

Hitachi Acquires Intellectual Property for Biomethanation from Electrochaea

Hitachi Power Solutions Accelerates the Expansion of Its Carbon-Neutral Business

Tokyo, August 28, 2026 – Hitachi, Ltd. (TSE: 6501, “Hitachi”), today announced that it has acquired intellectual property rights and related assets concerning biomethanation technology*¹ held by Electrochaea GmbH (“Electrochaea”), headquartered in the Federal Republic of Germany, as part of efforts to strengthen its carbon-neutral business. The assets acquired include patent rights in Germany and overseas, copyrighted works, technical documents, and rights to use technical information transferred under existing license agreements. Through this acquisition, Hitachi Group will be able to further develop this technology as part of its own technology platform, based on the biomethanation technology cultivated by Electrochaea and the initiatives that Hitachi and Electrochaea have advanced together to date.

In November 2024, Hitachi concluded a license agreement with Electrochaea for biomethanation technology and, together with Hitachi Power Solutions, has been advancing efforts toward demonstration and commercialization in Japan as One Hitachi.

In response to changes in Electrochaea’s business environment, and as the sale of the company’s assets proceeds as part of legal restructuring procedures, Hitachi has acquired the company’s intellectual property rights and related assets with the aim of inheriting and further developing its globally valuable biomethanation technology and applying it to future business development.

Hitachi and Hitachi Power Solutions will strengthen their technological and business foundations for future scale-up and business expansion in Japan and overseas by combining the intellectual property rights and related assets acquired through this transaction with the knowledge accumulated through domestic demonstration projects. Going forward, Hitachi and Hitachi Power Solutions will promote equipment delivery, operation, and maintenance in Japan, while also exploring the development of overseas business models that combine related products, engineering, and operational support services, considering target regions and market potential. Through collaboration with partners in Japan and overseas, Hitachi and Hitachi Power Solutions will accelerate the provision of GX*² solutions related to the production and utilization of synthetic methane, thereby contributing to the achievement of carbon neutrality.

The Urban Solutions & Services Business Unit of Hitachi’s Connective Industries (CI) Sector provides facility services that maximize lifetime value for customers and transform industries globally, contributing to a prosperous society. We achieve this through the combination of strong products and HMAX Industry, a next-generation suite of solutions that combine data from an extensive installed base of digitalized assets with domain knowledge and advanced AI.

*1 Biomethanation technology: A technology that uses the action of microorganisms, specifically methanogenic archaea, to produce synthetic methane (CH₄) from hydrogen (H₂) and carbon dioxide (CO₂).

*2 GX: Green Transformation. Initiatives aimed at transforming industrial and social structures toward clean energy, with the goal of achieving both reductions in greenhouse gas emissions and economic growth.

Background

In Japan, expectations are growing for synthetic methane, which can utilize existing city gas infrastructure and, by using hydrogen derived from renewable energy and captured carbon dioxide as feedstocks, contribute to reducing carbon dioxide emissions across the entire life cycle. Discussions and institutional development toward implementation in society are progressing, including targets to replace the equivalent of 1% of city gas supply with synthetic methane and biogas by FY2030*³. Against this backdrop, initiatives are accelerating from demonstration to commercialization, particularly in the gas, electric power, and industrial sectors.

Hitachi and Hitachi Power Solutions have been promoting the commercialization of synthetic methane production by combining Electrochaea's biomethanation technology with Hitachi's research and development in microbial cultivation technology, as well as Hitachi Power Solutions' expertise in engineering, system integration, operation, and maintenance for power generation plants and related facilities. In Japan, Hitachi and Hitachi Power Solutions are also advancing technical verification and accumulating operational know-how through demonstration projects. Based on these initiatives, it was necessary to further strengthen the technological foundation with a view to future market expansion and commercialization.

[*3 Agency for Natural Resources and Energy, "The 7th Strategic Energy Plan \(Gas-related Descriptions\)," March 19, 2025, presented at the 37th Meeting of the Working Group on Gas Business System Reform, Electricity and Gas Basic Policy Subcommittee, Electricity and Gas Industry Committee, Advisory Committee for Natural Resources and Energy. The Japan Gas Association, "Action Plan 2030," June 3, 2025](#)

Technical Features

Biomethanation technology can operate under low-temperature and low-pressure conditions, which facilitates equipment design and handling. In addition, because the methanogenic archaea that serve as the catalyst are self-propagating, the technology can help mitigate risks associated with catalyst replacement and resource procurement by not using rare metals. Furthermore, owing to its tolerance to gases containing impurities such as sulfur components, the technology can use carbon dioxide contained not only in high-purity gas streams but also in unrefined biogas and other gas sources as feedstock.

In addition, while conventional bioprocesses generally require large-capacity reactors and extended reaction times, Electrochaea's technology is distinguished by its ability to efficiently produce synthetic methane within a short period of time. This provides excellent trackability even when using hydrogen derived from renewable energy, whose power output tends to fluctuate.

Future Development

Against the backdrop of the global trend toward decarbonization, customers in energy infrastructure and hard-to-abate industrial sectors face the challenge of achieving carbon neutrality quickly and at low cost while making use of their existing facilities. To help address this challenge, Hitachi and Hitachi Power Solutions will leverage Hitachi Power Solutions' long-cultivated expertise in the implementation, operation, and maintenance of power generation plants. By 2030, Hitachi and Hitachi Power Solutions aim to establish a GX solution model for

medium-scale facilities that utilizes biomethanation technology and enables customers to invest in environmental initiatives with confidence, from installation all the way to stable operation.

In the future, Hitachi and Hitachi Power Solutions aim to provide services and solutions that help maximize both environmental and economic value through the combination of IT, OT, and products. These include digital solutions that manage data on the origin and usage status of carbon dioxide across One Hitachi and support the measurement, reporting, and verification of emissions; AI-based control services for manufacturing processes that utilize data accumulated through the operation of facilities; and the scale-up of biomethanation facilities. Hitachi and Hitachi Power Solutions will also consider expanding its established services and solutions into promising global markets.

Trademark Notice: All trademarks and product names are the property of their respective owners.

About Hitachi, Ltd.

Through its Social Innovation Business (SIB) that brings together IT, OT (Operational Technology) and products, Hitachi aims to be a global leader in continuously transforming social infrastructure through digital, contributing to a harmonized society where the environment, wellbeing, and economic growth are in balance. Hitachi operates worldwide across four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – as well as a Strategic SIB Business Unit focused on new growth areas. With Lumada at its core, Hitachi creates value by combining data, technology and domain knowledge to solve customer and social challenges. Revenues for FY2025 (ended March 31, 2026) totaled 10,586.7 billion yen, with 606 consolidated subsidiaries and approximately 290,000 employees worldwide. Visit us at www.hitachi.com/en/.

About Hitachi Power Solutions, Co., Ltd.

Hitachi Power Solutions develops service and green businesses utilizing digital technologies in the energy and infrastructure fields, providing solutions that support energy and social infrastructure and contribute to solving customer and social issues, as well as achieving carbon neutrality, based on the technologies and expertise accumulated in "Service" and "Green" × "Digital" related businesses. Visit us at www.hitachi-power-solutions.com/en/.