Storedot Fast Charging 4680 Batteries Using Nanomaterials and AI Optimization

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Storedot is a company that claims to have made faster charging 4680 format batteries. They are replacing known materials and technologies with enhanced electro-chemical properties. StoreDot's proprietary compounds, combined with nano-materials, are optimized for Extreme Fast Charging – XFC of electric vehicles.

Storedot is working with EVE Energy in China. They also work with Samsung and Daimler. Storedot has 61 granted and 31 pending patents. Storedot has received $130 million in funding.

They are able to use more silicon to reach higher energy density. They take nano-silicon and protect it with organic material that is a coating layer that protects in fast charging and fast discharging.

If this works, Tesla will want to be a partner or customer of EVE Energy and Storedot.

StoreDot innovation is based on a holistic design process, which integrates the cell chemistry and its system engineering. Their methodology includes a layer of artificial intelligence and machine learning tools to optimize the overall system. This overcomes the limitations to ultra-fast charging lithium-ion batteries while utilizing standard lithium-ion battery manufacturing facilities and processes.

Technology highlights

Nano Materials: High electrochemical energy nano-particles as active material are important for high electrochemical activity and are designed to increase conductivity. nano-particles enable ultra-fast charging and higher storage density.

Organic Binders: Proprietary anode binder used to adhere particles of active materials and

conductive additives; optimized to have low impedance to current flow.

Organic Electrode Additives: Proprietary organic compound additives in the electrodes reduce mechanical strain and prevent undesired side reactions between the electrode and electrolyte.

Organic Electrolyte Additives: Tailored electrolyte additives provide metalloid anodes increased surface and bulk stabilities, improving long-term cycling and calendar life.

Formation process: enables stable solid electrolyte interphase (SEI) for preventing irreversible consumption of electrolyte and lithium ions.

Read the original article on Next Big Future.