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Press Release

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Final Investment Decision and Construction Start for Large Pilot Facility for Solid Electrolytes (All-Solid-State Battery Material)

Idemitsu Kosan Co.,Ltd. (Head Office: Chiyoda-ku, Tokyo; Representative Director, President: Noriaki Sakai; hereinafter referred to as “Idemitsu”) has made a final investment decision and commenced construction of a large pilot facility for producing solid electrolytes, materials for all-solid-state lithium-ion rechargeable batteries (hereinafter referred to as “all-solid-state batteries”).* Idemitsu is [collaborating with Toyota Motor Corporation \(hereinafter referred to as “Toyota”\)](#) and aims to commercialize all-solid-state battery-equipped electric vehicles (hereinafter referred to as “BEVs”) in 2027–2028. The solid electrolytes produced in the facility is planned to be used in the all-solid-state batteries for BEVs to be developed by Toyota.

*All-solid-state battery: A battery that uses a solid electrolyte, unlike conventional liquid batteries. Ions move more easily, enabling shorter charging times and higher power output for BEVs. In addition, because all-solid-state batteries are resistant to high voltage and high temperature, they are expected to improve energy density and lengthen service life.



Solid electrolyte
(Powdered material used in
all-solid-state batteries)



CG image of completed large pilot facility
(The blue frame indicates the facility.)

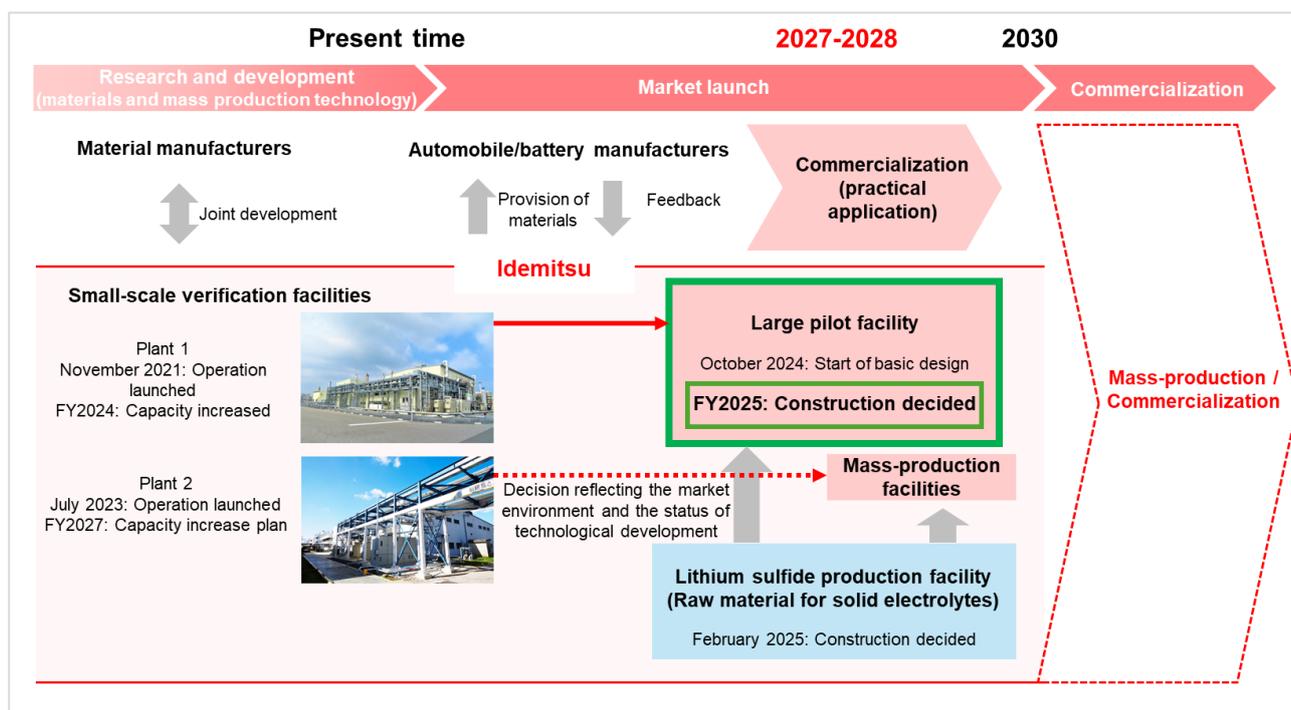
Idemitsu is advancing the development of solid electrolytes, essential materials for all-solid-state batteries that contribute to the evolution of mobility and the creation of a resource-recycling society, and the establishment of their mass production systems. The plan is to scale up the production equipment step by step from small-scale verification facilities to the large pilot facility, and then move on to commercialization.

We are currently developing mass production technology for solid electrolytes and manufacturing samples at two operational small-scale verification facilities. Plant 1 primarily develops solid electrolytes for Toyota, while Plant 2 develops different types of solid electrolytes. Based on the results of verification obtained at Plant 1, we have decided to proceed with the construction of the large pilot facility, the next phase toward commercialization. Production capacity is expected to reach several hundred tons per year. We aim to complete construction in 2027 in our Chiba Complex (Ichihara City, Chiba Prefecture). Construction work of the facility has been contracted to Chiyoda Corporation.

The technical development for mass production of solid electrolytes has been adopted as one of the “Green Innovation Fund Projects / Next-generation Storage Battery and Motor Development” of the New Energy and Industrial Technology Development Organization (NEDO) and is proceeding as planned with the support of subsidies.

Additionally, [construction of the large-scale production facility for the production of lithium sulfide, an important intermediate raw material for solid electrolytes, announced in February 2025](#), is also progressing smoothly toward completion in June 2027.

We will further accelerate the improvement of the performance of solid electrolytes and the development of their mass production technology, while steadily building an integrated value chain from raw materials to finished products, aiming for the societal implementation of all-solid-state batteries.



Project Roadmap

[Reference]

- [Regarding the solid electrolytes we are developing](#)
Our solid electrolytes utilize sulfur components that are produced as a by-product during the petroleum products manufacturing process. Idemitsu was among the first to discover the usefulness of sulfur components in the mid-1990s, and through our research and technological capabilities cultivated over many years, we have succeeded in developing solid electrolytes.
- Corporate website: [Employee interview \(Lithium Battery Material Department\)](#)
“Solid electrolyte,” the key material for all-solid-state batteries. This is an interview with members of the Lithium Battery Material Department, who are tackling the development and mass production of “materials” that do not yet exist in the world.
- Press release: [Development of mass production technology for solid electrolytes \(all-solid-state battery materials\) approved by METI as a “plan for ensuring supply of storage batteries” \(June 30, 2025\)](#)
- Press release: [Completed construction to increase capacity of Plant 1, small pilot facilities for mass production of solid electrolytes \(all-solid-state battery materials\) \(April 21, 2025\)](#)

- Press release: [Idemitsu has decided to construct a large-scale production facility for lithium sulfide, an intermediate raw material for the mass production of all-solid-state battery materials \(hereinafter referred to as “solid electrolytes”\). \(February 27, 2025\)](#)
- Press release: [Basic Design of Large Pilot Facility Begins for Commercialization of solid electrolytes for All-Solid-State Batteries in 2027-2028 \(October 28, 2024\)](#)
- Press release: [Decision made to increase supply capacity of solid electrolytes for next-generation batteries \(all-solid lithium battery\) \(June 19, 2023\)](#)