TRACK

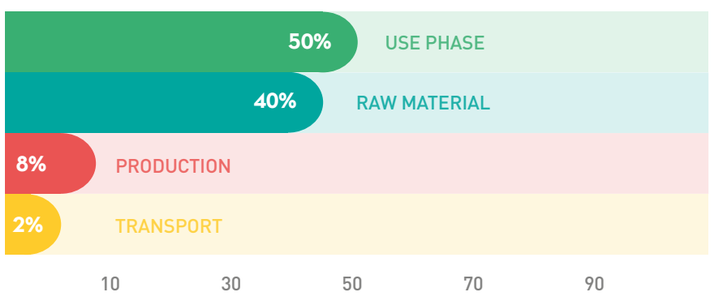
In the 2016 Formula 1 season, Magneti Marelli, in collaboration with the Global Institute for Motor Sport Safety and Sustainability, set up by FIA (Fédération Internationale de l'Automobile - International Automobile Federation), developed the High-Speed Camera, a video camera which focuses on the driver's helmet, and is capable of filming in high definition, with a speed of 400 frames per second. This is an example of technology which was created on the racetrack but which, in theory, could generate results which are of interest beyond the world of motorsport.
This device offers a crucial and never-before-seen function in terms of safety: thanks to the elevated frame rate, in the case of an accident, the camera is capable of recording high-resolution and very detailed images of the movement of the driver's neck and head. The system can provide information which is very useful in reconstructing the dynamics of traumatic events and aiding the interpretation of data from other sensors positioned on the vehicle (including accelerometer, gyroscope and steering angle).
During the Professional MotorSport World Expo 2016 in Cologne, Germany, the High-Speed Camera was awarded by a jury of twenty-five international sector experts in the category Motorsport Technology of the year for its great potential in terms of safety and public involvement. This is a technology with the potential to change the perception of the entire world of competition.

DESIGN AND NEW MATERIALS TO IMPROVE THE ENVIRONMENTAL AND SOCIAL IMPACT OF PRODUCTS

With a view to the life cycle of products, the key parameters are to be identified in the manufacturing chain and in the "use phase", the moment in which the vehicles are used.

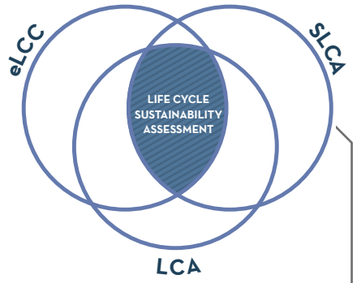
The automotive industry is subject to stringent regulations for the reduction of CO2 emissions from vehicles with internal combustion engines. The activity of research and development, also in the field of components, has had to take into account these restrictions, which are aimed at reducing the impact on the environment.
In particular, the design of new products and the use of alternative materials has led to a reduction in the overall weight of the vehicle without losing performance, therefore reducing emissions caused by the consumption of fuel.
Magneti Marelli develops and produces hi-tech components for the automotive industry, which can account for up to 15% of the overall weight of a vehicle. For a number of years, the company has been adopting innovative methods of evaluation of the impact of new materials and technologies. Since 2012, 12 products have been evaluated with the LCA (Life Cycle Analysis) method. The results, illustrated in the graph, show that the highest levels of impact in the life cycle of a product occur in the stages of extraction and production of the raw materials, and the period of operation of the component during use of the vehicle in which it is installed. The Life Cycle Analysis allows for a complete analysis in order to verify if the benefits of environmental impact reduction involve the entire life cycle of the component; it is in fact possible that the objective of reduction of impact, applied to a specific phase in the life of the product, has negative repercussions on other aspects. This is, for example, the case for plastics, the use of which leads to improvements in the reduction of emissions for climate-changing gasses into the atmosphere during use, but has negative effects for the eventual recycling of the same after the vehicle is taken out of service. It is therefore opportune to source materials which can lead to an overall optimisation of the environmental performance of the vehicle.

MAGNETI MARELLI ADOPTS INNOVATIVE METHODS OF EVALUATION FOR THE ENVIRONMENTAL IMPACT OF NEW MATERIALS AND TECHNOLOGY.



The weight of environmental impact subdivided between the various stages of manufacturing of a product

SOCIAL LCA: THE IMPACT OF MANUFACTURING ON WORKERS AND THE LOCAL COMMUNITY



Since 2016, the perimeter of Life Cycle Assessment has been widened to include environmental costs (Environmental Life Cycle Costing) and social aspects (Social LCA). Environmental costs express the monetary value of environmental impact (negative external effects), and are measured using proxy variables, as there are no reference markets. These values are "internalised" into the manufacturing processes (deducting the effects) in order to offer a more precise and realistic picture of the costs supported by all of the stakeholders, and in order to improve product development strategies for a minimisation of the social and environmental costs.

Social impacts measure the direct and indirect effects that manufacturing can have on certain categories of figure, in particular workers, consumers and the local communities which live near the plants. The assessment of the social impact of the product, which represents an important innovative element in LCA, has been used experimentally in order to assess a component of the suspension system: wheel struts. The analysis allowed for the identification of potential risks in the supply chain - for example the health and safety of the workers and the community, discriminatory treatment - and the strong points - for example programmes of community engagement, social benefits, relations with employees.

Since 2015, Magneti Marelli has also assumed an increasingly important role in the debate over impact assessment tools, also within the scientific community, with the participation in conferences, the publication of articles in international magazines and the setting up of a research doctorate dedicated entirely to the study of LCA applied to Company processes.

Architect and engineer, a founding partner of the international design and innovation studio Carlo Ratti Associates of Turin, he directs the Massachusetts Institute of Technology Senseable City Lab in Boston.

Fifteen years ago, in order to win a Formula 1 race, one needed a good car and a good driver. Nowadays it takes a good telemetry system (as well as the car and the driver). In other words, one needs a system which collects information from the thousands of sensors located on the car and transmits them to all of the computers operating in the pit, where the information is analysed and processed, allowing for decisions to be made in real time. Nowadays, this is exactly what is happening in our cities: they are beginning to function like a Formula 1 car.

Carlo Ratti

PROCESSES

THE DIGITAL EVOLUTION AND NEW PARADIGMS

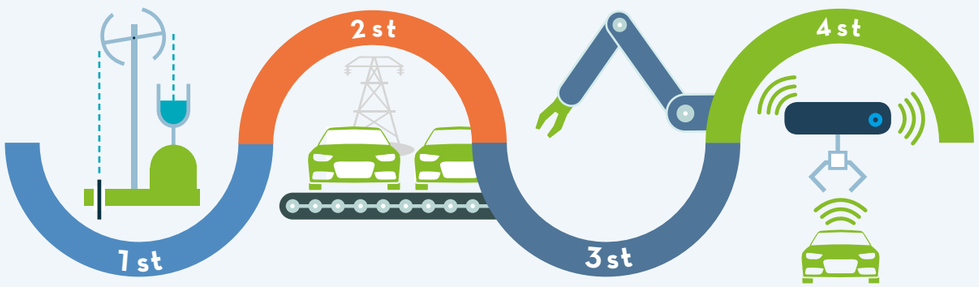
Manufacturing processes in the fourth industrial revolution.

Digitalisation, interconnection and automation are modifying - and continue to modify - the competitive environment in which businesses operate, as well as the context in which we live and work. Faced with that which is defined as the fourth industrial revolution or industry 4.0, the manufacturing sector is certainly among those most involved, and that which, more than any other, is experiencing radical change. Nowadays, digital technology allows for the processing of an enormous quantity of data - so-called big data - which can be collected, analysed and processed in real time, becoming a tool for the reading and solving of problems and for the instructing of machines. Effectiveness, efficiency and quality of operational processes are only some of the benefits for companies, which manage to control manufacturing processes in a precise and rapid manner, wherever in the world they are carried out, at any time, thus dematerialising control operations which, up to just a few years ago, had to be carried out directly in the plant.

