



HYDROGEN, CORNERSTONE OF LOW-CARBON MOBILITY



HRS PARTNERS WITH TOYOTA MOTOR EUROPE AND ENGIE TO REVOLUTIONIZE HYDROGEN REFUELING INFRASTRUCTURE

- **Solidifying HRS' leadership:** cutting-edge solutions unveiled to outpace competition and drive the global energy transition;
- **Strategic partnership with global leaders:** HRS, with Toyota Motor Europe and ENGIE, accelerates the deployment of hydrogen mobility solutions across Europe;
- **Introducing key collaboration for next-generation refueling technology:** dual-nozzle innovation drastically reduces refueling times for heavy and light-duty hydrogen vehicles.

Grenoble, 28 January 2025 - **HRS, French designer and manufacturer, and European leader in hydrogen refueling stations**, announces a Joint Development Agreement with **Toyota Motor Europe** and **ENGIE** with the aim of developing a next-generation hydrogen refueling system. This new solution, Twin Mid Flow (TMF) Technology, for faster refueling and more cost efficient, will be piloted in EU-funded RHeadHy project that focusses on accelerating infrastructure deployment. This collaboration cements HRS's position as the driving force in hydrogen refueling, leveraging partnerships with global leaders to outpace competition and accelerate the transition to zero-emission mobility.

This new TMF Technology introduces a dual nozzle, allowing one hydrogen dispenser to refuel heavy-duty vehicles in less than 10 minutes or light-duty vehicles in less than 5 minutes. In addition, this innovation significantly lowers station installation costs, paving the way for wider and faster infrastructure deployment aligned with the European Union's Alternative Fuels Infrastructure Regulation (AFIR) goals to deploy publicly accessible hydrogen stations every 200km along the TEN-T networks by 2030.

The TMF technology will be implemented in the EU-funded RHeadHy project, which focuses on developing high-performance hydrogen refueling solutions for heavy-duty vehicles. Testing will commence in late 2025 at HRS's state-of-the-art facilities in Champagnier (Grenoble, France), contributing to the standardization of hydrogen distribution protocols (ISO 19885-3) by 2026.

HRS already offers proven, high-capacity, multi-purpose hydrogen refueling solutions capable of refueling all types of heavy and light vehicles using dual-pressure stations (350 bar and 700 bar), up to 1 ton of H₂/day and continues to lead the hydrogen revolution by tackling one of the industry's most pressing challenges: the need for faster, more cost-efficient refueling solutions that cater to both light-duty and heavy-duty vehicles.

Firmly committed to expand hydrogen mobility, **HRS** intends, thanks to this new partnership, to stay one step ahead in offering ever more effective hydrogen refueling solutions. With the introduction of TMF technology, **HRS** enhances its unmatched range of solutions, further solidifying its reputation as a pioneer in modular, scalable hydrogen infrastructure. This collaboration with Toyota and ENGIE is another bold step in **HRS**'s mission to deploy innovative solutions at the speed demanded by the global hydrogen mobility market.

Thiebault Paquet, Vice President R&D, Toyota Motor Europe, stated: "To contribute to the growth of hydrogen ecosystems, Toyota is already working with business partners who are innovating a wide range of zero carbon emission applications using our advanced fuel cell systems. Development of the Twin Mid Flow Technology is a next step in our effort to stimulate the growth of hydrogen ecosystems. We are excited about this new partnership."

Quentin Nouvelot, Head of H2 mobility research program, ENGIE lab CRIGEN completed by saying that: "As project coordinator and as a research center with expertise in refueling simulation and refueling protocol, ENGIE is proud to join forces with Toyota Motor Europe and HRS leveraging on the RHeaDHy project. By advancing high-flow refueling solutions, this partnership strengthens the hydrogen ecosystem and accelerates the transition to cleaner energy. Together, we are setting new standards for sustainable mobility and reinforcing hydrogen's role in decarbonizing transport at scale."

