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Press Release

Company Name: Idemitsu Kosan Co.,Ltd.
Representative Director and President: Noriaki Sakai
(Company Code: 5019, TSE Prime Market)
Contact person: Shinko Sasaki, General Manager, Investor Relations Office, Finance Department
Telephone: +81-3-3213-9307

# Idemitsu Establishes Its First U.S. Lab for Space-Grade CIGS Solar Cells

## Accelerating Commercialization through Integrating Market Needs and Technical Requirements

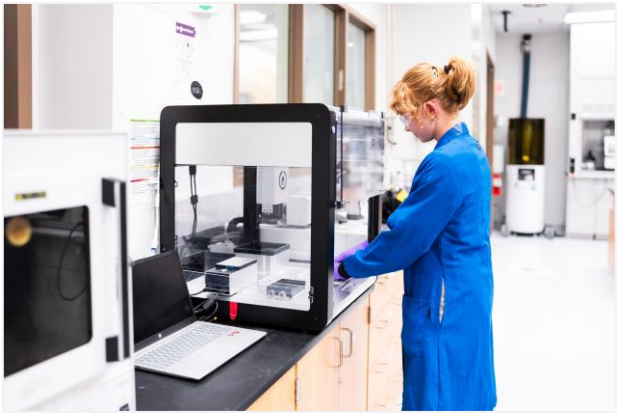
Idemitsu Kosan Co.,Ltd. (Head Office: Chiyoda-ku, Tokyo; Representative Director, President: Noriaki Sakai; hereinafter referred to as "Idemitsu") has established its first U.S.-based development laboratory for space-grade CIGS* solar cells. The laboratory is located at OASIS, an industry collaboration and innovation facility operated by the University of California, Santa Barbara (UCSB).

Idemitsu will position the laboratory as its U.S. hub for technology development and customer engagement in the U.S. market. Through technical discussions with satellite manufacturers and other space-related companies, Idemitsu will rapidly conduct prototyping and evaluations of space-grade CIGS solar cells based on identified market needs and technical requirements. Those insights gained from the U.S. market will be quickly fed back to Idemitsu's R&D activities and incorporated into product development and mass-production technology development in Japan. Through these initiatives, Idemitsu aims to accelerate commercialization of space-grade CIGS solar cells.

* CIGS: A compound semiconductor material composed of copper (Cu), indium (In), gallium (Ga), and selenium (Se).




Exterior of OASIS



Interior of OASIS (Illustrative photo)

Under its Medium-Term Management Plan (FY2026–2030), Idemitsu has identified the electrification and ICT convergence domain as one of its growth areas and is advancing material solutions that support these fields. As part of these initiatives, Idemitsu is also exploring opportunities in the space sector.

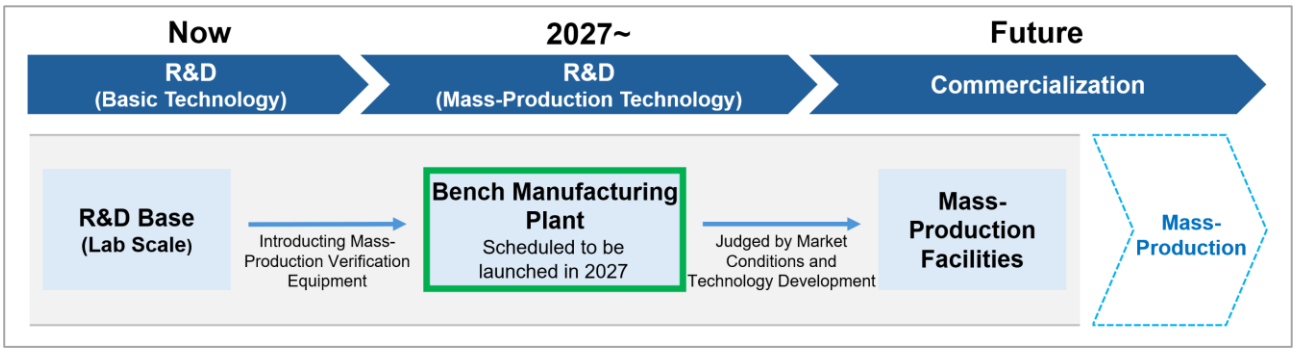
The United States is an important market for commercializing space-grade CIGS solar cells, where many leading space companies and satellite manufacturers are operating. Located in a region with a strong concentration of space-related companies, OASIS provides an advantageous environment for technical discussions with customers and industry partners. It also offers well-equipped laboratory and office facilities, enabling Idemitsu to advance activities efficiently toward commercialization.

By establishing this laboratory, Idemitsu aims to strengthen engagement with local customers and partners while creating a framework that enables rapid incorporation of market needs and technical requirements into product development and mass-production technology development, thereby accelerating efforts toward commercialization.

The U.S. lab will primarily serve the following functions:

- Leading to technical discussions with customers and partner organizations
- Identifying market needs and technical requirements, and providing feedback to Idemitsu's R&D base in Japan
- Enabling prototyping, evaluation, and reliability validation
- Providing technical analyses and proposals for customer requirements

Toward commercialization of its space-grade CIGS solar cells, Idemitsu is currently advancing the development of a bench manufacturing plant in Japan aimed at establishing mass-production technologies by 2027. Following the launch of the bench manufacturing plant, the company will evaluate introducing full-scale mass-production facilities based on market conditions and the progress of technology development. In addition to establishing the new U.S. lab, Idemitsu will continue its efforts to build a mass-production framework, aiming to achieve early commercialization of its space-grade CIGS solar cells, which contributes to the supply chain supporting the global space industry.




Business roadmap of Idemitsu's space-grade CIGS solar cells

[Reference]

・Idemitsu's space-grade CIGS solar cells

Conventional solar cells used in space face several challenges, including degradation caused by intense radiation, high manufacturing costs, extensive use of rare metals, and limited production capacity due to the manufacturing process that requires long time. Idemitsu's CIGS technology offers strong resistance to radiation, which can contribute to longer operational lifetimes, while also reducing the amount of rare metals required. In addition, by leveraging its proprietary manufacturing technology, Idemitsu expects to achieve high production capacity while maintaining cost competitiveness.

・Employee Interview (JAXA × Idemitsu Innovation Strategy Department / Advanced Technology Research Laboratories)

Focusing on the in-orbit demonstration of next-generation space solar cells currently being conducted aboard JAXA's new space station resupply vehicle HTV-X1, a JAXA researcher and Idemitsu engineers share insights into the background of the technology development and discuss their perspectives on the future potential of the space business.

・Press release: Idemitsu Awarded JAXA's "Space Strategy Fund" Grant to Advance Mass-Production Technology for Space-Grade CIGS Solar Cells (June 18, 2026)