WE ARE FACING A REVOLUTION WHICH IS NOT ONLY TECHNOLOGICAL, BUT ABOVE ALL CULTURAL

We are facing a revolution which is not only technological, but above all cultural. The way of seeing industry, manufacturing and organisation of work is changing, requiring ever-more specialised personnel, as are the relationships with all of the stakeholders, in particular with Customers, who can now count on intelligent products and on an ever-increasingly personalised offer.

The four industrial revolutions



TRAINING, INNOVATION, PRODUCTION. THE VALUE OF PEOPLE

The dynamics of industry 4.0 affect all of Magneti Marelli's Business Lines. New technological frontiers and staff specialisation are the secrets to competitiveness.

Magneti Marelli is targeting its activities towards two fundamental results: the quality of the product and the efficiency of management. These objectives are pursued through new manufacturing processes, which take advantage of technological innovation and the specialisation of human resources.

The fourth industrial revolution involves all of the Business Lines, re-designing processes. The ability to interpret market trends and to understand the cross-sector requirements of the organisation allows for the elaboration of information which serves to reduce waste, for the increasing of the reliability of sensors, and for the development of digital manufacturing, or rather the virtualisation of assembly lines, aimed at improving the efficiency, ergonomics and safety of manufacturing lines.

In this framework, a factor which emerges as essential is the role of people, who in fact represent an important cornerstone in the company's strategic vision and idea. Each manufacturing line requires specific training, which provides people with particular know-how and places them in the condition to provide value for the organisation, thanks to a contribution in terms of innovation. The staff are called on to contribute to the improvement of manufacturing processes, manifesting their own ideas and suggestions through dedicated programmes.

WCM FOR VIRTUOUS, FLEXIBLE AND INTEGRATED MANAGEMENT

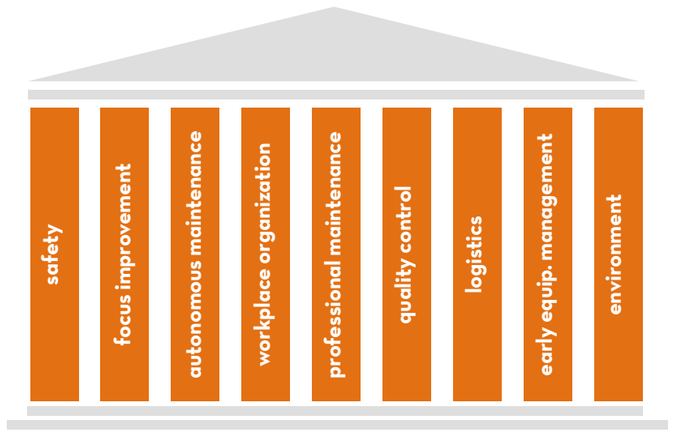
World Class Manufacturing ensures standards of quality and efficiency in 74 Magneti Marelli manufacturing plants world-wide.

Since 2007, Magneti Marelli has chosen to adopt World Class Manufacturing as a method of organisation for the manufacturing cycle for plant management. This is a structured and integrated manufacturing system, which is applicable to every single process in a plant, facilitating the management of themes of safety, the environment, energy, quality, maintenance and logistics.
As well as influencing manufacturing performance, the standards aim to reduce waste, accidents, break-downs and reserves, with the ambitious aim of bringing the respective indicators down to zero.

At the end of 2016, 74 manufacturing plants, rising to 75 in the first few months of 2017, operate in respect of the standards, contributing to bringing about significant improvements in the quality of manufacturing of each plant. The average annual energy savings of a plant, for example, run at approximately 6/7%. Through KPIs formulated specifically for each Business Line, Magneti Marelli also aims to render the results visible, helping the Company to be seen as a positive stakeholder for the community wellbeing.
Said performance is assigned value through the application of various awards levels by external auditors: Bronze; Silver; Gold and World Class.

Magneti Marelli promotes management systems certified according to ISO 14001, ISO 50001 and OHSAS 18001 regulations in all of its plants. Responsibility assumed by the Company in the field of health, safety, reduction of energy consumption and protection of the environment, which takes place together with the commitment to WCM.

OBJECTIVES TO BE REACHED BY 2020: 100% OF THE PLANTS CERTIFIED ISO 14001 AND OHSAS 18001
(or according to the new ISO 45001 regulation)



Technical Pillar

HEALTH AND SAFETY

THE BARBERÀ DEL VALLÈS PLANT

COUNTRY:
SPAIN

BUSINESS LINE:
AUTOMOTIVE LIGHTING

2016 - THE PLAT NUMBERS
Number of employees: **494**
105 ADMINISTRATIVE STAFF
389 MANUFACTURING WORKERS
Accidents: **0**
Year of entry into the World Class Manufacturing category: **2008**

The Spanish plant in Barberà del Vallès is a demonstration of the potential of WCM, as it is one of the most proactive in the adoption and application of the standards.

The benefits of WCM

The Automotive Lighting plant, which integrated WCM in 2008, has applied advanced pillar steps regarding safety, the completion of which means that the mechanism can be considered as perfected, and above all autonomous. The current state sees the staff involved directly in the definition of regulations, procedures and assessments, within the limits of their respective responsibilities, in such a way that their contribution serves to integrate and improve the process. The benefits are not limited to performance indicators and numerical evidence, but affect every level of the structure, from the roots upwards, through the introduction and the embedding of a true company culture which renders the employees aware of, and responsible for, the process of transformation under way and the objectives to be reached.

The main results

Among the most significant indicators in the productive context of Barberà del Vallès, for which WCM has also made a contribution, is the improvement in the rate of absenteeism, which was considered critical until 2010.
In a context characterised by a company population with a particularly high average age, involved in tasks regarding assembly, the first step was the surveying and mapping of types of health problem, which proved to be principally musculoskeletal disorders, followed by activities aimed at treatment and prevention, which contributed to an improvement in the physical health of the employees. On completion of the process the process, a study was carried out, aimed at improving workstation ergonomics. The rate of absenteeism, which was originally at 6.2%, diminished over a seven-year period, arriving at 2.3%. Much energy was also invested in the development of personnel, with particular insistence on the adoption of so-called good behaviour, considered essential for the achievement of autonomy in the desired processes.

RATE OF ABSENTEEISM

What activities were carried out concerning Health?

- Medical check-ups aimed at the prevention of cardiovascular risk
- A campaign on correct nutrition
- Incentives for sports activities
- A program of awareness regarding the dangers of smoking (ongoing)
- A campaign on workstation ergonomics (ongoing)

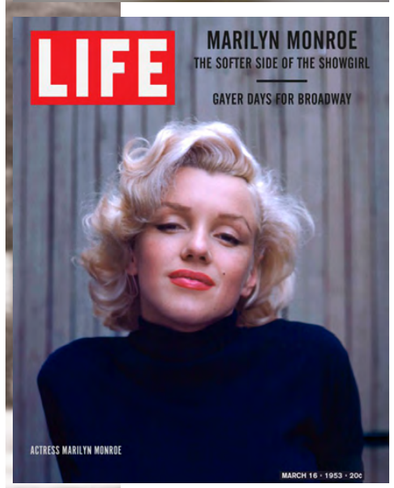
DINOPLEX 1968

INNOVATORS FROM THE VERY BEGINNING

With Dinoplex, Magneti Marelli introduced electronic starting for the combustion engine. One of the many revolutions which characterise the process towards the car of tomorrow. Italy at the end of the 1960s. The world was looking to the moon after a bloody period, from J. F. Kennedy to Che Guevara, Malcom X, the Vietnam war and the Bay of Pigs. 1968 in France saw civil unrest, the beat generation became a reality, the miniskirt arrived on the scene, and the first heart transplant was carried out. Audiences went crazy for the Beatles, while eight out of ten Italian homes had televisions, thanks to Magneti Marelli research and innovation. Journeys by car were accompanied by the radio, magazines and publications on all kinds of subject emerged: it was the long-term effect of the boom, which was bringing the future ever-closer, particularly in the new forms and technologies of mobility, where Magneti Marelli was already an established brand.