Hassen Rachedi, CEO and founder, HRS, added: "This is great news for **HRS**, once again recognised throughout Europe for its unique expertise, and for the hydrogen industry as a whole. This strategic partnership with Toyota Motor Europe and ENGIE marks a decisive step in the innovation and development of hydrogen refueling infrastructures. As pioneers of modular and scalable solutions, we are proud to collaborate on a technology that will revolutionize the market, reducing refueling times and making hydrogen stations more accessible and cost-effective. This partnership also illustrates our commitment and expertise in the design and manufacture of high-performance, sustainable solutions. Thanks to this collaboration and the innovative technology developed as part of the RHeaDHY project, we are going to accelerate the roll-out of hydrogen refueling stations across Europe, in line with the objectives of the European Union, and also in the rest of the world. By combining our expertise with that of Toyota Motor Europe and ENGIE, we are strengthening our key role in the transition to zero-emission mobility, while meeting the growing needs of light and heavy vehicle users. Together, we are laying the foundations for a future in which hydrogen will play a central role in decarbonising transport worldwide."

ABOUT TOYOTA MOTOR EUROPE NV/SA (TME)

Toyota Motor Europe oversees the wholesale sales and marketing of Toyota, GR (Gazoo Racing) and Lexus vehicles and parts and accessories, as well as Toyota's European manufacturing and engineering operations. Toyota views hydrogen as one of the key building blocks towards carbon neutrality, using fuel cell technology for mobility and in the wider economy beyond transport. Toyota's advanced fuel cell technology is already integrated into passenger cars, buses, trucks, trains, marine and stationary applications for a range of business customers and other OEMs. To meet growing demand in the region, TME started producing its second-generation compact fuel cell modules in Europe in January 2022. In terms of infrastructure, Toyota's long-term vision is to establish 700bar as a standard for fuel cell electric vehicles and products.

ABOUT ENGIE

ENGIE is a global reference in low-carbon energy and services. With its 97,000 employees, clients, partners and stakeholders, the Group strives every day to accelerate the transition towards a carbon-neutral economy, through reduced energy consumption and more environmentally friendly solutions. Inspired by its purpose statement, ENGIE reconciles economic performance with a positive impact on people and the planet, building on its key businesses (gas, renewable energy, services) to offer competitive solutions to its clients.

Coordinator of RHeaDHy project, ENGIE Lab CRIGEN, its research and innovation center, explores advanced energy technologies in many fields, particularly in hydrogen. It contributes to the development of hydrogen production, storage, and distribution solutions to support the energy transition.

ABOUT RHeaDHy

The EU-funded RHeaDHy project (Refueling Heavy Duty with very High flow Hydrogen) aims to develop high-performance hydrogen refueling stations for heavy-duty vehicles. The project focuses on creating and testing new protocols to refuel 700 bar hydrogen trucks with 100 kg of hydrogen within 10 minutes.

This project is part of the EU's efforts to decarbonize freight transport and support the hydrogen truck market by establishing a robust refueling station network.

The RHeaDHy project received funding from the Clean Hydrogen Partnership under grant agreement no. 101101443, with backing from the European Union's Horizon Europe research and innovation programme.

Public information on the Horizon Europe RHeaDHy project



ABOUT HRS (Hydrogen Refueling Solutions)

HRS is one of the **world's leading manufacturers of high-capacity hydrogen refueling stations**. **HRS** offers a complete and unique range of modular and scalable stations, from 200 kg/day to 4 tons/day.

Pure player from station design to commissioning, **HRS** has state-of-the-art industrial production facilities capable of **assembling up to 180 stations a year**, with **lead times of 6 to 12 weeks**. This industrial site includes a **test area, the only one of its kind in Europe**, to test and trial the range of stations and develop future products and solutions for the hydrogen mobility market.

HRS also **offers a comprehensive service package, including 24/7/365 on-call maintenance**. As such, the performance of stations installed in Europe and around the world is monitored in real time from the **state-of-the-art control room**.

HRS now has one of the largest installed bases of high-capacity stations on the market, with **28 stations ranging from 200 kg to 1 ton/day, giving a cumulative capacity of over 6 tons/day**. All stations are equipped with dual-pressure nozzles at 350 bar, 350 HF and 700 bar, to meet all hydrogen mobility requirements.

HRS stands out for its **rigorous economic discipline**, offering long-term financial solidity while continuing to allocate substantial resources to R&D, thus ensuring its position at the forefront of innovation.

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For more information, visit our website www.hydrogen-refueling-solutions.fr



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