



Press release
Ellwangen, May 2, 2024

VARTA initiates and coordinates new project for next-generation energy storage

A consortium of 15 companies and universities researches and develops sodium-ion batteries / The aim is to develop industrially usable, high-performance and environmentally friendly cells / Federal Research Minister Stark-Watzinger presented the funding decision on Thursday

Sodium-ion batteries are seen as a bearer of hope for the future of sustainable and resource-saving energy storage: sodium is readily available, inexpensive, safe and can be easily disposed of or recycled. The challenge is to transfer this technology into industrially usable and scalable cells. This is where the ENTISE project (Development of Sodium Ion Technology for Industrially Scalable Energy Storage) comes in, which is being driven forward by a consortium of 15 companies and universities, with VARTA acting as initiator and coordinator. ENTISE is being funded by the German Federal Ministry of Research and Education with around 7.5 million euros. On Thursday, May 2, the project was officially approved with the presentation of the funding decision by Federal Research Minister Bettina Stark-Watzinger. Dr. Nicolas Bucher, Head of Funded Projects, and Rainer Hald, CTO of VARTA AG, accepted the notification for VARTA Microbattery and VARTA Storage. The project was scheduled to start on June 01, 2024.

ENTISE aims to develop a high-performance, cost-effective and environmentally friendly cell chemistry for sodium-ion batteries and to transfer it into functional cell formats that can and should also be used in industry. Rainer Hald, CTO of VARTA AG: "For the German battery community, this project represents a milestone in the development of sustainable sodium-ion batteries. In order to further advance the future of decentralized energy storage and use, other innovative and powerful storage technologies are needed in addition to lithium-ion technology. In addition to existing technologies, sodium-ion batteries can make an important, sustainable contribution to the decarbonization and electrification of many areas in order to actively shape the energy and mobility transition. The funding of this project is an important sign that the research and development of cutting-edge technology in the battery sector can have a future in Germany and Europe. Our thanks as a consortium therefore go to the German government, which has agreed to support ENTISE despite the reduction in funding for battery research."

ENTISE focuses on the further development of existing material concepts and processes. From a technological point of view, the storage capacities of the cathode and anode in particular are to be improved. This involves optimizing the materials used, including the electrolytes used. Cycle stability, i.e. the ability to ensure stable cell performance even after repeated charging and discharging, is also to be improved by developing and using new materials, optimized electrode materials and coatings. A central part of the project will be the production of sufficient quantities of the necessary materials to build individual resilient laboratory samples up to prototypes in round cell design. In the final phase of the project, the individual components will be upscaled and transferred from the laboratory to the pre-industrial sector (piloting) in cooperation between the industrial and institute partners. The final product of this upscaling will be a small series of round cells that will enable a reliable assessment of properties in practical application scenarios such as electric vehicles and stationary storage systems. The end of the project has been set for mid-2027. An accompanying technical, economic and ecological evaluation rounds off the project.



VARTA



Federal Research Minister Bettina Stark-Watzinger (middle) with the ENTISE project consortium of Dr. Nicolas Bucher, Head of Funded Projects, VARTA AG (3rd from left) and the CTO of VARTA AG, Rainer Hald (4th from left) Photo: DUCKEK

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About VARTA AG

VARTA AG produces and markets a comprehensive battery portfolio ranging from microbatteries, household batteries and energy storage systems to customized battery solutions for a wide range of applications and, as a technology leader, sets industry standards in key areas. As the parent company of the Group, it is divided into the segments "Micro Batteries", "Lithium-Ion CoinPower", "Consumer Batteries", "Energy Storage Systems" and "Other".

The "Micro Batteries" segment comprises micro and hearing aid batteries, while "Lithium-Ion CoinPower" comprises small-format lithium-ion round cells for OEM applications. "Consumer Batteries" covers the business with household batteries, rechargeable batteries, chargers, portable power (power banks) and lights. "Energy Storage Systems" includes energy storage solutions for primarily private but also commercial applications. The "Other" segment comprises the "Lithium-Ion Battery Packs" and "Lithium-Ion Large Cells" divisions (high-performance lithium-ion round cells for industrial applications in the automotive and non-automotive sectors).

Through intensive research and development, VARTA sets global standards in many areas of lithium-ion technology and microbatteries, making it the recognized innovation leader in the key growth markets for lithium-ion technology and primary hearing aid batteries. The VARTA AG Group currently employs around 4,200 people. With five production and manufacturing facilities in Europe and Asia as well as distribution centres in Asia, Europe and the USA, VARTA AG's operating subsidiaries are currently active in over 100 countries worldwide.