Dinoplex allowed for better, more precise and cleaner ignition.

In 1968, Magneti Marelli produced its first electronic starter unit, the Dinoplex. This was a truly revolutionary device for the times, a forerunner for the advent of electronics in engine control and management systems, which are now present in all modern cars. Dinoplex took its name from a Ferrari model, the 'Dino', named as a tribute to the son of the Drake, Alfredo, known as 'Dino', who had designed the engine, and who died suddenly in 1956. The metal box contained what proved to be a prophecy for the future.
Starting systems, necessary for petrol engines, are needed to "ignite" the fuel with millions and millions of sparks, setting off the combustion which allows the engine to function. At the time, the traditional systems were not as reliable as they are nowadays, and cars often broke down on the road. The innovation which was proposed, and which was to become the norm over the space of just a few years, had been studied in extreme detail by a team of Magneti Marelli engineers and technicians. Dinoplex allowed for performance starting. A very innovative device, which heralded the beginning of the era of on-board car electronics, but which at the same time maintained an element of human insecurity: the control unit was fitted with a lever to use in the case of malfunctions. A bypass switch which guaranteed the possibility to keep driving at reduced power in order to reach the nearest garage. No more breakdowns on the road: all one needed to do was open the bonnet and activate the system. Those principles which were applied almost sixty years ago are still there under the bonnets of our cars, but we don't need to get our hands dirty any more, and everything takes place automatically.
In the case of engine problems, the electronics go into recovery mode, protecting the engine, a warning light informs us of the situation and we can reach the nearest assistance centre, albeit more slowly. Nowadays, the Dinoplex can be admired on the shelves of the Magneti Marelli history museum, in the Corbetta headquarters, alongside unique items from research and manufacturing in the many fields in which Magneti Marelli has been involved over the years.



From above:
Jean Luc Godard, the Ferrari Dino, the Dinoplex, Marilyn Monroe and the Beatles.

STAKEHOLDERS

THE VALUE OF SHARING IN NEW CHALLENGES

Collaboration and the exchange of experiences as an essential factor for the creation of value.

In the upcoming phases of evolution in the automotive industry, innovation, whether for products or processes, will increasingly prove to be a watershed. One of the key points of this trend is that these new challenges cannot be won alone. It is ever more necessary to create synergy within the Company, between Business Lines, and to collaborate with the various players which orbit around the business and with which the Company creates value. This allows for exchange and for the bringing together of all the stimuli present both inside and out of the Company, taking on knowledge and experience, and growing according to a shared approach.

OUR PRINCIPLES

The relationship that Magneti Marelli has with its stakeholders is governed by the FCA Code of Conduct, a reference framework for the management of all of the activities carried out. The Code of Conduct indicates the principles, practices and procedures that every subject, as representative of the Company, is obliged to respect.

The reference principles are:
- Safeguard our people
- Behaviour in the affairs
- Manage external relationships
- Manage our resources and information

STAKEHOLDER MAP

SUPPLIERS AND PARTNERS

CLIENTS
- BtoB clients
- Consumers
- Support networks
- Drivers

COMMUNITY
- Local community
- Non-profit and non-governmental organisations
- Religious, cultural, professional, social-political, and scientific and technological research groups
- Health system
- Schools and universities
- Journalists and media

ISTITUTIONS
- Governments, local organisations and public administration
- Regulatory bodies
- European Community institutions
- Sector associations

ENVIRONMENT
- Environment
- Environmental institutions and associations
- Sector groups

INVESTORS
- Traditional investors
- Financial community
- Socially-responsible investors

EMPLOYEES
- Employees and collaborators
- Trade union organisations
- Employees' families
- Professional company organisations and groups

EMPLOYEES AS MAIN PLAYERS: THE TRUE DRIVING FORCE OF MAGNETI MARELLI

Development of people and trust in the company: this is the key to the growth of the Company.

Magneti Marelli's growth is founded on the growth of its people, and in order to make sure that this happens, it is necessary that they can work in a favourable working environment, fertile ground for their development, in which know-how and knowledge can be stimulated, a place in which the Company can be experienced in an "active" manner, and in which one can be made to feel part of a wider project. This is why Magneti Marelli creates a range of initiatives orientated not only to a personal improvement but also to the entire system. Among these job opportunities, selections open to Company personnel with recruiting processes specifically reserved for employees, which renders the organisation less static and enriches it with a range of experience, ability and know-how, allowing the people themselves to play an active role in their own professional growth. Another very important element for Magneti Marelli in the management of people is the creation of channels of communication with its employees, allowing them to voice their opinions and feelings. One of these is the Made by People Survey, a climate survey carried out every two years, with the support of the Great Place to Work Institute, which examines the feelings of all of the employees, highlighting any areas of improvement on which to work.

The last survey, carried out in 2015, resulted in the inclusion among the 25 certified Great Places to Work and revealed a level of trust which had increased of 5 percentage points since the previous edition. But the survey is not an end in itself. The results, divided by Business Line and geographic area, are shared with the employees, in order to offer them feedback on the contribution resulting from their participation and in order to inform them of the result. The most important moment, however, is that in which the improvement programmes are translated into concrete actions, defined for each area of the survey: Credibility, Respect, Equity and Fairness, Pride and Camaraderie. In order to identify them, over the course of 2016, 250 voluntary work groups were organised locally and involved in collective activities. Each team focused its attention on the creation of projects which have a positive impact on the five areas of the survey.

The workgroup therefore becomes an instrument for the creation of reciprocal added value: if on the one hand, the outcome of the activity leads to an improvement in the company working environment, on the other, it is the workers themselves who benefit from the sharing of experience, ideas and know-how, which are fundamental aspects for their personal growth. Collaboration with colleagues also stimulates people, who feel an integral part of a team, working in a coordinated manner towards a common goal, reinforcing the sense of belonging within the company.

DIMENSIONS

Credibility

Respect

Equity and Fairness

Pride

Camaraderie

"CHE IDEA!": A VOICE FOR INDIVIDUALS

An idea management initiative which brings out collective company intelligence. The account of those involved.

For a number of years, Magneti Marelli has been working to strengthen and accelerate the capacity for innovation through external contamination, principally through partnerships with research centres and universities, but also with the involvement of those who work on a daily basis in the Company and who are holders and carriers of specific knowledge, ability and experience: the employees.
In line with this idea, in 2016 Magneti Marelli promoted the "Che Idea!" initiative, a project for the generation of ideas, created with the aim of developing among employees the culture of innovation, using collective intelligence as leverage.

The more than 9,000 Italian employees were called on to take part in the project through innovative ideas regarding internal processes, products and services in four specific categories: sustainable mobility, connectivity, safety and open space. For each category, one or more Challenges were provided for; Calls to action, which were aimed at focusing on more specific themes. The ideas, which were uploaded by participants onto an online platform, were assessed by an internal jury, which decreed a winner for each category. The project also included an award for the most active user and for the contributors involved in creating the winning idea for each of the four categories.

CHE IDEA! Ogni giorno è innovativo – MAGNETI MARELLI

IDEAS POSTED

ACTIVE USERS

Users who posted ideas, commented or "liked" other ideas

COMMENTS

VOTES

VISITS to the platform

SUSTAINABLE MOBILITY

Challenge «I travel and recharge!»

Goal

Recover the energy from the vehicle which would otherwise be lost and therefore go unused.

"TRAVELLING IN THE SLIPSTREAM HELPS ME TO SAVE AND RECHARGE"

by Renato Bellini, Transmission Control Product Line System Validation Specialist

Idea

The solution consists in an innovative management system for automatic speed regulation, thanks to which the vehicle ahead can communicate with the one behind, regulating speed and braking, and consequently reducing consumption.

«About ten years ago, while I was driving along the motorway, I received a telephone call: I slowed down and found myself travelling behind a truck. I noticed that the closer I got to the truck, the lower the rate of fuel consumption of my car was, and I wondered if it would be possible to take advantage of this phenomenon in order to reduce the general level of fuel consumption in cars».

