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▶ *POWER SYSTEMS*

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Rheinmetall acquires subsidies totaling around €7.7 million for hydrogen and electrification projects

The technology group Rheinmetall has acquired subsidies from the German federal government and the state of North Rhine-Westphalia (NRW) totaling around €7.7 million for the development of innovative products and solutions in the area of hydrogen and electrification. The three projects launched in tandem with various partners from industry and science are aimed at increasing the competitiveness of hydrogen as a cutting-edge technology and accelerating the advance of sustainable mobility. Depending on the project, the programme company NOW GmbH or PTJ Projektträger Jülich act as coordinators.

As part of the Charging Infrastructure for Electric Vehicles (LIS) funding directive, the H2.MODUS funding project will be supported to the tune of €5.7 million by the Rheinisches Revier region and the German Federal Ministry for Economic Affairs and Climate Action (BMWK). Under the German Recovery and Resilience Plan (DARP), funding for these measures is also being provided via the European Recovery and Resilience Facility (RRF) as part of the NextGenerationEU program. The project term is four years. At its **Neuss** site, Rheinmetall is working with the project partners FEV, a well-known development service provider for sustainable mobility solutions, and the Chair of Thermodynamics of Mobile Energy Conversion Systems (TME) at RWTH Aachen University to simplify the design of fuel cell systems in order to lower production costs while simultaneously increasing competitiveness compared with other technologies. This involves bundling the functions of several individual components and combining them to form modular units and sub-systems.

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Koordiniert durch: PTJ Projektträger Jülich Forschungszentrum Jülich

As part of the "Research, Development and Innovation Measures as Part of the National Hydrogen and Fuel Cell Technology Innovation Program Phase II" program, the German Federal Ministry of Transport and Digital Infrastructure (BMDV) will provide Rheinmetall with funding of around €1 million at its **Berlin** site. This will support the development of new solutions for further reducing carbon emissions in the mobility sector, improving the service life of fuel cell systems and lowering costs. To this end, a functionally integrated multi-directional valve for the cathode path of fuel cell systems is being developed in the M-KaV collaborative project. By combining the functions of several valves in a single product, the multi-directional cathode valve reduces the number of valves currently required to be installed in the fuel cell. As part of the project, the Duisburg-based project partner BrennstoffzellenTechnik GmbH (ZBT) is conducting valve simulations, testing the valve for endurance in a real system environment and investigating the resistance of the materials, which is essential where corrosive and highly volatile hydrogen is concerned.

Gefördert durch: Bundesministerium für Digitales und Verkehr
Koordiniert durch: NOW GMBH.DE

▶ Key facts

- Rheinmetall acquires subsidies of around €7.7 million for cutting-edge technologies
- Neuss, Berlin and Hartha sites set to benefit
- Hydrogen and electrification projects supported by German federal government and state of North Rhine-Westphalia
- Various partners from industry and science involved
- Projects aim to increase the competitiveness of hydrogen technology and advance sustainable mobility

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The launch of the project was celebrated at an official kick-off event in Berlin at the start of the year.

Rheinmetall is also participating in the HZwoBoost funding project. The company's **Hartha** site in Saxony state will receive around €1 million from the German Federal Ministry for Economic Affairs and Climate Action (BMWK) under the 7th Energy Research Framework Program. The kick-off event was held in Hartha on February 7, 2024. The project is set to run until the end of 2026. It aims to develop new production techniques for the industrialization of a hydrogen recirculation blower (HRB) for low and high voltages. The HRB enables the controlled recirculation of hydrogen within the fuel cell, making the fuel cell more efficient and extending its service life. The project partners are Chemnitz University of Technology and the industrial technology company Sitec. Sitec is developing a new laser welding technique that will allow Rheinmetall to lower the production costs of the HRB. The team at the Hartha site is responsible for the new production technique for manufacturing the HRB. Rheinmetall is also working on integrating the new technique into the production process. Chemnitz University of Technology is tasked with redesigning the end-of-line test in order to shorten the production time.

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These funding projects are important elements as Rheinmetall seeks to further expand its market position and contribute to a sustainable hydrogen economy. As part of its hydrogen strategy, Rheinmetall is developing innovative solutions and products for industry that enable the efficient and reliable use of fuel cell systems, electrolyzers and tank systems. The Group is one of the leading providers of products for fuel cell systems.