



## Press Release

### Marelli at Auto Shanghai 2021

【April 20, 2021】

Marelli will be present for the first time at **Auto Shanghai 2021** since it formed from the integration of Calsonic Kansei and Magneti Marelli in 2019 to create a leading tier 1 under the new global brand “MARELLI”. At the 19<sup>th</sup> Shanghai International Automobile Industry Exhibition Auto Show, taking place from April 19 to 28 at the Shanghai National Exhibition and Convention Center, Marelli presents its latest technologies at the company’s booth, located in the **hall 1.2H, stand 5BF201**.

In its new, wider integrated footprint, Marelli has a significant presence in China, with 22 production sites and 8 R&D centers in 15 cities. With over 6,000 employees based across China, representing 10% of the Marelli work force, and a growing customer base achieved through organic growth as well as through its nine joint venture partnerships in China, it is Marelli’s most prominent and important market for future growth.

*“The automotive sector in China continues to significantly outperform the rest of the world, both in terms of consumer demand and in the development of advanced technologies and the shift towards electrification”. – stated **Beda Bolzenius, MARELLI CEO and President**. “For Marelli, we have a strong and growing presence in the Chinese market. Our industrial and R&D footprint combined with our nine joint venture partnerships are enabling us to meet the demands of our customers both domestically within China, as well as global customers from China. It is a region where we are actively investing and are strongly committed in a further expansion in key technology areas such as electric powertrain, electronics aimed at intelligent network connection, infotainment and HMI, and automotive lighting specifically focused towards the evolution of ADAS and autonomous driving”.*

As part of Marelli’s “**Ambition 2024**” mid-term strategic plan, Marelli laid out its clear plan for investment and growth in the China market. It is the largest automotive market in the world, with production volume of light vehicles expected to reach about 28.5 M units in 2024, of which about 42% New Energy Vehicles and Hybrids and about 58% still with Internal Combustion Engines (source: IHS Markit).



In line with the priorities expressed in the last China five-year plan, Marelli aims to strengthen its focus on developing key technological solutions locally, especially aimed at the Chinese market, therefore also contributing to job creation and innovation goals.

As part of its strategy for growth, the company is focused on expanding its **partnerships** and joint ventures in the Country. A recent example of this is from January 2021, when the Joint Venture “**Highly Marelli**”, was officially launched between Marelli and Highly International. Highly Marelli was formed to create a leading global cabin comfort business with a strong focus on China. It develops world-class solutions for customers and suppliers specifically in electrification of compressors, heat pump and heating, ventilation & air conditioning (“HVAC”) and electric driven compressor (“EDC”) systems, and provides Marelli with direct and immediate access to the growing Chinese market, also facilitating even greater investment in electrification technologies and greater synergies. The creation of the JV follows Marelli’s 2019 acquisition of equity interest in Shanghai Highly New Energy Technology Co., Ltd. (“HNET”), a growing manufacturer of EDC for passenger and commercial vehicles, from Johnson Controls-Hitachi Air Conditioning.

### **The shift towards carbon neutrality**

Another key element that meets China priorities is the commitment of the company in contributing to **carbon neutrality** with its technologies. In this perspective, the first element comes from **electrification**, which is core to Marelli technology strategy. Leveraging its unique position coming from the **combined competencies in e-powertrain and thermal management systems**, Marelli aims to further strengthen its focus on e-technologies for the Chinese market and on new future agreements in China.

In this view, Marelli strategy is based on an integrated offer of complete solutions that can efficiently control and optimize the complete flow of energy in Electric Vehicles. At Auto Shanghai, the company exhibits a wide range of products from its **Electric Powertrain** business unit, including the **e-Axle**, which integrates the e-Motor, inverter and gearbox all into one key component, proving Marelli high system knowledge and integration capabilities, as well as its deep understanding of each “building block” of the system. Stators, rotors, e-Motors, inverters and battery management systems with distributed architecture are also on display at the booth.

By this approach towards total energy management of the vehicle, applying a “tier 0.5” approach, Marelli is able to integrate thermal management into the electric powertrain offering, with devoted products that enable the creation of a complete system. This is the case with the Battery Thermal



Plate that is to be used in conjunction with battery pack and cells to maintain optimal temperature of cells, with a water flow and rate control based on a Marelli internal design. Still for the e-powertrain thermal systems, also a Low Flow Range High Performance Radiator will be showcased at Auto Shanghai. In addition to the solutions devoted to electrification, thermal management systems displayed at the booth also include the Outer Heat eXchanger and the Water-Cooled Condenser.

In the perspective of supporting the transition towards carbon neutrality, also the exhaust systems business has still a significant role. In fact, together with the natural evolution and growth of Electric Vehicles, still the Internal Combustion Engines and Hybrid vehicles – that require an exhaust system – will have an important part of the market in the years to come. Marelli long-standing know-how in aftertreatment technologies and emission reduction is key in the mid-term future.

Drawing on this experience, Marelli Green Technology Systems has developed a new gasoline Burner System solution for Catalyst fast warm-up, that allows to minimize the emission by a very fast catalyst activation and is able to comply with future expected China7 (and Euro 7) emissions legislation. The Marelli system allows to improve the global emission of the vehicle powered with internal combustion engine (pure ICE and all the Hybrid applications) and can be installed in close coupled (placed in the vehicle engine compartment) as well as in underfloor position, being able to work in all the most severe environmental and temperature conditions. This robust and compact solution allows a very fast ignition (<1,5 sec), operation times and enables the reduction of emissions (e.g.: CO, HC, NOx) at the engine warm up phase.