OPEN SPACE

Challenge «Out of core business»

Goal

Think out of the box: we are looking for the next innovative idea.

"Data logger for sports competitions"

by Stefano Monti, Product Development Application Software Designer Manager

Idea

Through the know-how acquired in the motorsport field, the idea consists in the development of solutions which can also be applied to other kinds of sports competitions, with the aim of measuring data such as the performance of the athletes, and carry out analysis of competition strategies.

«I regularly follow broadcasts of various sports events, including Formula 1 and MotoGP, where Magneti Marelli technology is often cited. I noticed that various information regarding the performance of teams and individual athletes is often broadcast. I therefore thought that some telemetry systems similar to those supplied by Magneti Marelli to the Formula 1 and MotoGP teams were already being used by technical staff and athletic trainers, and that our significant experience in this sector could also easily be applied to other sports».

SAFETY

Challenge 1 «Tell me where you're going»

Goal

Improve the safety of our products.

Challenge 2 «Safe driving at night»

Goal

Find innovative lighting solutions to reduce the number of accidents.

"DETECTION OF RESCUE VEHICLES IN THE VICINITY"

by Flavio Giaccaria, R&D Interiors & Exteriors Designer Senior Specialist

Idea

An application, integrated into the vehicle's infotainment system, which advises the driver when a rescue vehicle, such as an ambulance or police car, is in the area.

«The involvement of people is always a positive thing and can be advantageous for both the Company, with more motivated staff and potentially valid ideas to develop, and for the employees themselves, who have the opportunity to express themselves, bringing their ideas to the general attention of all».

CONNECTIVITY

Challenge 1 «Fast to market»

Goal

Get new products to the manufacturing stage more quickly than currently occurs.

Challenge 2 «What you need you get»

Goal

Find new services of connectivity which can be installed on-board vehicles.

"NAVIGATION SIMULATOR FOR ASSESSMENT PROCESSES"

by Felice Abramo, Infotainment & Telematics Preventive Quality Continuous Monitoring Specialist

Idea

The system proposes to test and validate, in the laboratory, the software used in the development stage for infotainment systems, without the need to use a test vehicle.

«My know-how helped a great deal: knowing the applications, the development environment and the parts of the simulator allowed me to move with ease and develop my idea in a clear and precise manner».

THE STRATEGIC ROLE OF SUPPLIERS

Since 2012, sustainability has been a byword with suppliers.

Implementing sustainability practices within the organisation means taking decisions which take into consideration the potential long-term impact not only on the profitability of the Company, but also in all of the stakeholders both within and beyond the Company's boundaries. In this sense, the supply chain plays a fundamental role as strategic partner, as it is part of the Company's core processes. Since 2012, the Company has focused on this area with regards to sustainability. First of all with a pilot program, which has over time evolved into a veritable program - the Supplier Sustainability Program - which allows Magneti Marelli to evaluate the level of sustainability of suppliers. The objective for the next few years is to extend the Program to 100% of direct suppliers, as well as creating dedicated instruments for dialogue and awareness-building.

INVOLVEMENT OF SUPPLIERS IN RELATION TO TURNOVER

2013 | 2014	2015 | 2016
38%	70%

VALORISE THE STEPS

1° STEP

Provide the supplier with a self-assessment form.

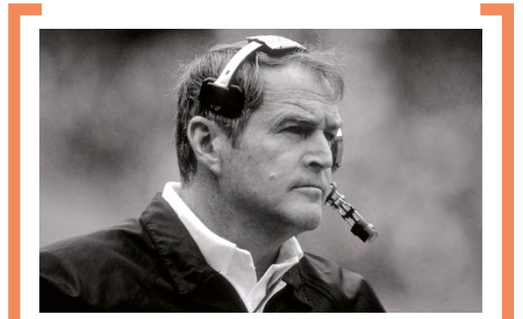
2° STEP

On-site inspections if necessary, according to the analysis of the self-assessment documentation received, conducted either by the Company itself or in collaboration with a third-party organisation, in order to verify and analyse the accuracy of the answers provided by the supplier to the questionnaire.

3° STEP

Analysis and final revision of results in order to define programs and plans for improvement together.

AREAS OF EVALUATION



An American Football player and coach. He won 4 Super Bowls while coaching the Pittsburgh Steelers. In 1993 he entered the Pro Football Hall of Fame.

Being specialised in mathematics, I believed that everything was equal to the sum of its parts, until I began working with teams. Then, when I became a coach, I understood that a whole is never the sum of its parts - it is more, or less, according to how its members manage to work together.

Charles Henry "Chuck" Noll

IMPACTS

THE COMPANY AND COMMUNITIES: ONE-TO-ONE DEVELOPMENT

Magneti Marelli and the constant commitment to a solid relationship with the territories in the countries in which it operates.

Its presence in nineteen countries requires Magneti Marelli to continuously communicate with a panorama which is as even and interconnected from a market point of view as it is variegated in terms of culture, territory and people. It is this very variety of contexts that leads the Company to integrate and to act as a driver for growth and development in the local community.
This is why Magneti Marelli commits to observing and understanding the characteristics of the context, in order to interpret and share with the community the aspects to be valorised and the requirements for intervention. This relationship is characterised according to the geographic location and the Company's activities. Projects and initiatives are focused and constructed according to requirements emerging from the analysis of the geographic area, and then applied thanks to communication and collaboration with local figures such as institutions, bodies, organisations and companies. 'Development' therefore becomes the key work for describing Magneti Marelli's world-wide mission.

DEVELOPMENT: THE COMMON THREAD LINKING DIFFERENT CULTURES, TERRITORIES AND PEOPLE

BRAZIL: EDUCATION AND KNOW-HOW FOR YOUNG PEOPLE

Magneti Marelli workers as volunteer teachers in the *Formare* project. Territorial resources distributed by individual plants, called on to evaluate needs.

In an area where the level of illiteracy is high, education becomes a priority for guaranteeing and accelerating growth. In this context, Magneti Marelli identifies young people who live in situations of difficulty as subjects to provide support for. This is why it has been running the Formare training program for a number of years, which targets young people and is aimed at favouring their social inclusion as citizens and professional workers. The initiative directly involves Magneti Marelli employees, who become volunteer teachers, passing on their company know-how with regards to sector knowledge, as well as to matters regarding safety, hygiene and health. The program also provides for the implementation of communication skills and relationship-oriented attitudes in the participants through cultural initiatives based on music, theatre and other collective activities. In order to quantify the effectiveness of the project in terms of benefits for the community, the Formare project provides for the mapping of the students who have taken part in the initiative, how many have then had opportunities in the market, how many have finished school and how many have enrolled in university. This analysis also allows an understanding of how many people have been influenced by the initiative.

"BETTER RECYCLING": ENVIRONMENTAL RESPONSIBILITY FOR SOCIAL GOALS

Programa RECICLE MELHOR

What better objective than to respond to social requirements via the profits of an environmental initiative? "BETTER RECYCLING" is the program created to simultaneously complete the obligations assumed by Magneti Marelli in terms of environmental and social responsibility. In fact, via a consolidated internal process of recycling, the Company has the resources necessary to finance the purchase of school materials for the children of employees. The increase in the accumulated budget thanks to the adoption of best practices in the environmental field has also allowed for the implementation of the offer of distributed kits, choosing higher quality articles and well-known brands: in 2016 the level of savings generated reached approximately $55,000, compared to the $50,000 spent on the materials.

AUBURN HILLS: SUSTAINABILITY MADE IN USA

There are various projects promoted by the Michigan research and development site, with a range of objectives and the direct participation of the staff.

