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E-mobility: Rheinmetall subsidiary secures funding for the development of innovative production processes for the manufacture of high-performance NanoLam™ capacitors

As part of the NanoLink project, Pierburg Pump Technology GmbH, a subsidiary of the Rheinmetall technology group, will be receiving funding at its Hartha site (Mittelsachsen district) for the development of innovative production processes for the manufacture of high-performance NanoLam™ capacitors. The project is co-financed by the European Regional Development Fund (ERDF) and tax revenues, based on the budget approved by the State Parliament of Saxony. In total, the site will receive funding of around 1.5 million euros from the Sächsische Aufbaubank (SAB).



**Co-funded by the
European Union**



This project is co-funded by tax revenue in accordance with the budget approved by the State Parliament of Saxony.

The NanoLink project focuses on the research and development of innovative production processes and analytical methods used in the manufacture of intermediate circuit capacitors based on NanoLam™ technology. This is a key technological component which, owing to a wide range of technical advantages over the current state of the art, will be used, amongst other things, in next-generation electric powertrains.

The first European demonstration facility for the manufacture of NanoLam™ capacitors is located at Pierburg Pump Technology GmbH in Hartha, Saxony. Unlike conventional capacitors, dielectric layers in the sub-micrometre range are produced here from thermosetting plastics, with the innovative manufacturing process forming the technological basis. The finished product stands out from established polypropylene film capacitors due to their compactness (capacitance density), lower weight for the same capacitance, higher temperature resistance, dielectric strength and thermal conductivity. These properties and performance characteristics open up applications in the field of electromobility that cannot be achieved with conventional capacitor technology.

As part of the NanoLink project, the individual process steps involved in the manufacture of NanoLam™ capacitors are being systematically further developed for large-scale production. With the clear aim of making this technology available to the wider market, the focus is on cost-effectiveness, energy efficiency and automatability, without compromising on quality and reliability.

► Key facts

- Rheinmetall subsidiary Pierburg Pump Technology in Hartha is to receive funding of around 1.5 million euros
- Fit for the future due to investments totalling over 4.4 million euros
- Development of innovative production processes for the manufacture of novel NanoLam™ capacitors in larger quantities
- Key components for electric mobility made in Hartha

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In addition to Pierburg Pump Technology GmbH, the project partners include AKON GmbH in Geringswalde, Chemnitz University of Technology and the Laserinstitut Hochschule Mittweida (Laser Institute at University of Applied Sciences Mittweida). The NanoLink consortium brings together extensive expertise in the necessary research and development areas. This interdisciplinary approach ensures that the best possible technologies and processes are integrated into the production process planned for the future. This not only helps to strengthen the domestic economy, but also increases resilience in the value chain and positions Germany as a key player in the global production of components for electric mobility. The success of the NanoLink project will drive forward not only the German but also the European automotive industry. Furthermore, it is expected that the introduction of NanoLam™ capacitor technology will enable a wide range of further applications across various sectors. The project, which began on 1 June 2025, will conclude on 31 January 2028.

About the Hartha site of Pierburg Pump Technology GmbH

The Hartha site has been part of the Rheinmetall Group for over 30 years. The company has been renowned for its innovative strength for decades. The very first patent developed at the Hartha site in 1996 – the electric water circulation pump (WUP) – became a bestseller. The hydrogen recirculation blower (HRB) and the CWA 2000 high-voltage coolant pump for fuel cell applications are further examples of the modern product portfolio, which also offers applications 'beyond automotive'. Tapping into new fields of the future, such as hydrogen technology, are further strategic objectives aimed at ensuring sustainable success. Across a total area of 45,000 m², around 400 employees currently work in the various departments, whilst thousands more are indirectly employed in the supply chain. In addition, various apprenticeship programmes are offered. Over the years, the site has received several awards for its quality as a supplier. In 2023, Pierburg Pump Technology GmbH won the Ludwig Erhard Prize in silver, and in 2022 in bronze. This 'Excellence Prize' is awarded for outstanding achievements in the German economy.