

## Joint Venture Altech Batteries GmbH – the 100 MWh battery factory in Schwarze Pumpe

**Dr. Roland Weidl, Prof. Alexander Michaelis**

*Uwe Ahrens, CEO of Altech Advanced Materials (r.), welcomes German Chancellor Olaf Scholz (l.) during his visit to Schwarze Pumpe (Source: Tudyka.PR).*

After more than ten years of development at Fraunhofer IKTS, the commercialization of the ceramic battery cerenergy® is now beginning. A key milestone on this path was reached with the founding of Altech Batteries GmbH in September 2022, in which Altech Energy Holding holds a 75 % stake and the Fraunhofer-Gesellschaft a 25 % stake. The aim of Altech Batteries GmbH is to set up a production line for the solid-state battery cerenergy®.

### **A sustainable future for former power plant site**

The battery factory will be built on a 14-hectare industrial wasteland in the Saxon part of the industrial park Schwarze Pumpe. The planning is already in full swing. For the first line, an annual production of 100 MWh is envisioned.

### **Fraunhofer IKTS as an experienced development and transfer partner**

Accompanying the establishment of production, Fraunhofer IKTS is part of a development project which will accompany the conversion of the battery prototype into a product and the upscaling of production to industrial scale. Teams of experts at three IKTS sites are involved in this task. At the Arnstadt site, the focus is on quality assurance in production, e.g. through in-line controls, as well as final production planning. In Hermsdorf, where cell development has now been going on for more than ten years and a sample production line exists, the cell prototype is being brought to industrial maturity. Furthermore, the manufacturing processes of the ceramic solid-state electrolyte, a sodium-beta-aluminate ceramic, are being adapted to industrial requirements and consequently scaled up.

The team at the Dresden site is responsible for the modeling and design of the 60 kWh module, which is the smallest unit in production, as well as for constructions. Everything must be designed and optimized for operation in containers. A finished container will have a storage capacity in the MWh range.

### **Target market: stationary energy storage**

In the stationary energy storage market segment, the focus is on industrial or large-scale residential storage, in particular the intermediate storage of energy from volatile renewable sources such as wind and sun. The maintenance-free, long-term stable, non-flammable battery cells, whose cathode consists of common salt and nickel instead of lithium compounds, are best suited for this purpose.

### **Ambitious timescale**

Within one year, the factory is planned on the drawing board, including all specifications and consumption. In the following three years, the production plant will be built up, followed by the commissioning phase and the ramp-up to full production.

Parallel to the start of production of the 100 MWh factory, the next step, the expansion to a Gigawatt production facility on a neighboring site in the industrial park, is being planned. The corresponding areas (70 hectares) have already been reserved.



*Site of the future Altech Batteries GmbH in Schwarze Pumpe, Saxony.*



*Draft 60 kWh cerenergy® module for stationary energy storage.*