Horse Powertrain and Repsol jointly develop a highly efficient hybrid powertrain running on 100% renewable gasoline

- The next-generation HORSE H12 Concept hybrid engine, using Repsol's 100% renewable fuel, boosts efficiency and reduces vehicle fuel consumption by 40% to below 3.3 liters per 100 kilometers[1]
- Using Repsol's 100% renewable fuel, a mid-size vehicle equipped with this engine emits 1.77 tons of CO_2 per year less than a similar vehicle with traditional powertrain and fuel[1, 2]
- The highly efficient engine is designed in Spain, in collaboration between Horse Technologies, a division of Horse Powertrain, and Repsol, achieving 44.2% peak brake thermal efficiency
- The project demonstrates that European industrial innovation can deliver near-term CO_2 emissions reduction solutions
- A technology-neutral European regulatory framework helps to accelerate the transport sector's transition to net zero

Madrid, Spain (16 February 2026) – Horse Powertrain, via its Horse Technologies division, and Repsol have unveiled a next-generation hybrid powertrain that achieves ultra-high efficiency and low fuel consumption, operating on 100% renewable gasoline.

The HORSE H12 Concept engine introduces enhancements to the combustion system and reductions in internal losses, achieving 44.2% peak brake thermal efficiency (BTE) while reducing vehicle fuel consumption by 40% (in comparison with 2023 average passenger car new registration in Europe)[1] to below 3.3 liters per 100 kilometers, according to standardized European testing (WLTP).

Maximizing efficiency directly results in lower fuel consumption and lower CO_2 emissions in equal proportions. When using the 100% renewable fuel, a mid-sized car equipped with the HORSE H12 Concept powertrain and driving an average of 12,500 kilometers per year, will emit 1.77 tons of CO_2 per year less than a vehicle with a traditional fuel and combustion engine.[1, 2]

The hybrid powertrain system incorporates the HORSE H12 Concept engine, an evolution of the HR12 engine that includes an innovative combustion system designed at a 17:1 compression ratio, a new-generation exhaust gas recirculation system (EGR), an optimized turbocharger, a high-energy ignition system, and an improved hybrid gearbox with optimized energy management, as well as reduced internal friction enabled by new Repsol lubricants.

[1] Average official fuel consumption (WLTP) of petrol cars registered in 2023, based on official information submitted by European countries to the European Environment Agency.
[2] Directive (EU) 2018/2001 (Annex V, C) methodology used for the GHG emission savings of renewable fuel.

The project, led by teams from the Horse Technologies Division in Valladolid and the Repsol Technology Lab in Madrid, has produced its first two prototypes and validated performance. The first demonstrator vehicle is expected to be presented in early 2026. This is the first step towards industrial production of highly-efficient hybrid engines.

This project contributes to the mobility sector's transition to net zero, applying the principle of technology neutrality, and demonstrates how innovation can provide near-term CO_2 reduction solutions.

More than 97% of Europe's current vehicle parc (ACEA) is still combustion-based, so delivering solutions capable of reducing CO_2 emissions today - such as highly efficient engines and alternative fuels - play a complementary role alongside electrification, hydrogen, and other emerging technologies on the road to mobility net zero.

For these solutions to scale, it is essential that the current revision of CO_2 standards for light-duty vehicles includes a clear, long-term framework. It should recognize the role of highly efficient engines powered by renewable fuels in road-transport decarbonization, ensuring a technology-neutral approach beyond 2035 to support innovation and necessary industrial investments.

Luis Cabra, Executive Managing Director of Energy Transition, Technology, Institutional Affairs and Deputy CEO of Repsol, states: "*This collaboration shows that decarbonization can be accelerated through innovative and accessible technological solutions. The use of 100% renewable fuels is a net zero emission solution, complementary to electric vehicles, for decarbonizing the transport sector. Supporting clear and ambitious regulation that drives investment in renewable fuels and highly efficient engines is essential for Europe to reduce transport emissions faster in a more competitive and effective manner.*"

Patrice Haettel, Chief Operating Officer at Horse Powertrain and Chief Executive Officer at Horse Technologies, adds: *"The HORSE H12 Concept is an example of how highly efficient engines and renewable fuels can reduce emissions today, without waiting for future solutions. As a company, we believe that relying on a single technology is not the fastest way to cut emissions. This is why we advocate a technology neutral approach that enables innovation across all solutions - electric, hybrid, range extenders and low-carbon fuels.*"

In October, Repsol achieved a technological milestone by producing gasoline of 100% renewable origin at industrial scale at its Tarragona facility. This new product is compatible with existing gasoline vehicles, with no modifications required. Nexa 95, Repsol's highest-quality 95-octane renewable gasoline, is already available at 30 service stations in Spain.

The company also offers renewable diesel at close to 1,500 service stations in Spain and Portugal, making it the largest distribution network of renewable fuels in Europe.

Repsol is the leading producer of renewable fuels in the Iberian Peninsula with the first industrial plant dedicated to the production of 100% renewable fuels from waste, in Cartagena (Spain). The company will start operations at a second plant in Puertollano in 2026. Additionally, Repsol will also launch a demonstrator e-fuels plant in Bilbao in 2026.

ENDS

About Horse Powertrain
Horse Powertrain is a new global leader in hybrid and combustion powertrain solutions, supporting automotive OEMs with a range of systems including engines, transmissions, power electronics, and integrated hybrid platforms. Consisting of two divisions, Aurobay Technologies and Horse Technologies, Horse Powertrain operates 17 plants and 5 R&D centers globally, serving a range OEMs including Renault Group, Geely Auto, Volvo Cars, Proton, Nissan, and Mitsubishi Motors Corporation. Horse Powertrain is headquartered in London, UK, and employs 19,000 people globally. The company's three shareholders are Renault Group (45%), Geely (45%), and Aramco (10%).

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