October 8th, 2025

Sumitomo Metal Mining Co., Ltd.

Toyota Motor Corporation

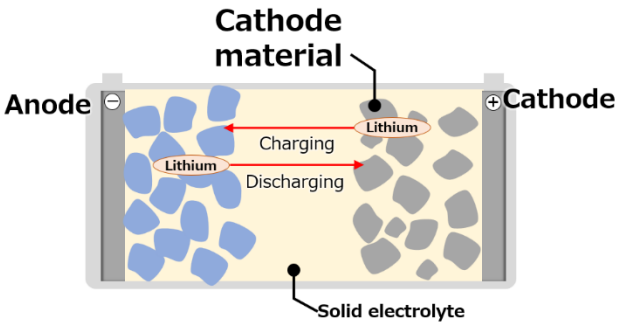
Sumitomo Metal Mining and Toyota Collaborate on Mass Production of Cathode Materials for All-Solid-State Batteries

Tokyo and Toyota City, Japan - Sumitomo Metal Mining Co., Ltd. (TSE: 5713, "Sumitomo Metal Mining") and Toyota Motor Corporation (TSE: 7203, "Toyota") have entered into a joint development agreement for the mass production of cathode materials for all-solid-state batteries to be installed in battery electric vehicles (BEVs). The two companies will advance development through this collaboration.

All-solid-state batteries, which are primarily composed of a cathode, anode, and solid electrolyte, are a next-generation battery technology that offers the potential for smaller size, higher output, and longer life compared to current liquid-based batteries that use electrolyte solutions. When used in BEVs, all-solid-state batteries are expected to deliver enhanced performance, such as longer driving range, shorter charging times, and higher output. Toyota is aiming for a market launch of BEVs with all-solid-state batteries in 2027-28.

Since around 2021, the two companies have been conducting joint research on cathode materials for all-solid-state batteries, focusing on challenges such as cathode material degradation during repeated charging and discharging cycles. As a solution, leveraging Sumitomo Metal Mining's proprietary powder synthesis technology, the two companies have newly developed a "highly durable cathode material" suitable for all-solid-state batteries. Drawing on over 20 years of experience in supplying cathode materials for a wide range of electric vehicles, Sumitomo Metal Mining aims to supply the newly developed cathode material and move toward its mass production.

Both companies will continue to develop various areas such as improving the performance, quality, and safety of cathode materials for all-solid-state batteries, as well as reducing costs for mass production. They aim to achieve the world's first practical use of all-solid-state batteries in BEVs, potentially changing the future of automobiles and helping realize a carbon-neutral society.



Structure of all-solid-state batteries

Cathode material for all-solid-state batteries