In line with the company philosophy, in its Michigan research and development site, Magneti Marelli takes into consideration the mood and the critical issues which characterise local communities, as always with a view to identifying strategies of actions aimed at resolving various needs.
The close ties with the territory and awareness of the requirements of the community are considered priorities in Auburn Hills: a plant which not only involves the community but also invests in it, acting as a driving force for development and a point of reference for its future. Over the years, the projects promoted by the plant have focused on differing areas and have addressed varying objectives: from initiatives regarding funding for schools, to support for events and health associations, even volunteer work for social causes. All of this without neglecting relations with its employees: the main protagonists with which Magneti Marelli seeks to strengthen a sense of belonging not only to a company, but to a common cause.

Black n' Blue Ball

Magneti Marelli is a sponsor of the Black n' Blue Ball, an event organised by the Muscular Dystrophy Association (MDA) of Southern Wisconsin in collaboration with Harley Davidson, aimed at bringing together companies and people in the raising of funds for research into treatment for muscular dystrophy, a degenerative illness which is gaining ever more public attention in the USA. Thanks also to the contribution of Magneti Marelli, in 2016 the Black n' Blue Ball collected 1.1 million dollars for the funding of programmes organised by the MDA.

Conquer Paralysis Now

The Conquer Paralysis Now project, created from the experience of Sam Schmidt, a paralysed racing driver, is also supported by Magneti Marelli's initiatives. The project, founded by the driver, seeks to find a valid cure for spinal damage, in order to help victims during rehabilitation for lost abilities, thus improving their daily lives.

Habitat for Humanity

Here the mission is to build houses in order to provide shelter for those living in difficulty. There is an ever-increasing number of families living in economic difficulty who are fighting a daily battle to obtain housing, and who often have to accept accommodation which is unhealthy, unsafe and overcrowded. Since 1976, Habitat for Humanity has presented itself as a valid solution to this social problem through the contribution of volunteers from the community, including members of Magneti Marelli staff. Company volunteer days are dedicated to the construction of safe, dignified and comfortable housing. The value generated by commitment to this initiative also has an effect within the plant, as it creates a feeling of pride and motivation among employees, who voluntarily contribute by responding to a need, without being obliged to do so by the company. In 2016, the company's support for the community of Macomb Country was demonstrated through two initiatives: the first concerned the project for re-qualification of housing, while the second saw volunteers involved in the so-called Re-Stores, non-profit shops selling building materials which also act as centres for donations, set up to sell new and used furniture, appliances and accessories for the home for discounted prices.

Toy for Tots

This is Magneti Marelli's largest initiative in the field of donations in 2016: managed by the United States Marine Corps Reserve, Toys For Tots distributes Christmas gifts to families in economic difficulty. As an incentive to encourage contributions, the staff receive a lottery ticket for every gift purchased and donated to the program. The draws take place during the annual lottery, on the occasion of Christmas celebrations during the month of December. In 2016 the Auburn Hill site collected $1,500 for the purchase of gifts, as well as hundreds of toys donated directly by the staff.

INITIATIVES FOR SCHOOLS

Detroit Cristo Rey

Not just a simple donation, but a true investment: Magneti Marelli supports the Detroit Cristo Rey, a local high-school which provides highly-qualified pre-college education for economically-disadvantaged students. The school's aim is to introduce youngsters to the engineering and technology sectors, in such a way as to guide new potential talent for the future of the automotive industry. For the third consecutive school term, Magneti Marelli has acted as a company partner, funding the inclusion of four apprentices and making donations for a total of $35,000, destined to supporting apprenticeship programmes and the institute's annual fund-raising activities. According to that set out by the Corporate Work Study program, the students are called to spend four days a week in the classroom and one day a week in a company. One of the Magneti Marelli apprentices has been accepted into a private college in Texas, and has also won a $10,000 scholarship to cover the educational fees.

Stuff a FIAT

In August 2016, Magneti Marelli announced its participation in the Stuff a FIAT initiative, a fund-raising activity for the Michigan School of Art. A FIAT Abarth 595 was placed in the atrium of the Auburn Hills branch, to be filled with school materials. Employees were encouraged to fill the car with paper, pens, pencils, notepads and all kinds of school material which was destined for the students of the institute struck by a serious cut in funding and a reduction in the supply of didactic materials.

INDIA

PROMOTING LOCAL DEVELOPMENT THROUGHOUT INDIA

Magneti Marelli promotes throughout India projects with a focus on education, safety and social wellbeing.

La Magneti Marelli's response to the needs of the community takes the form of ensuring that the economically and socially underdeveloped section of the population is offered an opportunity to become self-sufficient in a sustainable manner.
The Company's range of action is defined through the Sustainability Policy, the Magneti Marelli Sustainability Committee in India is responsible for the planning of community investment programmes and provides support for the local Board during the stages of implementation, monitoring and documentation of the various projects.
The Company supports social projects, focused mainly on the promotion of education, health, development of individual competences and progress for the entire community. Magneti Marelli follows a precise process for the development of these projects. Local needs are identified through constant discussion with the various figures present in the area, from local government to prominent regional figures, right down to teachers, the media and the employees themselves.
For each project, a schedule with clear deadlines is defined in collaboration with the partners involved. This ensures that each initiative achieves the desired results and goals in the area within the deadlines set. The employees of Magneti Marelli are directly involved in the projects; they participate as volunteers in campaigns for health, for road safety and for first aid in schools, as well as instructors in technical workshops.
Magneti Marelli is committed to the process of definition of the RBM (Result Based Management) model for each project, which will allow the assessment of the impact on various stakeholders.

Education

In the field of instruction, the company promotes quality education through targeted initiatives and collaborations such as:

- **BAAS Panchayat School**: in the rural area of Gurugram (Haryana), the BAAS Panchayat school offers quality primary education, and contributes to the upbringing of children from three nearby villages. Magneti Marelli supports the school by paying the teachers and setting up structures such as the Science and Information Technology Workshops, which are used by over 300 children.
- **BREAD** (*Board for Research* Education and Development), a non-profit organisation which aims to divulge knowledge among students from the more marginalised sectors of society, provides uniforms and pays school fees and costs for stationery for more than 1,100 disadvantaged children in Delhi, Uttar Pradesh and Bihar. It also sets up courses for the development of specific abilities as well as every-day skills. In 2016, three information technology centres in Delhi, Ghaziabad and Odisha were opened, which provide the participants with a diploma recognised by the Government.
- **Kamalini Centre**, a project by the Educational Development Institute, serves to promote development and education for women from the rural area of Gurugram. It offers basic and advanced courses in information technology, cooking, personal hygiene and tailoring, which have been attended by over 540 women.
- **Don Bosco Technical Training Society**, in Delhi. Since 2014, Magneti Marelli has been supporting the Skill Development Project, a project aimed at helping young people to develop new skills and ensure stable employment. The Company also contributes to the modernisation of the institute's infrastructure and laboratories, installing the latest-generation machinery. In 2016 the project led to the employment of 328 young people by various companies.

- **House of Smiles**, Since 2013 Magneti Marelli has also been providing support in India for the international program carried forward by the well-known partner CESVI. The partnership is aimed at supporting younger generations who live in situations of difficulty, in order to provide them with the knowledge and the material tools with which to construct their own personal and professional futures in autonomy.

Initiatives for the protection of women and children

Through the Protection and Safety initiatives, Magneti Marelli supports the most vulnerable sections of the population, such as disabled people. In Muskaan, it has set up an Arts & Crafts centre, which encourages creative activities for disabled people. It also supports Tara Homes (ONVYA) which guarantees lodging and food for 20 children in need, who are given the opportunity to attend renowned schools in order to complete their education.
Over the course of the year the Company has organised four medical centres for cancer prevention in the cities of Delhi and Gurugram via the Indian Cancer Society, which has offered generic and

specific medical services to over 900 women and elderly people in the area. Considerable importance is given to the emancipation of women: India has the highest number of acid attacks against women. The survivors of the acid attacks suffer from profound psychological trauma. This is why Magneti Marelli has collaborated with Brave Heart - Make Love Not Scars (A Non-Governmental Organisation which supports, rehabilitates and reintegrates the victims of acid attacks) in order to provide medical and legal support for the victims. Over the course of 2016 the initiatives involved 15 victims of acid attacks.

