Tokyo lithium-ion battery technology

Overview

The Institute of Science Tokyo has made a groundbreaking advancement in battery technology with the development of 3D-SLISE, a quasi-solid electrolyte that revolutionizes the safe and efficient charging and discharging of lithium-ion batteries. "In my laboratory, we work to develop new rechargeable batteries with advanced performance in energy, safety and price," Komaba explains. EVs today principally employ lithium-ion batteries. Akira Yoshino, an honorary fellow with Asahi Kasei Corporation, and. Lithium-ion batteries are a modern essential but carry significant disposal hazards. A Japan 2 Earth advisor shares insights on measures to address this issue. Energy-efficient, sustainable manufacturing without flammable solvents.

Tokyo lithium-ion battery technology

University of Tokyo Unveils Cobalt-Free Lithium-Ion Battery Boosting

Researchers at the University of Tokyo have unveiled a groundbreaking prototype of a cobalt-free lithium-ion battery that promises to revolutionize the electric vehicle industry.

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Shuichiro Hirai

Increasing the prevalence of EVs, however, requires improved performance. Professor Shuichiro Hirai has been working toward this goal through development of real-time visualization technology for a wide range of battery ...

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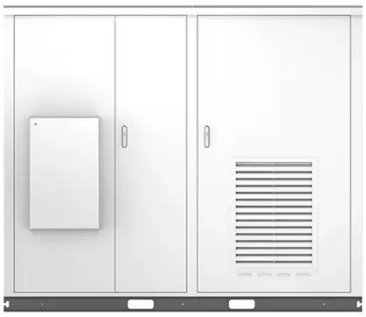

Lithium-ion Batteries: Ensuring Safe and Sustainable Use of an

LIBs were first commercialized in Japan in 1991. Today, they are essential to daily life, powering laptops, smartphones, wireless earphones, and countless other electronic devices. The scientist behind this ...

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Toshiba Ranks No. 1 in Japan, the

United States and Europe in Patent

TOKYO--An independent survey has once again confirmed Japan's Toshiba Corporation (TOKYO:6502) as the clear leader in Japan, the United States and Europe for patents covering oxide-based ...

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Beyond Lithium-Ion: Inside Japan's Next-Generation Battery Roadmap

Researchers are now exploring multivalent ion batteries - using magnesium, calcium, or aluminum instead of lithium. These metals can transfer two or three electrons per ion, potentially offering ...

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Nobel winner Yoshino's Li-ion batteries symbolize Japan's former

TOKYO -- Lithium-ion battery technology developed by Akira Yoshino, the Japanese chemist from Asahi Kasei Corp. who is one of the recipients of this year's Nobel Prize in chemistry, has

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Next-generation Na-Ion Batteries and Safer Li-Ion Batteries , Tokyo

Professor Komaba has developed electrode, electrolyte, and binder materials for sodium-ion batteries to

develop safer lithium-ion battery systems. He received the inaugural Resonate Award in 2014 for his research on ...

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In response to these challenges, Japan is actively exploring sodium-ion technology as a viable alternative. Sodium-ion batteries (SiBs) offer several advantages over LiBs, including abundant and ...

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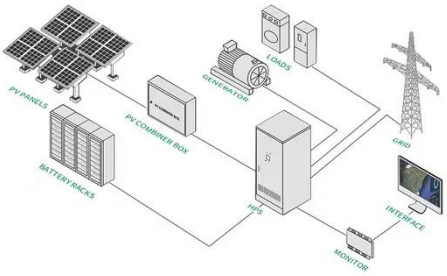

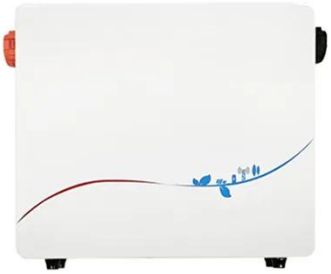

Institute of Science Tokyo Develops 3D-SLISE for Safe Lithium-Ion

The Institute of Science Tokyo has made a groundbreaking advancement in battery technology with the development of 3D-SLISE, a quasi-solid electrolyte that revolutionizes the safe and efficient charging ...

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Scientists develop easily recyclable lithium-ion battery electrolyte

We recognize outstanding achievements in engineering, innovation, and technology. A new quasi-solid electrolyte

from Tokyo could revolutionize lithium-ion batteries with safety, speed,

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