



Press Release

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Marelli wins SAA Innovations in Lightweighting Award for its pioneering LeanExhaust platform

Marelli, a global mobility technology supplier to the automotive sector, has received the prestigious Innovations in Lightweighting Award by SAA, the Society of Automotive Analysts, for its “*LeanExhaust*” system. The honor was presented during the 9th Annual Materials Innovation Summit held in Auburn Hills, Michigan, on November 13, 2025.

The SAA Innovations in Lightweighting Award recognizes suppliers for innovative products and technologies that provide either direct or indirect mass savings, in line with the automotive industry’s push for sustainability and efficiency.

Marelli’s *LeanExhaust* is a compact, lightweight and cost-effective exhaust system that has been developed to meet carmakers’ demand for weight and volume reduction in vehicles with Internal Combustion Engines, including hybrids. The solution achieves an overall weight reduction of 16 kg compared to conventional exhaust systems, while exceeding or matching noise-reduction and emissions-control performance. It enables a 52% decrease in carbon emissions through design and process improvement compared with exhaust systems currently in production, which translates to an 85 kg savings in CO2 for a typical vehicle for each exhaust system.

The system incorporates two innovative modular components, a dual-layer converter and a micro-hole design muffler, each contributing to the overall reduction in weight and volume.

The advanced architecture of the dual-layer converter combines a three-way catalytic converter and gas particulate filter in one compact package, reducing the overall weight of that component by 45% and its volume by 46%. It also allows the catalyst to rapidly reach ideal operating temperature following a cold-start and to maintain temperature during electric drive with an engine stop, while simultaneously meeting the thermal and noise-reduction requirements of hybrid or EV systems.

The micro-hole design muffler uses a micro-perforated central tube with a series of baffle plates, eliminating the need for non-recyclable glass wool used in conventional mufflers. This reduces weight by up to 27% and volume by up to 15%, while achieving equivalent airflow noise-reduction performance and enabling the use of durable, thinner-gauge stainless steel.

By consolidating components and leveraging advanced materials and architecture, *LeanExhaust* delivers a simplified and easy-to-adapt solution, that is expected to consistently bring cost savings over conventional systems. This is in line with Marelli’s platform approach, which provides automakers a highly pre-developed technology base that can be customized by them according to their needs; this helps them



reduce development time and cost, while meeting diverse consumer needs. In particular, the “*Lean*” platforms contain fewer components and are designed to be fit-for-purpose, sustainable, accessible and launch-ready.

“We are truly honored to receive the Innovations in Lightweighting Award for our ‘LeanExhaust’ platform. This recognition is a testament to the dedication and creativity of the entire team in Marelli’s Green Technologies business, who continue to challenge the boundaries of sustainable mobility” stated Shuji Kobayashi, President of Marelli’s Green Technologies business. *“LeanExhaust sets a new benchmark in exhaust system design and manufacturing. Through its breakthrough dual-layer converter and micro-hole design muffler, the system delivers substantial weight savings of 16 kg over conventional alternatives, with outstanding performance for emissions reduction, noise control, and overall durability. The system also enhances recyclability, offering our customers a truly future-ready solution.”*

At the SAA Innovations in Lightweighting Awards, Marelli was also recognized with an “Honorable Mention” for its hybrid suspension system with electromechanical actuators. This Fully Active Hybrid Suspension System includes two actuators to control front-end vehicle dynamics, while the rear wheels are connected to two semi-active shock absorbers. By integrating active electromechanical control on the front axle – which bears most of the dynamic load during braking and cornering – the system targets the most critical axis for vehicle dynamics. Compared to hydraulic systems with similar functionalities, it contributes a 57% weight saving with no reduction in functionality or performance.

About Marelli

Marelli is a global mobility technology supplier 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 40,000 employees worldwide, the Marelli footprint includes over 150 sites globally.