THE LAW ON SOCIAL RESPONSIBILITY IN INDIA

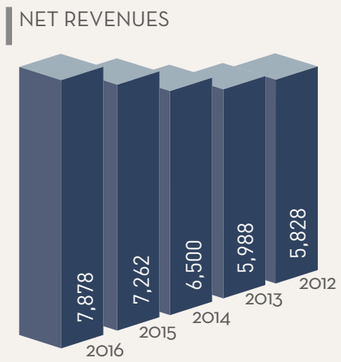
Magneti Marelli guarantees conformity in the field of Social Responsibility of the Company, as defined by the law on Indian companies (2013), according to which companies making a profit are obliged to invest 2% of their average profits over the last three years in social development for the area in which they operate. In India, in each company which responds to these criteria, Magneti Marelli has set up a Sustainability Committee from within the Board of Directors, which is charged with leading the community projects. Magneti Marelli's strategy provides for bringing its community projects into line with development programmes set up by the Indian Government, such as Skill India (a campaign aimed at training more than 400 million people in various fields by 2022), and Education for All.

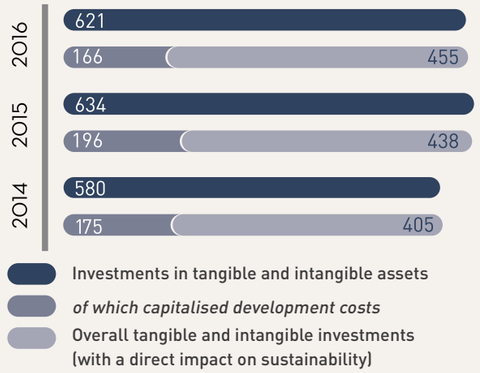
2%

ECONOMIC PERFORMANCE

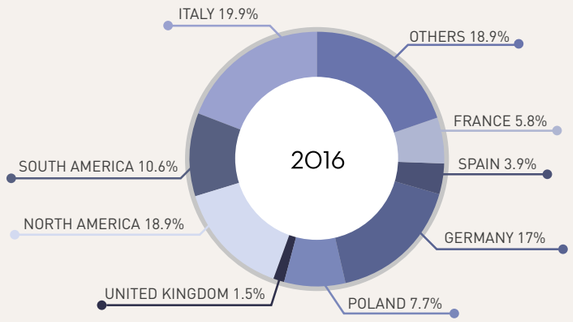
2016 was a positive year for Magneti Marelli, which closed its financial statements with an increase in net income, which stood at 7,878 million euros, confirming the trend of growth seen in the last triennium. As well as income, there has also been a growth in added value, which, net of material costs, depreciation and other expenses, stands at 1,868 million euros.

COMPANY FIGURES (millions of €)



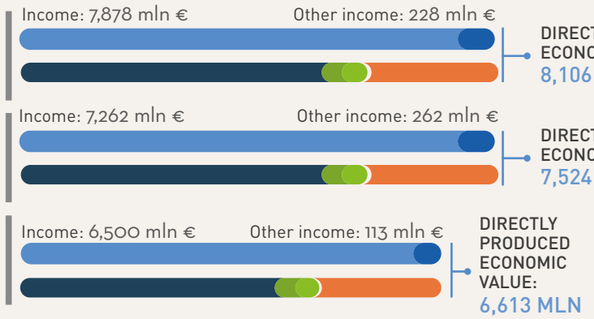


NET REVENUES PER DESTINATION (%)



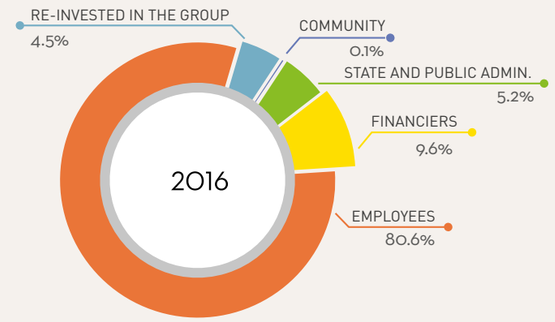
	2015	2014
Italy	19.7%	18.5%
France	6.2%	6.3%
Spain	4.2%	4.4%
Germamy	17.1%	16.7%
Poland	7.9%	8.1%
United Kingdom	1.7%	1.5%
North America	13.4%	13.1%
South America	10.3%	12.5%
Others	19.5%	18.9%

CALCULATION OF ADDED VALUE (millions of €)



	2016	2015	2014
Material costs	-5,626	-5,243	-4,636
Amortization/depreciation	-460	-440	-419
Other expenses	-151	-106	-75
Added value	1,868	1,736	1,483

ALLOCATION OF ADDED VALUE (%)



	2015	2014
Employees	82.4%	84.9%
Lenders	8.2%	9.6%
State and Public Administration	3.3%	2.8%
Community	0.1%	0.1%
Re-invested in the group	6.0%	2.7%

Archaeologist and Italian Art Historian, he has served as director of the Getty Research Institute in Los Angeles and the Scuola Normale Superiore in Pisa. He has held the post of president of the Superior Council of Cultural Heritage and is among the founding members of the European Research Council.

"Common good" means cultivating a long-term vision, it means investing in the future, it means thinking about the community of citizens, it means placing the long-term interests of all before the immediate benefit of a few, it means focusing attention on the young, on their training and their needs. It means placing the legacy we will leave to future generations before the primordial instinct to devour everything straight away.

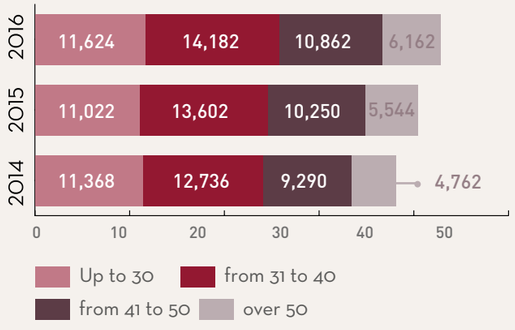
Salvatore Settis

DECENT WORK AND ECONOMIC GROWTH

TOTAL OF EMPLOYEES (n.)

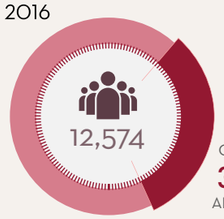
2016	2015	2014
42,830	40,418	38,156

EMPLOYEES BY AGE RANGE (n.)



TOTAL NEW EMPLOYEES (n.)

2016



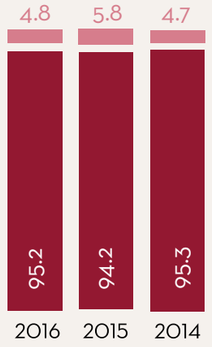
OF WHICH **33.5%** ARE FEMALE

TOTAL NEW EMPLOYEES	% are female
2015: 9,323	2015: 32%

AVERAGE NUMBER OF HOURS OF TRAINING PER EMPLOYEE

2016	2015	2014
11.3	13.9	20.9

EMPLOYEES BY TYPE OF CONTRACT (%)



PART-TIME CONTRACT		
2016	2015	2014
0.9%	0.9%	1%

TALENT ATTRACTION

	2016	2015	2014
N°. of recent graduates employed	328	466	324
N°. of apprenticeships (including training)	1,145	1,256	1,066
N°. of scholarships granted	91	228	291
Value of scholarships granted (€)	115,189	197,829	187,518

INJURIES

VARIATION OF INJURIES		
2016	2015	2014
-16%	-1%	-20%

INJURY FREQUENCY INDEX

2016	2015	2014
0.20	0.24	0.25

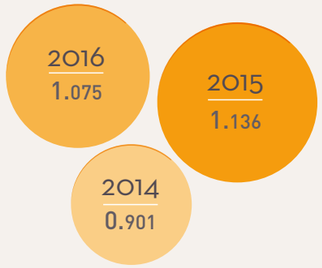
INDUSTRY, INNOVATION AND INFRASTRUCTURE

INNOVATION IN R&D (M€)

