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High-tech meets tradition: Deep tech start-up Batene sets new standards in battery technology in historic spinning mill

Stuttgart, Germany. September 20, 2023. Deep tech start-up Batene has opened its high-tech laboratories in the historic Neckarspinnerei in Wendlingen near Stuttgart. With its groundbreaking battery technology, Batene is revolutionizing the energy industry and shaping the future of energy supply.

Six months after completing its seed investment round, Batene has completed the construction of its laboratories on the Neckarspinnerei site in Wendlingen. On a 1,200 m² area of a historic industrial building, 350 m² of state-of-the-art clean room laboratories were set up.

The decision to choose the more than 160-year-old Neckarspinnerei as the location for the state-of-the-art laboratories underscores the understanding of sustainability of Batene's founding team. The revival of this industrial building symbolizes the start-up's ambition to be a sustainable and environmentally friendly company from the very beginning. Setting up the labs in the Neckarspinnerei allows for energy savings compared to a new construction and the use of a sustainable and clean energy supply from existing hydropower plants.

"Our cutting-edge laboratories in the historic Neckarspinnerei mark a significant milestone in our journey to advance battery technology while fulfilling our responsibility for a sustainable future," explains Prof. Dr. Martin Möller, co-founder and CEO of Batene. "They form the cornerstone for further progress towards market readiness of our batene fleece™ technology and the establishment of a pilot plant for battery cell production."

With the use of the innovative 3D metal mesh, the batene fleece™, Batene is leading a paradigm shift in battery design. The batene fleece™ technology enables batteries with more capacity, shorter charging times, longer life and higher safety. By reducing the amount of material used, it not only lowers manufacturing costs, but also contributes to resource conservation. These breakthrough advances in energy storage provide further thrust for electromobility, solar energy and other applications.

"Batteries play a key role in reducing our dependence on fossil fuels, adapting as quickly as possible to the changing geopolitical environment and pursuing an effective climate policy," says Dr. Nicole Hoffmeister-Kraut, Minister of Economic Affairs, Labor and Tourism, on the occasion of the opening of the high-tech laboratories of Batene GmbH.

"It is therefore an economic policy goal of the first order to establish Baden-Württemberg as a strong location in the field of battery technology. Batene GmbH is an ideal example of how, through close cooperation with our excellent research institutions, start-ups are becoming the central drivers of technological progress, thus laying the foundations for future value creation, jobs and prosperity in Baden-Württemberg," the Minister of Economic Affairs continues.

The combination of high-tech and tradition makes the Neckarspinnerei an inspiring place that embodies Batene's vision. On September 20, 2023, Batene celebrated the official opening of its state-of-the-art research and development laboratories at Neckarspinnerei together with partners and supporters. Speakers attending the event included Dr. Nicole Hoffmeister-Kraut, Minister of Economic Affairs, Labor and Tourism of the State of Baden-Württemberg, Dr. Simone Schwanitz, Secretary General of the Max Planck Society, and Dr. Horst Goß, Chairman of the Max Planck Foundation. Christer von der Burg, co-lead investor of Batene, and Gustav Hasselskog, supporter of the start-up and founder and CEO of Candela Technology AB, which manufactures electric hydrofoil boats and vessels, were also among the guests of honor.

About Batene GmbH

After eight years of research at the Max Planck Society, Batene GmbH was founded in March 2022 by a team of experienced scientists. The team led by Prof. Dr. Joachim Spatz, Director at the Max Planck Institute for Medical Research, developed an IP-protected core technology based on metal fleece and exclusively licensed the corresponding rights to develop and market the technology to Batene. The Max Planck Society is a shareholder in the battery technology company. As part of a seed financing, the start-up is supported both financially with ten million euros and strategically. The co-lead investors are Ocean Zero LLC, which invests in innovative young companies for the accelerated decarbonization of maritime transport, and Christer von der Burg, who also attaches great importance to economic, environmental and social responsibility. The company currently employs 15 people and is valued at 42 million euros.

The Neckarspinnerei quarter

The laboratories and offices of the Batene GmbH are located on the Neckarspinnerei premises, the historic site of a former textile company in Wendlingen near Stuttgart. The Neckarspinnerei is the ideal company headquarters for Batene not only because of its location in Baden-Württemberg with its high corporate density and vibrant start-up culture as well as its CO₂-neutral energy and mobility concept, but also because of its connection to the spinning process, which is reflected in Batene's production of metal fibers. As an official IBA'27 project, the Neckarspinnerei is now being transformed into a mixed-use urban quarter.

Background on the Batene technology

Electrical energy from renewable sources is one of the cleanest forms of energy and contributes significantly to a more climate-friendly society. However, storage and time- and location-independent availability of sustainable energy remain a major challenge. More powerful batteries are therefore a crucial factor for the energy transition.

BATENE

Conventional batteries, such as lithium-ion accumulators, are reaching their storage limits due to their stacked structure. Batene GmbH's battery technology is based on a process developed at the Max Planck Institute that produces very fine metal fibers. The fibers are bonded in a special spinning process to form a metal fleece, the batene fleece™. This fleece replaces the individual metal layers with which today's standard battery is constructed and permeates the entire active material of the battery cell. This results in electrodes with high electrical conductivity and a thickness of over two millimeters, which is ten times thicker than today's standard battery electrodes. This increases the proportion of the total weight of the battery accounted for by the active material, which is important for storing energy, from around 60 percent to over 90 percent. The metal fleece achieves a significant increase in performance for all active materials and thus brings great potential for existing and future generations of batteries, such as lithium metal and solid-state batteries or sodium-ion batteries.

Unlike most activities in this field, the development of Batene is initially focused not on improving the active materials, but on the current collectors. Due to the high proportion of active material, battery cells with the batene fleece™ have a much higher energy density compared to cells with conventional current collectors, resulting in significantly increased capacity. In addition, the metal mesh reduces the electrical resistance of the electrodes, enabling significantly faster charging and discharging rates. Batteries become significantly safer and more durable due to increased mechanical stability.

For more information about Batene, visit www.batenetec.com or follow us on [LinkedIn](#), [Instagram](#) or [YouTube](#).

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