Solid-state batteries republic of china

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Initially, IM Motors aimed to start deliveries of the L6 with this battery in October 2026. However, this variant of the car still hasn"t entered the domestic market. In November 2024, IM Motors applied for the sales license of the semi-solid-state battery-equipped IM L6. IM L6 electric sedan. So, SAIC slowly enters the semi-solid-state ...

BYD subsidiary FinDreams Battery, CATL, CALB, EVE Energy, Gotion High-Tech, and SVOLT have formed a consortium called China All-Solid-State Battery Collaborative Innovation Platform (CASIP) to develop and manufacture solid-state batteries and create their supply chain.

Battery sector information provider Gaogong Industry Institute said new production capacity for solid-state batteries surpassed 142 gigawatt-hours from January to July, with total investment exceeding 64.4 billion yuan ($9 billion).

Experts said solid-state batteries offer key advantages over current mainstream liquid batteries, including higher safety and greater energy density, which align with the increasing requirements for safety and mileage from electric vehicle users.

CATL said recently that it is increasing investment in solid-state batteries, aiming to achieve small-scale production by 2027. Sunwoda said in June that its solid-state battery division -- which has been in development since 2015 -- is working on the first generation of 400 watt-hours per kilogram and the second generation of 500Wh/kg solid-state batteries.

In May, Gotion High-Tech unveiled its new battery, which uses solid-state battery tech to achieve a cell energy density of 350Wh/kg -- over 40 percent higher than traditional liquid ternary lithium batteries. Other domestic firms like CALB Group and EVE Energy have also announced plans for solid-state battery products.

Experts said that large-scale mass production of solid-state batteries remains out of reach in the short term due to various technical limitations. High costs also pose a significant hurdle to the large-scale industrialization of solid-state batteries.

According to a research report from the CITIC Securities, currently, the total cost of oxide and sulfide semisolid batteries is approximately 0.76 yuan/Wh and 0.86 yuan/Wh, respectively -- significantly higher than that of liquid lithium-ion batteries. Future cost reductions will require further research investment and scaled production.

Notably, a workstation of Ouyang Minggao, an academician at the Chinese Academy of Sciences, made significant progress in developing sulfide electrolytes -- a key material in solid-state batteries.

The nano-scale sulfide electrolyte developed in the workstation is nearing mass production, with a pilot production line with an annual capacity of hundreds of metric tons expected to begin construction by the end of this year. If successful, a 1,000-ton production line will be established before 2026.

Ouyang said the industrialization of solid-state batteries still faces a series of scientific challenges that need to be addressed at various levels including key materials and composite electrodes.

Chen Jun, an academician at the CAS, said that the industrialization of solid-state batteries would revolutionize the EV industry and open up new markets such as electric aviation, which will be a globally significant technological breakthrough.