INVESTMENT IN R&D

SUSTAINABLE CITY AND COMMUNITIES

INVESTMENT IN THE COMMUNITY (M€)

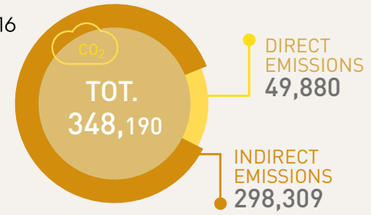


RESPONSIBLE CONSUMPTION AND PRODUCTION

ECO-EFFICIENCY OF OPERATIONS

DIRECT AND INDIRECT EMISSIONS (tCO_2)

2016



	2015	2014
Direct CO_2 emissions	48,639	44,486
Indirect CO_2 emissions	289,657	293,687
Total CO_2 emissions	338,296	338,172

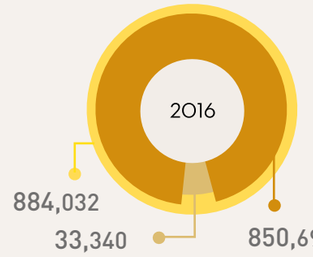
DIRECT AND INDIRECT CO_2 EMISSIONS PER HOUR OF PRODUCTION

**tCO2/Good - Hour - Produced*

2016	2015	2014
0.01	0.01	0.01

ENERGY EFFICIENCY

DIRECT ENERGY CONSUMPTION PER SOURCE (GJ)



	2015	2014
Natural gas	806,821	747,228
Other fuels	52,697	39,800
Total non-renewable fuels	859,518	787,028

DIRECT ENERGY CONSUMPTION PER SOURCE

2016

ELECTRIC ENERGY	3,014,040
THERMAL ENERGY	110,704
ALTRE ENERGIE	20,715

2015

ELECTRIC ENERGY	2,935,219
THERMAL ENERGY	94,045
OTHER ENERGY	10,679
TOT.	3,039.943

2014

ELECTRIC ENERGY	2,855,409
THERMAL ENERGY	108,154
OTHER ENERGY	18,269
TOT.	2,981.832

TOTAL CONSUMPTION OF ENERGY (GJ)

2016	2015	2014
4,029,490	3,899,461	3,768,860

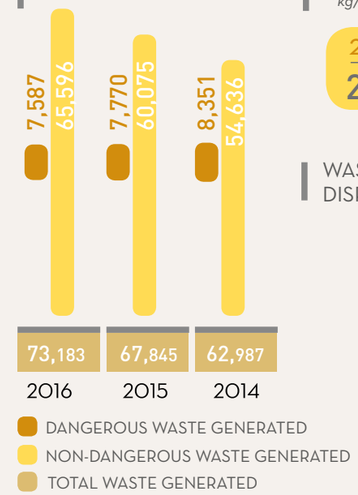
DIRECT AND INDIRECT CONSUMPTION OF ENERGY PER HOUR OF PRODUCTION

*(*Gj/Good -Hour - Produced)*

2016	2015	2014
0.12	0.13	0.13

GENERATION AND MANAGE WASTE

WASTE GENERATED (t.)

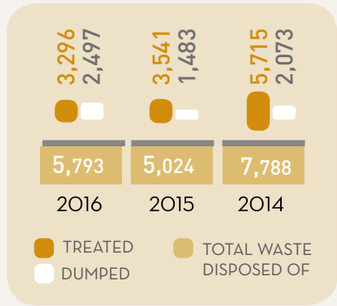


WASTE GENERATED PER HOUR OF PRODUCTION

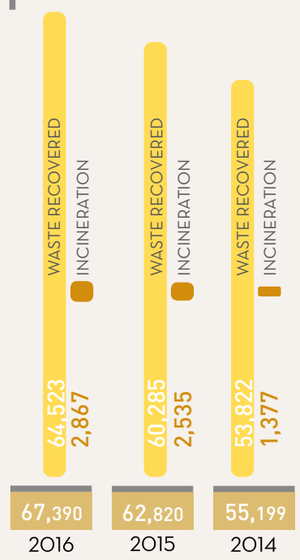
**kg/Good -Hour - Produced*

2016	2015	2014
2.21	2.14	2.05

WASTE DISPOSED (t.)



WASTE RECOVERED (t.)



* Good hours produced = Number of good pieces x Cycle time

DAAN UTSAV, THE JOY OF GIVING . MAGNETI MARELLI AND THE WEEK OF VOLUNTEERING IN INDIA

5 December is the worldwide day of volunteering. Magneti Marelli has played an active role thanks to the work, time and ability of the volunteers, who contributed on a local, national and international level in support of human rights, peace initiatives, humanitarian help and medical assistance.
In particular, in India Magneti Marelli has participated in Daan Utsav - Joy of giving week, the week dedicated to the celebration of the pure joy of giving. During this event, a number of students from the Don Bosco Technical Training Society in Delhi had the opportunity to visit the Magneti Marelli Powertrain plant in Gurugram, guided by explanations from managers and volunteers. The manifestation takes part in three different moments:

- the donating of food: the collection of packaged food was sufficient to provide breakfast and a snack for a class of 30 pupils from the BAAS Panchayat School in Gurgaon for one month;
- the donating of stationery: notebooks, pens, pencils and colours were donated via the Muskaan NGO in Delhi to provide one month's support for 20 students with learning difficulties;
- sensitisation to disasters and earthquake emergency drills: the Environment, Health and Safety team held a lesson in order to sensitise and raise awareness amongst the pupils from the Panchayat School in Gurgaon on the subject of natural disasters.

WORLD WATER DAY AND WATER SAVING: MALAYSIA, POLAND AND MEXICO

Again in 2016, the World Water Day was an opportunity for Magneti Marelli to carry out activities to raise awareness on the access to fresh water, the sustainability of water habitats and all critical areas concerning water saving. The initiatives were developed in Malaysia, through campaigns of communication, in Poland, with the promotion and installation of aerators to be applied to sinks and showers (resulting in 50% savings in water), and in Mexico, in Ciudad Juarez, with the construction of a water network which allows for the re-use of treated water in toilets, and the consequential saving of 9,600,000 litres of water.

WATCHWORD: PREVENTION. SAFETY WEEK IN BRAZIL

L'evento organizzato in Brazile da Magneti Marelli nel 2016, in occasione della Semana Interna de Prevenção de Acidentes e Meio Ambiente - manifestazione annuale sulla sicurezza - è stato intitolato "Percepire il rischio prima che si manifesti". Ad Amparo sono stati tenuti 5 incontri rivolti ai dipendenti che hanno avuto come ordine del giorno la consegna del materiale per sensibilizzare i partecipanti sull'argomento e per definire comportamenti di prevenzione con focus su attività fisica e stress.

TEAM DESIGN, THE CHALLENGE SET BY MAGNETI MARELLI FOR YOUNG ENGINEERS

The creation of a prototype to resolve a practical problem in an unconventional manner was the common thread in the "Team Design" challenge which called on numerous designers from Universities throughout Italy. The young designers were put to the test in a company-based context through the construction of a suspension system using exclusively materials provided by Magneti Marelli, the promoter and sponsor of the initiative which took place as part of the national finals of the EBEC (European BEST Engineering Competition). The final objective of the challenge was to reproduce the main functionality of adaptive suspension, with a focus on vertical movement control and adaptation, according to the modality chosen by the driver.

ITAÙNA, BRAZIL: INVESTMENTS FOR WORK SAFETY

Over the course of the last two years, the Magneti Marelli plant in Itaùna has invested more than 4.4 million dollars in eliminating dangerous situations and improving safety in the workplace. In 2016, the plant obtained international certification on Energy Management Systems - ISO 50001 - and maintained international OHSAS 18001 (Health and Safety), and ISO 14001 (Environment) certifications. More than 5,000 hours of training were provided in the fields of Safety, Health and Environment, which contributed to rendering workers autonomous and responsible. There are currently more than 100 employees responsible for plant safety, charged with intervening directly on EHS matters. For 2017, prevision has been made for more than 1.3 million dollars in investments.

