

Could Your Electronics be powered by a 'molten salt' battery?

Lithium - the main component in most electric batteries - can be costly to mine. But researchers have made a breakthrough with alternative 'molten salt' batteries. Your electronics could soon be powered by an ultra cheap sea salt battery. Researchers have built a new cheap battery with four times the energy storage capacity of lithium.

Could Your Electronics be powered by a cheap sea salt battery?

Your electronics could soon be powered by an ultra cheap sea salt battery. Researchers have built a new cheap battery with four times the energy storage capacity of lithium. Constructed from sodium-sulphur - a type of molten salt that can be processed from sea water - the battery is low-cost and more environmentally friendly than existing options.

Are molten salt batteries a new technology?

The media fuss that was generated after the episode of the well-known Italian TV programme LE IENE on 18 October 2022 entitled " Renewables,the storage and battery revolution " brought the topic of molten salt batteries into the spotlight. This technology is certainly interesting, but neither new nor perfect, as instead it was described.

Who invented the ZEBRA battery based on molten salt?

One of the solutions to the energy crisis was the development of the ZEBRA battery (Zeolite Battery Research Africa) based on molten salt, first studied by South African researcher Johan Coetzer at the CSIR (Council for Scientific and Industrial Research) and patented in 1978.

Could a sustainable battery reshape the battery market?

The battery's composition, primarily sodium, iron, carbon, and nitrogen, showcases a sustainable alternative that could reshape the battery market. Northvolt's commitment extends beyond just developing an alternative battery technology.

Are molten salt batteries the new 'inferior alternative'?

Molten salt batteries aren't a new concept. They've been around for 50 years, but they've been an 'inferior alternative' with a short energy life cycle. But this new battery is different. Scientists altered the electrodes to improve the reactivity of the sulphur - a key element determining storage capacity.

The battery that should have been installed in the A-Class was a so-called salt battery. In contrast to most other batteries, in which the cathode and anode are immersed in a shared pool of liquid electrolyte, the electrolyte in a salt battery is a solid, namely a ceramic ion conductor based on sodium aluminum oxide.

Dual redox mediators accelerate the electrochemical kinetics of lithium-sulfur batteries. Fang Liu, Geng Sun,

Hao Bin Wu, Gen Chen, Duo Xu, Runwei Mo, Li Shen, Xianyang Li, Shengxiang Ma, Ran Tao, Xinru Li, Xinyi Tan, Bin Xu, Ge Wang, Bruce S. Dunn, Philippe Sautet, Yunfeng Lu. Nat. Commun., 2020, 11, 5215, DOI: 10.1038/s41467-020-19070-8

Market Forecast By Type (Sodium-Sulphur Battery, Sodium-Salt Battery, Sodium-Air Battery), By Application (Stationary Energy Storage, Transportation) And Competitive Landscape Product Code: ETC7251282

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Even in remote and exposed locations, the long-lasting and maintenance-free salt batteries can do their job reliably for decades. However, the operating temperature is also a disadvantage of this battery technology: Salt batteries need active heating to be ready for use. How can a battery that needs electricity be at all cost-effective?

The national labs" initiative has a five-year timeline, with a goal of developing sodium-ion batteries with energy densities that match or exceed those of today"s iron phosphate-based lithium...

The episode of LE IENE entitled "Renewables, the storage and battery revolution" generated a great deal of interest in molten salt batteries, which, however, are neither a new nor a perfect technology. Here we analyse how it works, and the pros and cons.

Northvolt has once again been at the forefront of battery technology, pioneering a revolutionary Sodium-ion Battery powered by seawater. This cutting-edge development not only signifies a leap towards more sustainable energy storage solutions but also showcases the company"s commitment to innovation and environmental stewardship.

Saltwater batteries are the latest in a wave of new developments forging a so-called blue energy economy, which seeks to use ocean resources sustainably to drive growth, create jobs and protect vital marine ecosystems.

Web: <https://www.gennergyps.co.za>