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Le Mans: Bosch and Maserati define the hydrogen-powered future of racing

An innovative and powerful alternative for the future of motorsport

- Hydrogen combustion engine with hypercar-level performance and high sustainability potential
- Maserati Nettuno gasoline engine provides the basis for hydrogen engine development at Bosch Motorsport
- Optimized engine concept with HIDI LCV injectors from Bosch increases combustion stability, torque, and power while reducing emissions
- Demonstrator vehicle Ligier JS2 RH2 to be exhibited again in the H2 Village and will complete a demo lap on race Saturday

Abstatt – Bosch Motorsport's commitment to the 24 Hours of Le Mans is once again centered on greater sustainability this year. The demonstration of long-distance-capable alternative motorsport powertrains from Bosch Motorsport enters the next phase with the optimized hydrogen engine based on Maserati's Nettuno gasoline engine. "To make a vision like the hydrogen race car a reality, you need a strong team. Our strategic partnership with Ligier Automotive is the foundation on which we are developing and testing the vehicle. At the same time, our collaboration with Maserati provided a first-class basis for the engine. This pooling of expertise is our key to bringing sustainable performance to the road faster," says Ingo Mauel, Head of Bosch Motorsport.

Innovative Engineering for Hypercar Performance

The hydrogen unit developed by Bosch Engineering is fundamentally based on the Maserati Nettuno, a 3.0-liter six-cylinder gasoline engine with biturbo charging and dry sump lubrication. For the conversion to hydrogen operation, core components like the cylinder head and turbocharger were retained from the original design. Within the base engine, a key modification was solely made to the pistons, which were optimized in shape and to lower the compression ratio in order to extract even more power and performance at high RPM's. The modifications include, among other things, the injection system, the ignition system, and the engine control unit. Instead of the

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combined direct and port fuel injection, the current version uses modern hydrogen direct injection with HIDI LCV injectors from Bosch. This allows the 3.0-liter hydrogen engine to produce around 480 kilowatts and deliver 880 Newton-meters of torque in this Motorsport application. Davide Danesin, Head of Maserati Engineering, says*:* *"*Nettuno is a state-of-the-art engine that continues to demonstrate robustness, efficiency, and versatility. For this reason, it has proven to be particularly well-suited for conversion to hydrogen, thanks to its inherent strength, which allows it to withstand very high cylinder pressures*."*

Strong partnership brings innovation to the track

To make the potential of a race car with a hydrogen engine tangible, Bosch Engineering entered into a strategic partnership with Ligier Automotive in 2021. The result is the development of the hydrogen-powered race car prototype, the Ligier JS2 RH2. The vehicle was first presented at the 24 Hours of Le Mans in June 2023. In the tests conducted since then, the vehicle and engine have proven their robustness over almost 8,000 test kilometers on track under various weather conditions without any technical issues. Continuous optimizations have led to the further development of the hydrogen concept; for example, the drive's torque and power were increased while further reducing emissions. "The Ligier JS2 RH2 project perfectly illustrates what can be achieved when three complementary areas of expertise come together. Our collaboration with Bosch Engineering and Maserati allows us to explore the full potential of hydrogen in motorsport, combining performance with sustainability. It also echoes a meaningful chapter in our history — the original Ligier JS2, powered by a V6 3,0l Maserati engine, claimed victory at the Tour Auto in 1974. Today, this legacy inspires us to look ahead. Together, we are not only developing a race car demonstrator, but also opening the door to future applications, such as a decarbonized track-day car integrating Maserati engine technology and Bosch hydrogen systems," says Jacques Nicolet, President of Ligier Automotive.

As in previous years, the Ligier JS2 RH2 with its hydrogen engine will complete a demo lap on the Le Mans race circuit on Saturday, June 13, 2026, and will be on display in the H2 Village throughout the race week.

Press photos are available on the Bosch Media Service at www.bosch-press.com.

Further information:

https://www.bosch-engineering.com/stories/ligier/

https://www.youtube.com/watch?v=UbLfgPRiG9M

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About Bosch Engineering GmbH
Bosch Engineering GmbH is a wholly owned subsidiary of Robert Bosch GmbH and is head-quartered in Abstatt, Germany. As a systems development partner to the automotive industry since 1999, the company offers development services for powertrains, safety and convenience systems, and electrical and electronic systems – from the original concept to series production. Specialized in electronics and software, it draws on Bosch's proven large-scale series production technology to develop tailored solutions for a wide variety of applications in passenger cars, commercial vehicles, off-highway and recreational vehicles, and in rail applications, ships, and industry. Bosch Engineering GmbH also coordinates all the Bosch Group's motorsports activities.
Additional information can be accessed at www.bosch-engineering.com.

Mobility is the largest Bosch Group business sector. It generated sales of 55,8 billion euros in 2025, and thus contributed around 61 percent of total sales. This makes the Bosch Group one of the leading mobility suppliers of technology and services. Bosch Mobility pursues a vision of mobility that is safe, sustainable, and exciting. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are electrification, software and services, semiconductors and sensors, vehicle computers, advanced driver assistance systems, systems for vehicle dynamics control, repair-shop concepts, as well as technology and services for the automotive aftermarket and fleets. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 413,000 associates worldwide (as of December 31, 2025). The company generated sales of 91 billion euros in 2025. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, digitalization, electrification, and artificial intelligence. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in hardware, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture intelligent, user-friendly, and sustainable products. With technology that is "Invented for life," Bosch wants

to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 500 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is
key to the company's further development. Bosch employs some 82,000 associates in research and development.

Additional information is available online at www.bosch-press.com, www.bosch-mobility.com, www.bosch.com.

Maserati S.p.A.
Maserati produces a complete range of unique cars, immediately recognisable by their extraordinary personality. Thanks to their style, technology and innately exclusive character, they delight the most discerning, demanding tastes and have always been a benchmark for the global automotive industry. A tradition of successful cars, each of them redefining what makes an Italian sports car in terms of design, performance, comfort, elegance and safety, currently available in more than 70 markets internationally.
Maserati line-up includes the Grecale SUV, the GranTurismo, the iconic Italian grand tourer, and the GranCabrio, the new convertible of the Trident; all models characterized by the use of the highest quality materials and excellent technical solutions. A range equipped with 4-cylinder hybrid powertrains – available for Grecale – and V6 petrol, with rear-wheel and four-wheel drive, embodying the performance DNA of the Trident brand. GranTurismo is available with both the high-performance V6 petrol engine and a 100% electric version: the GranTurismo Folgore, the first car in the Modena-based brand's history to adopt this solution. The full-electric range also includes the Grecale Folgore and the GranCabrio Folgore. The top of the Brand's range is the MC family, which consists of the MCPURA coupe and its MCPURA Cielo convertible version, powered by the innovative V6 Neptune engine, 100% Maserati, which incorporates F1-derived technologies into the power unit of a standard production car. Completing the Brand's commercial offering is the Maserati GT2 Stradale, the road-legal version of the GT2, which brought Maserati back to the track in covered-wheel championships, while Maserati MCXtrema is the limited series of only 62 units, a track-only homologated racing car that pushes Trident performance to the highest level and is dedicated to racing car enthusiasts.
The mission at Maserati is to write the future of mobility in the luxury segment, focusing on its customers' requests. In order to achieve this mission, the Brand is also strongly focused on the Maserati Fuoriserie customization program, the Maserati Classiche activities, and the intensive Maserati Corse racing program.