# German solid battery technology

What is a solid-state battery?
Solid-state batteries are a promising advanced concept over the currently available rechargeable batteries. They are comparable to conventional lithium-ion batteries but differ primarily in that the electrolyte is solid instead of liquid. An electrolyte in a battery cell facilitates the transfer of ions between the electrodes.

Are solid-state batteries the Holy Grail?
We take a closer look. Solid-state batteries are considered the holy grailin the battery world,with more capacity than current lithium-ion batteries. Will a German start-up be the first to mass produce them? We take a closer look.

What is a solid electrolyte in a battery cell?
An electrolyte in a battery cell facilitates the transfer of ions between the electrodes. Solid electrolytes enable solid-state batteries to potentially offer higher energy storage capacities and improved performance,which could lead to longer ranges and shorter charging times in electric mobility.

Will Altech build a gigawatt battery plant in Saxony?
Once the Train 1 (120 MWh) plant is built and operating,the longer-term vision for the joint venture is to consider additional trains or a Gigawatt battery facility in Saxony. Altech has designed and launched the CERENERGY® Sodium Alumina Solid State (SAS) 60 KWh battery pack (ABS60) designed for the renewable energy and grid storage market.

Are solid state batteries better than lithium ion batteries?
According to the website Flash Battery Tech,the latest studies on solid state batteries show that they have an energy density 2-2.5 times higherthan current lithium-ion technology. This would deliver a lighter and smaller battery capable of enabling greater range and lighter weight.

How long does a solid-state battery last?
While the annual demand for storage was still 180 gigawatt-hours in 2018, it is expected to exceed 2,000 gigawatthours by 2030. The longevity of the HPB solid-state battery improves the economic efficiency of battery storage - across the board in all areas of application.

The solid ceramic tube (solid state technology) performs the same function as a liquid electrolyte in a lithium-ion battery, allowing sodium ions to transfer through it. IKTS (a ceramics institute) has developed the solid-state technology to produce these large solid ceramic tubes with micro-structures that allow fast sodium ion transfer. The ...

Although the timeframe is often specified, the technology is not always clear (ASSB, semi-solid-state battery, and condensed battery) and likely not all announcements will become reality. Furthermore, not all companies

will ...

Volkswagen Group"s battery company PowerCo and QuantumScape have entered into a groundbreaking agreement to industrialize QuantumScape"s next-generation solid-state lithium-metal battery technology. This non-exclusive ...

SALZGITTER, Germany &  SAN JOSE, Calif. -- July 11, 2024 -- Volkswagen Group"s battery company PowerCo and QuantumScape (NYSE: QS) today announced they have entered into a groundbreaking agreement to industrialize QuantumScape"s next-generation solid-state lithium-metal battery technology. Upon satisfactory technical progress and certain royalty ...

German start-up develops the world"s first solid-state battery ready for series production - Outstanding properties: no cobalt, 10 times longer service life and non-flammable electrolyte

ASX-listed Altech Chemicals and research institute Fraunhofer-Gesellschaft have progressed plans for a 100MWh plant in Germany to produce the latter"s energy storage-focused sodium solid state battery technology.

A team of scientists working for Bonn-based company High Performance Battery (HPB), led by Prof. Dr. Günther Hambitzer, has achieved a decisive breakthrough in battery and storage technology with the development ...

Solid-state batteries are considered the holy grail in the battery world, with more capacity than current lithium-ion batteries. Will a German start-up be the first to mass produce them?...

Altech Batteries Ltd and German battery institute Fraunhofer IKTS have formed a joint venture to commercialise 100 MWh Sodium Alumina Solid State (SAS) Battery project, CERENERGY, in Saxony, Germany. The ...

Sulfur battery cells designed for grid, residential and industry applications; theion"s batteries are engineered to have a low cost over their entire lifespan (EUR/kWh)

From materials research to manufacturing technology: The Technical University of Munich (TUM) has long been involved in the development of various storage technologies and battery systems. Thanks to its broad range of expertise and the networking of relevant players, it is able to carry out forward-looking and application-oriented research that ...

(Bonn, Germany) The Bonn-based company High Performance Battery (HPB) has achieved a decisive breakthrough in battery and storage technology: a team led by Prof. Dr. Günther Hambitzer has developed ...

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Altech has formed a JV with Fraunhofer for the pair to commercialised sodium solid state batteries together. Image: Altech Chemicals. ASX-listed Altech Chemicals and research institute Fraunhofer-Gesellschaft have progressed plans for a 100MWh plant in Germany to produce the latter"s energy storage-focused sodium solid state battery technology.

Only then would it be possible to completely phase out fossil fuels in Germany by 2050. HPB Technology for the energy and mobility transition . As a new enabling technology, HPB Technology can make a significant contribution to the success of the energy and mobility transition by combining a unique set of properties. Key properties of our HPB Solid-State ...

Solid electrolytes enable solid-state batteries to potentially offer higher energy storage capacities and improved performance, which could lead to longer ranges and shorter charging times in electric mobility. A key component is the negative electrode, where intensive material research is conducted, particularly exploring suitable concepts ...

The objectives of the "Advanced Battery Technology Center" (ABTC) are the development of new materials and innovative technologies for high-performance and sustainable battery cells.Expertise in battery chemistry, innovations in electrode production and modern cell manufacturing technologies are brought together on an interdisciplinary basis.

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