CHINA: FAMILY DAY IN THE NEW HEADQUARTERS IN SHANGHAI

Magneti Marelli ha celebrato il Family Day all'interno del nuovo quartier generale di Shangai. L'evento che ha avuto luogo il 10 settembre, ha rappresentato l'opportunità rivolta alle famiglie e ai bambini dei dipendenti per entrare in contatto con l'ambiente di lavoro. Per l'occasione sono state organizzate numerose attività con giochi di gruppo, aree tematiche a sfondo educativo rivolte ai più piccoli e visite guidate negli uffici e nel plant.

PIN PRINTERS PROJECT: HOW TO REDUCE PAPER WASTAGE

The idea of adopting a PIN for printer usage was created in order to make employees aware of the quantity of paper consumed in the Company. The initiative, which has led to a reduction in paper wastage and relative costs through the overall monitoring of printer use, produced tangible results at the end of 2016. The figures registered indicate savings which can be translated into 9,341 litres of water saved, 157 trees preserved, and 66,815 kg of CO_2 not released into the atmosphere.

THREE IN ONE: CONSOLIDATION OF ITALIAN DATA CENTRES

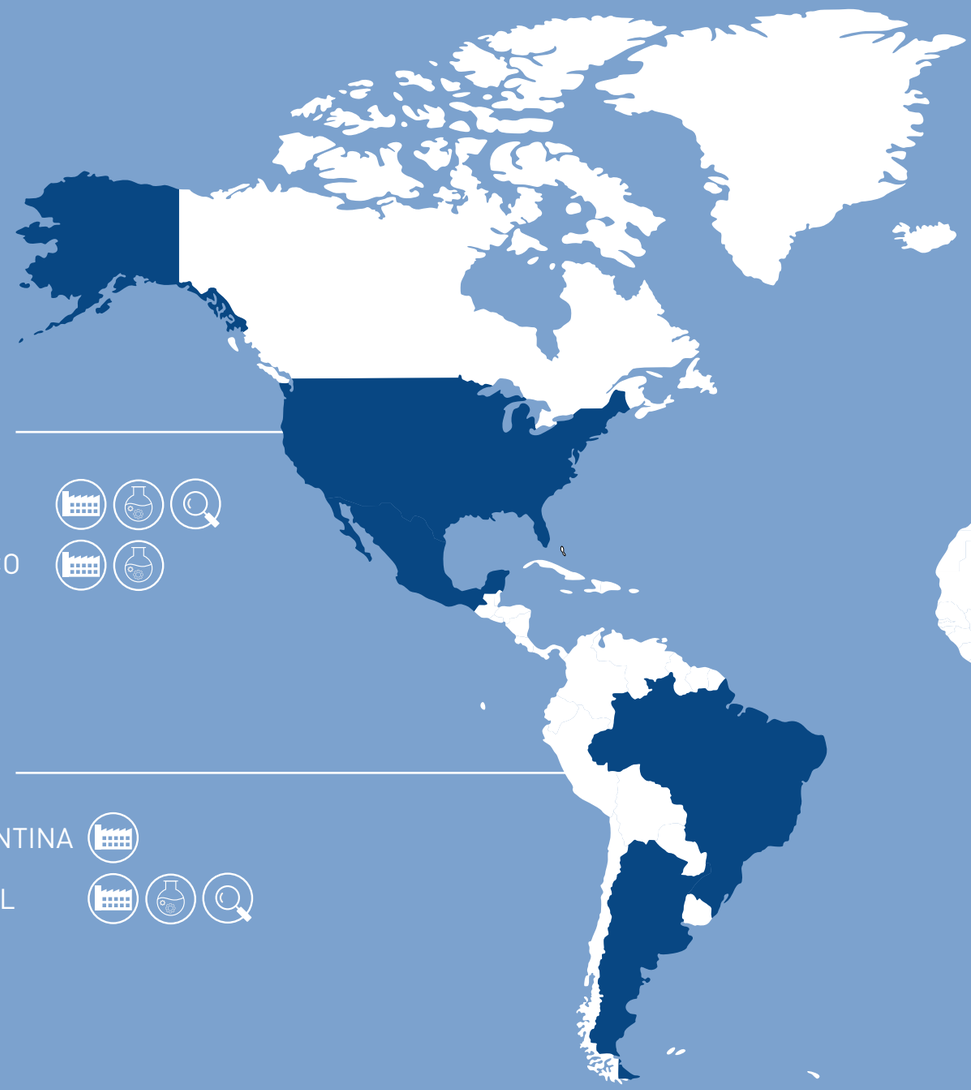
A project has been set up which is aimed at consolidating the three Data Centres - the centres which house the Company Information Technology Systems - currently present in Italy into a single, modern and flexible centre, conserving a copy of the information contained in a separate campus. The forecast benefits from the consolidation will be represented by a reduction in the energy used, the simplification and optimisation of the structures through a reduction in the number of servers, the data storage systems and hardware currently used, and the saving of data in the case of Disaster Recovery.

TECHNOLOGICAL AND HUMAN ELEMENTS: THE EVOLUTION OF TELEMETRY IN MOTORSPORT

In the month of November, the Corbetta complex hosted a lecture entitled "Evolution of telemetry in Motorsport: technology, engineering, and passion in the creation of the fully connected racetrack", held by Riccardo De Filippi, Head of Development Motorsport, and by Gabriele Biffi, Telemetry Systems Manager. The subject of the lecture was the use and evolution of telemetry over time, with an excursus on technology and a behind-the-scenes look at the human element of the technicians working on the racetrack. The theme had already been examined during the workshop presented on the occasion of the Researchers' Night, an event held in Milan at the Leonardo da Vinci Science and Technology Museum.

FLASH STORIES

MAGNETI MARELLI AROUND THE WORLD



NAFTA

- USA
- MEXICO

LATAM

- ARGENTINA
- BRAZIL

EMEA

- ITALY
- FRANCE
- SPAIN
- GERMANY
- POLAND
- CZECH REPUBLIC
- SLOVAKIA
- SERBIA
- TURKEY
- RUSSIA

APAC

- JAPAN
- SOUTH KOREA
- CINA
- MALAYSIA
- INDIA

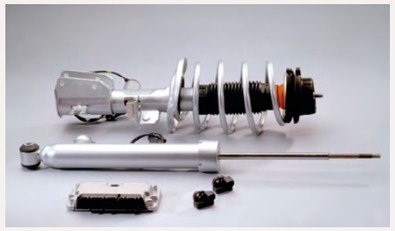
PRODUCTION PLANTS **APPLICATION CENTRES** **RESEARCH & DEVELOPMENT CENTRES**

BUSINESS LINES

AUTOMOTIVE LIGHTING

Research, development and production of automotive lighting solutions.

SUSPENSION SYSTEMS AND SHOCK ABSORBERS



Design and production of suspension modules and components and shock absorbers for a wide range of applications with a focus on weight reduction.

EXHAUST SYSTEMS

Development and production of exhaust systems using advanced technologies in terms of performance and quality.

PLASTIC COMPONENTS AND MODULES

Design, development and production of complex systems made of plastic.

POWERTRAIN

Production of components for engines and transmissions for cars, motorcycles, and commercial vehicles.

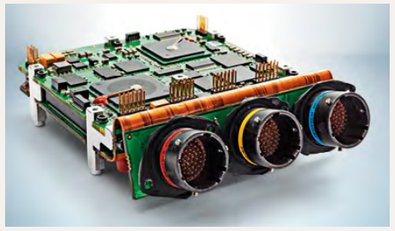
ELECTRONIC SYSTEMS

Research, development and production of instrument panels, displays, and infotainment and telematics solutions.

AFTER MARKET PARTS & SERVICES

Spare parts, motorists assistance services and training and technical know-how for the Independent Aftermarket.

MOTORSPORT



Research, development of electronic and electro-mechanical systems for two-wheel and four-wheel racing vehicles.

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