In the same area, also an Integrated Heat Recovery system will be present at Marelli booth.

### **Autonomous driving and lighting solutions**

One of the most important businesses for Marelli is **Automotive Lighting**, which is also well represented at Marelli booth at Auto Shanghai. Marelli Automotive Lighting has a leading position in all lighting domains, with innovative technologies that are widely featured on many OEMs models worldwide, including the most important premium car-makers around the globe and in China.

This week Marelli announced a **Master Cooperation Agreement** for **radar solutions** aimed at **ADAS and Autonomous Driving** applications, signed with the **Chinese company WHST** (Wuhu SensorTech Intelligent Technology Co., Ltd.). This partnership will be firstly aimed at the Chinese market and then opened up to the rest of the world. This will allow Marelli to integrate 77GHz and 79GHz applications for 4D radar into headlamps, rear lamps, smart grilles but also standalone corner and long-range radar and newest cockpit radar technology. The move confirms the commitment of the company in the domains of Autonomous Driving and sensing perception in particular, and follows



consistently its long-standing activity, started years ago with the introduction of the Smart Corner™, a solution integrating sensors for Autonomous Driving within vehicle headlamps and tail lamps, and with strategic partnerships in the LiDAR field.

Marelli Automotive Lighting is showcasing a broad range of its modules at Auto Shanghai, which each provide maximum flexibility for customers' needs:

- High-end technologies like **h-Digi® with high-resolution projection** system are based on 1.3m pixel and **Folia-LED** technology for **rear lamps**, which is an efficient solution comparable to OLED systems. This ensures broad styling options and the possibility to create animations through electronic control.
- The **Micro-LED** is a second-generation high-resolution projection system with 20k-40k pixels engineered for volume markets, aimed to be in production in the next couple of years.
- Finally, we have the best example of electronics devoted to the control of LED lighting solutions. Automotive Lighting supports the transition from single Electronic Control Units to centralised Domain Control Units. Today, dedicated lighting control functions are already part of Marelli Lighting Controllers. Our next step into the future is the centralisation of the complete vehicle lighting control for front, rear and interior lighting into one Domain Control Unit.

### **Advanced interiors**

Our **Interior Experience** showcases intelligent interiors technologies aimed at enhancing the on-board end user experience. Marelli is one of very few suppliers who can rely on robust competencies both in interiors and electronics.

The result of this know-how is visible in the "**Smart Surface**" solution, a combination of the highest standards for "look and feel" in interior design - with plastic parts and decorative skins – and cutting-edge electronics solutions for HMI integration. At the booth, Marelli displays a Smart Surface demo with translucent HMI or lighting, with a customizable design panel and lightning pattern.

The "**Cabin Innovation**" demo realizes seamless beauty through the integration of switch and display functions on the surfaces of decorative parts, supports a wide range of possibilities such as real or artificial leather and metal-like or wood-like decorations and integrates Air Conditioning vents with automatic wind direction control with decorative parts to combine beauty with comfort.



Marelli's market leading **Electronics business** is also a key growth business for the company in China. China is a significant hub for the development of these technologies, with an important R&D center located in Guangzhou, especially aimed at solutions for the Chinese market.

- The Marelli team in Guangzhou has developed a solution that will play a pivotal role in enabling the next generation of infotainment systems. The **Cockpit Domain Controller** is a single, powerful Electronic Control Unit managing infotainment and cluster devices as well as additional interfaces at the same time, which in the past were run by different Electronic Control Units. This product has debuted in China in 2020, through **GAC Aion V**.
- Electronics activity continues to evolve around the traditional areas of displays and instrument clusters. At Auto Shanghai, Marelli showcases its Wide 27" Display based on Cockpit Domain Controller with Driver Monitoring System, embedding Marelli's R-Touch Connectivity.

In the field of telematics, where Marelli has a long-standing tradition as well, it's worthy to mention the important collaboration with the leading global supplier of IoT and automotive communication modules, **Quectel Wireless Solutions**, headquartered in Shanghai, as their communication modules are integrated into Marelli Telematic Boxes. More broadly, with its connectivity solutions, Quectel supports Marelli in its multi-level approach, from 4G and 5G technology, to cybersecurity software and hardware solutions, up to future V2X communication protocols, aimed at empowering the communication systems in the car and to maximize user experience and safety onboard.

### **Efficiency of traditional combustion engine**

Marelli presence at the Auto Show is completed by its offer in the traditional **powertrain** area, which includes solutions aimed to optimize performance, consumption and emissions, such as **high-pressure injection systems**, with working pressures up to 1000 bar. A particular focus is placed on the **Vehicle Domain Control Module**, a multiple domain control module, for powertrain and vehicle dynamic control. This is an innovative solution in terms of inertial platform for the optimization of vehicle dynamics, that leverages advanced electronic control to ensure the ideal set-up of the vehicle, thus allowing to increase efficiency and therefore to reduce consumption and emissions. The system eliminates a relevant number of ECUs, by integrating almost all the functions in one unique component. This generates space, weight and cost optimization, reduces the architecture complexity of the vehicle and improves the driveability of the car in terms of performance, comfort and safety.



**About Marelli**

*MARELLI is one of the world's leading global independent suppliers to the automotive sector. With a strong and established track record in innovation and manufacturing excellence, our mission is to transform the future of mobility through working with customers and partners to create a safer, greener and better-connected world. With around 60,000 employees worldwide, the MARELLI footprint includes 170 facilities and R&D centers across Asia, the Americas, Europe, and Africa, generating revenues of 13.6 Billion Euro (JPY 1,664 billion) in 2019.*