



HORSE enters maritime sector in partnership with Hybdor, for world's first flex-fuel marine PHEV

- HORSE to supply its 1.3-litre, 4-cylinder 'HR13' engine to Hybdor, a Brazilian marine powertrain start-up
- Hybdor Duotech 200E system is a pioneering plug-in hybrid marine powertrain for use in Class 2 vessels (26 - 40ft)
- Deal marks HORSE's first engine to be delivered to a marine customer
- HR13 to be one of the world's first commercial marine engines capable of running on ethanol fuel
- HORSE is a division of Horse Powertrain, a global leader in hybrid and combustion powertrain solutions across 17 plants and 5 R&D centres

[HORSE](#), a division of Horse Powertrain and a leader in innovative and low-emission powertrain systems, has today signed an agreement to provide engines for the marine powertrain system of the Hybdor Duotech 200E. This agreement is a world-first for HORSE, marking its first commitment to supply its engines beyond land vehicles.

Developed by Brazilian start-up Hybdor Tech, part of Espadarte Group, the Hybdor Duotech 200E uses a pioneering plug-in hybrid powertrain designed for use in yachts and Class 2 vessels (between 26 - 40 feet in length). HORSE will supply the combustion engine, its 1.3-litre, 4-cylinder Turbo Flex Fuel 'HR13' engine.

Like PHEV powertrains for land vehicles, the Hybdor Duotech 200E will be capable of operating in both pure-combustion and pure-electric modes. However, it will also feature a "boost" mode that combines both combustion and electric power to provide increased continuous power. The powertrain's battery can also be charged while moving in combustion mode, along with being charged by plugging into a power outlet. When plugged in, the PHEV can be fully charged in just 90 minutes.

Produced locally at HORSE's plant in Curitiba, HR13 can deliver peak power of 163PS (120kW) and maximum of 250Nm of torque at 1,600rpm. The Hybdor Duotech 200E's electric motors will supplement this with 25PS (18kW) peak power and 60Nm maximum torque.

The HR13 is optimised to run on the gasoline and ethanol flex fuels that are staples of the Brazilian market. This makes the Hybdor Duotech 200E one of the world's first commercial marine powertrains that are designed to operate with commercially sold flex fuels, while also supporting pure-ethanol combustion.

Matias Giannini, Chief Executive Officer of Horse Powertrain, said: *"Horse Powertrain plans to revolutionise every mobility category, which is why we're incredibly excited to announce our first engine for use in a marine vessel. This new solution with Hybdor is a highly innovative application of our global technology leadership, leveraging our hybrid and alternative fuels expertise."*

Patrice Haettel, Chief Executive Officer of HORSE Division, said: *"Our team is committed to developing more responsible and sustainable mobility solutions, for automotive and beyond. Our agreement with Hybdor is the first*



step into the marine market and aligns with our overarching energy transition goals. This new PHEV system, equipped with our HR13 engine produced in Curitiba, is a world-first in its provision of low-emission marine mobility through its use of ethanol."

Thiago Sielski Marquardt, Chief Technology Officer of Hybdor Tech, said: *"HORSE was the obvious partner for us as we created our unique Hybdor Duotech 200E. We needed a company that understood our vision and had the expertise and ability to deliver a low-emissions combustion engine, which could leverage the gasoline-ethanol flex fuels of the Brazilian market. This is a great example of two Paraná State businesses coming together to make a real difference."*

A plug-in hybrid marine powertrain system will improve the range of ships and boats while also reducing fuel consumption and emissions. It also enables a more comfortable experience during navigation by reducing vibration and noise.

Ends

About Horse Powertrain

Horse Powertrain consists of two divisions, Aurobay and HORSE. It is a world leader in hybrid and combustion powertrain solutions. Headquartered in London, UK, the company employs 19,000 people globally across 17 plants and five R&D centres. Horse Powertrain's three shareholders are Renault Group (45%), Geely (45%), and Aramco (10%).

About HORSE

HORSE is a global supplier of innovative powertrain solutions. It believes that there is no one-size-fits-all solution to sustainable mobility and so is investing in technologies which will support the automotive industry, and other sectors requiring power generation, in their transition to a sustainable future. With decades of industrial know-how, HORSE develops, produces and supplies highly efficient full-hybrid, plug-in hybrid and internal combustion powertrains, and cutting-edge technologies (engines, gearboxes, full-hybrid and plug-in hybrid systems, and batteries).

HORSE employs over 9,000 people in seven countries, it is headquartered in Madrid, Spain and has eight manufacturing plants and three R&D centres around the world (Argentina, in Córdoba; Brazil in Curitiba; Chile in Los Andes; Portugal in Aveiro; Romania in Bucharest, Mioveni and Titu; Spain in Seville and Valladolid, and Turkiye in Bursa in partnership with Oyak).

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About Hybdor Tech

Hybdor is a project from the national startup Hybdor Tech, which is part of Espadarte Group. The focus is on the development of technology and solutions for boats. Since 2019, the group, which includes other important partnerships such as TechSolution, a leader in automotive engineering parametrization, has been dedicated to investing in developments for the nautical sector that optimize the navigation experience, accessibility, and sustainability.