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Mitsubishi Electric to Collaborate with ITRI in Taiwan on Large Capacity Power-conversion Systems Using Power Semiconductors

*Aiming to expand use of high-capacity conversion systems for renewable energy generation,
contributing to the global green transformation*



From left: Pei-Fang Liang, Deputy General Director, Green Energy and Environment Research Laboratories, ITRI; Jwu-Sheng Hu, Executive Vice President, ITRI; Chih-Wen Liu, General Director, Green Energy and Environment Research Laboratories, ITRI; Eiji Suetsugu, Group Vice President, Power Device Works, Semiconductor & Device Group, Mitsubishi Electric; Yoshitaka Watanabe, General Manager, Electronic Devices Division, Mitsubishi Electric Taiwan; Shinichi Kusunoki, Group Vice President, Semiconductor & Device Marketing Div. A, Semiconductor & Device Group, Mitsubishi Electric

TOKYO, October 15, 2025 – [Mitsubishi Electric Corporation](https://www.mitsubishi-electric.com) (TOKYO: 6503) announced today that it has concluded a basic agreement with the Industrial Technology Research Institute (ITRI) in Taiwan, in collaboration with the company's sales company in Taiwan, Mitsubishi Electric Taiwan Co., Ltd., for a technical collaboration to develop high-voltage, high-current power conversion systems (PCSs) that use high-efficiency power semiconductor modules to convert electricity generated from renewable energy sources, such as solar and wind power.

Under the agreement, Mitsubishi Electric's advanced power semiconductor modules and Mitsubishi Electric Taiwan's marketing capabilities will be combined with ITRI's technology for efficiently converting high-

voltage, high-current electricity. The goal is to jointly develop a megawatt-class PCS prototype equipped with the power semiconductor modules for demonstration testing. Through this initiative, Mitsubishi Electric and Mitsubishi Electric Taiwan aim to further expand their power semiconductor module business for PCSs by providing users with design information on PCSs that effectively utilize power semiconductor modules, as well as results obtained from the demonstration tests, as reference information. ITRI, by providing design documents related to the construction of PCSs incorporating Mitsubishi Electric's power semiconductor modules as well as results from the demonstration tests, as reference information to Taiwanese PCS manufacturers, aims to support product development by Taiwanese companies in related fields. Going forward, Mitsubishi Electric and ITRI aim to contribute to the global green transformation (GX) by developing and expanding technology for the efficient conversion of electricity from renewable energy sources.

The use of power generation systems based on renewable energy sources such as solar and wind power is expanding worldwide in the pursuit of decarbonization. Concurrently, there is an increasing demand for PCSs that can convert power between direct current (DC) and alternating current (AC). Among these, there is a growing demand for megawatt-class PCSs that can efficiently utilize the large amounts of electricity generated by large-scale systems, such as mega-scale photovoltaic installations.

Mitsubishi Electric has a long history of providing reliable, high-voltage, high-current power semiconductor modules for PCSs used in renewable-energy power generation, storage, transmission and distribution. Well known for their stable performance under harsh environmental conditions, Mitsubishi Electric modules are widely used in markets worldwide.

ITRI develops technologies focused on the circular economy, low-carbon manufacturing, and environmental protection including renewable energy systems. Its strengths include expertise in power generation, storage, transmission and distribution systems that utilize high-voltage, high-current electricity. ITRI has a proven record of contributing to industrial development by creating, nurturing and providing advanced technologies to Taiwanese companies.

Jwu-Sheng Hu, Executive Vice President, ITRI, said: "As Taiwan and the world actively pursue a transition to a decarbonized society, the composition of power sources is drastically changing. In the future, the power grid will not only need to accommodate the proliferation of renewable energy but also ensure stability, resilience, and reliability. Integrating green energy efficiently through next-generation power conversion technologies has become a critical challenge for supporting industrial development in the energy transition. Furthermore, this technological partnership combines ITRI's system integration capabilities with Mitsubishi Electric's power semiconductor technology, enabling a more efficient introduction of green energy into the power grid and supporting the development of advanced high-tech industries. This represents a significant step in Taiwan's energy transition and further strengthens Taiwan's role in the global green energy supply chain."

Masayoshi Takemi, Executive Officer and Group President, Semiconductor & Device at Mitsubishi Electric, said: "Today, I am very pleased to announce the signing of a technology partnership agreement with ITRI. This collaboration is an important step in accelerating the social implementation of renewable energy. By

combining our high-efficiency power semiconductor technology with ITRI's expertise and strengths in system integration, we aim to innovate megawatt-class power conversion systems that incorporate Mitsubishi Electric power semiconductors and thereby contribute to the establishment of a sustainable energy society. Moving forward, Mitsubishi Electric will continue to promote 'trade-on' activities that balance solutions to social challenges with business growth through the global promotion of power semiconductor modules, striving towards the realization of a sustainable society."

About Industrial Technology Research Institute (ITRI)

ITRI is a non-profit organization headquartered in Hsinchu County, Taiwan. With approximately 6,000 researchers, it is one of the world's leading applied research institutions, focusing on scientific and technological research and development, promoting industrial development, creating economic value, and enhancing social welfare. For more details, please visit <https://www.itri.org/eng>.

About Mitsubishi Electric Taiwan Co., Ltd.

As the sales company of Mitsubishi Electric in Taiwan, Mitsubishi Electric Taiwan collaborates with customers in Taiwan and Mitsubishi Electric Group companies worldwide to deliver cutting-edge, high-quality products. The collaboration covers the sale of electrical and electronic products, factory automation systems, air conditioning and home appliances, power semiconductors, and much more besides, as well as material exports and technical support.

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its "Changes for the Better." The company recorded a revenue of 5,521.7 billion yen (U.S.\$ 36.8 billion*) in the fiscal year ended March 31, 2025. For more information, please visit www.MitsubishiElectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥150=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2025