



Solid-state battery technology has achieved a major breakthrough

Per a press release from the battery developer posted to WeChat this week, it has achieved several technological breakthroughs in all-solid-state lithium batteries, enabling a new...

When electricity flows through a battery, the materials inside it gradually wear down. The physical forces of stress and strain also play a role in this process, but their exact effects on the battery's performance and lifespan ...

Breakthrough in all-solid-state battery technology with a novel electrodeposition method increases efficiency and lifespan. A research team, consisting of Professor Soojin Park from the Department of Chemistry, PhD ...

Researchers led by Professor KANG Kisuk of the Center for Nanoparticle Research within the Institute for Basic Science (IBS), have announced a major breakthrough in the field of next-generation solid-state batteries. It is believed that their new findings will enable ...

This breakthrough coincides with advancements from other industry players, like Enpower Greentech Inc., who have achieved a specific energy density of 300Wh/kg in their all-solid-state batteries, targeting mass production by 2026.

Toyota said last year that it has achieved a "technological breakthrough" in development and will have the batteries "ready for commercial use by 2027-28." How it works: Solid-state batteries eliminate the liquid electrolytes that carry lithium ions between the anode and cathode in conventional EV batteries.

TUCSON, Ariz., February 15, 2024 (Newswire) - Ampcera Inc., a pioneer in solid-state electrolyte manufacturing and next-generation solid-state battery development, announces that its all-solid ...

Toyota has been touted as a tortoise when it comes to EV development, but this breakthrough technology puts it right back on top. Their second-generation technology pushes the boundaries even ...

A breakthrough in inexpensive, clean, fast-charging batteries First anode-free sodium solid-state battery Date: July 3, 2024 Source: University of Chicago Summary: Scientists have created an anode ...

Solid-state batteries are regarded as a revolutionary advancement over conventional lithium-ion battery technology. Production technology, supply chains, and industrialization still present obstacles. The details. The Long Road to ...

A prototype solid-state battery, named the Goliath P1 and developed by UK startup Ilika, has made waves in the electric vehicle (EV) industry due to its significant benefits and implications. The ...



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In fact, readers chose the technology as our 11th Breakthrough Technology of 2024. To celebrate, we're hosting an online event in a couple of weeks for subscribers.

A research team led by Professor Dennis Y.C. Leung of the University of Hong Kong (HKU)'s Department of Mechanical Engineering has achieved a major breakthrough in battery technology with the development of a high-performance quasi-solid-state magnesium ...

According to the Financial Times, TDK has created a solid-state battery, designed for small devices such as smartwatches, hearing aids, and wireless earphones, that is a stunning 100 times more ...

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Recognised as the next evolutionary leap in battery technology, the solid-state cell developed by U.S. company QuantumScape has recently achieved a remarkable breakthrough. In collaboration with ...

NASA researchers are making progress with developing an innovative battery pack that is lighter, safer, and performs better than batteries commonly used in vehicles and large electronics today. Their work - part of NASA's commitment to sustainable aviation - seeks to improve battery technology through investigating the use of solid-state batteries for aviation ...

A research team led by Professor Dennis Y.C. Leung of the University of Hong Kong (HKU)'s Department of Mechanical Engineering has achieved a major breakthrough in battery technology with the development of a high ...

Toyota, the world's largest automaker, has indicated in recent weeks that it is close to a manufacturing breakthrough for a potentially game-changing technology: solid-state batteries.

Researchers from the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) have developed a new lithium metal battery that can be charged and ...

Korea Electrotechnology Research Institute, Jeongiui-gil, South Korea Dr. Park Jun-woo (center) of the keri team poses with a solid electrolyte prepared by a wet-synthesis process and a prototype of an all-solid-state battery using it. (Image: Korea

Researchers at McGill University have achieved a major breakthrough in the development of all-solid-state lithium batteries, potentially revolutionising electric vehicle (EV) battery technology. By solving a critical issue that has hindered the performance of all-solid-state lithium batteries, this innovation could help create safer, longer-lasting EVs, paving the way for ...



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Japan's TDK is claiming a breakthrough in materials used in its small solid-state batteries, with the Apple supplier predicting significant performance increases for devices from wireless ...

Toyota has unveiled ambitions to halve the size, cost and weight of batteries for its electric vehicles following a breakthrough in its solid-state battery technology. The Japanese carmaker's ...

Japanese electronic parts maker TDK says that it has achieved a breakthrough in the development of long-lasting solid-state batteries. TDK, which is a major battery supplier to Apple (AAPL), says ...

A Chinese company called Penghui Energy in Guangzhou has announced its first solid-state battery and it may beat established players to the market. Its solution has an energy density of 280 Wh/kg, which isn't particularly impressive given that the current top-tier lithium-ion batteries can go up to 250 Wh/kg, but the catch here is that it costs just 15% more ...

Toyota says it has found a technological breakthrough that will allow it to bring solid state batteries to market as early as 2027. It's one of several advanced battery technologies that will ...

Enpower Greentech Inc. (EGI), headquartered in San Jose, a global leader in solid-state battery technology and commercialization, has achieved another breakthrough in all-solid-state batteries (ASSB).

A team led by researchers at the Department of Energy's Oak Ridge National Laboratory developed a framework for designing solid-state batteries, or SSBs, with mechanics in mind. Their paper, published in Science, ...

But, in a solid state battery, the ions on the surface of the silicon are constricted and undergo the dynamic process of lithiation to form lithium metal plating around the core of silicon. "In our design, lithium metal gets wrapped around the silicon particle, like a hard chocolate shell around a hazelnut core in a chocolate truffle," said Li.

5 · The solid-state battery market is set to skyrocket with a projected annual growth rate of 12.8% from 2024 to 2031. Battery technologies continue to advance with the rapid expansion of vehicle electrification requiring large battery packs. This has significantly

A groundbreaking solid-state lithium battery, developed by the European H2020 Solidify consortium led by imec, has achieved an impressive energy density of 1070 Wh/L, surpassing current lithium-ion batteries by over 25%. This breakthrough promises a cost ...

As one of the more realistic advancements, the solid-state battery (SSB) recently emerged as a potential follow-up technology with higher energy and power densities ...



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Imec, a leading research and innovation center, has announced a major breakthrough in battery technology. Working alongside 13 European partners in the H2020 SOLIDIFY project, imec has developed a lithium-metal solid-state battery with an energy density of ...

4 · Altech Batteries Limited (ASX:ATC) (FRA:A3Y) (OTCMKTS:ALTHF) has achieved a remarkable milestone in its Silumina Anodes™ battery material technology. The Company is delighted to announce an average 55% surge in lithium battery anode energy capacity, marking a significant breakthrough.

Solid-state batteries afford a number of benefits over traditional lithium-ion packs, and use both solid electrodes and solid electrolytes instead of the liquid or gel-like electrolyte found...

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