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VALUE CREATION STORY

Creating regional value with small-scale hydropower

Meiden Group Leads a Joint Value Co-Creation Project in Hiroshima

The mountainous regions of Hiroshima Prefecture face a variety of issues such as a shrinking economy from a decreasing population, deteriorating infrastructure, and extremely hazardous natural disasters. This story focuses on people looking to generate new value and drive social innovation as one solution to these issues, starting with small-scale hydropower.

Chemical Reactions that Spark the Imagination

After WWII, the Chugoku region built many locally operated small hydropower plants in the mountains in an effort to revitalize rural communities. Hydropower has been gaining attention as a source of renewable energy in response to social changes such as the trend toward carbon neutrality and the increasing demand for data centers with the spread of generative AI. Among this renewed interest in hydropower, Meidensha and Meiden Group's Eaml Engineering, a hydro turbine manufacturer, worked with businesses and local governments within Hiroshima to launch the Hiroshima CSV* Laboratory in the spring of 2024. The lab consists of 30 members from 12 organizations, most of which are under 30 years old. With the guidance and support of Professor Masatoshi Tamamura from Keio Research Institute at SFC's Social Innovation Laboratory, the group sought to develop a civic system that could address social issues and drive regional activity by creating connections between a diverse range of people in the region, based on small-scale hydropower.

Professor Tamamura of Keio University and laboratory members of Eaml Engineering and Meidensha in Hatsukaichi City, Hiroshima

The project began by examining small-scale hydropower in Shobara City and Hatsukaichi City. While brainstorming ideas, Eaml Engineering worked in Shobara City to renovate a power plant transferred from a local agricultural cooperative and is scheduled to reopen the plant in 2026. Hatsukaichi City is planning to construct new small-scale hydropower facilities based on the results from Shobara.

The lab studies ways to co-create value that is a win-win for everyone involved.

Professor Tamamura ▷ "Our approach toward these regional issues required the cooperation of a range of industry, academia, government, and citizen organizations. Issues aside, it was vital to ensure that the corresponding network between industry, academia, government, and citizens affected by the issues functioned accordingly because problems in that network would create additional issues. Hydropower generation is a well-established technology that can operate sustainably over long timescales, so it can be expected to contribute to carbon neutrality on the environmental front, supply stable energy on the economic front, and also address regional issues by connecting mountainous regions with cities while creating a diverse range of regional collaborations on the societal front. Moving forward, we expect that the hydropower projects in this region will work as a system of mutual benefit on these three fronts."

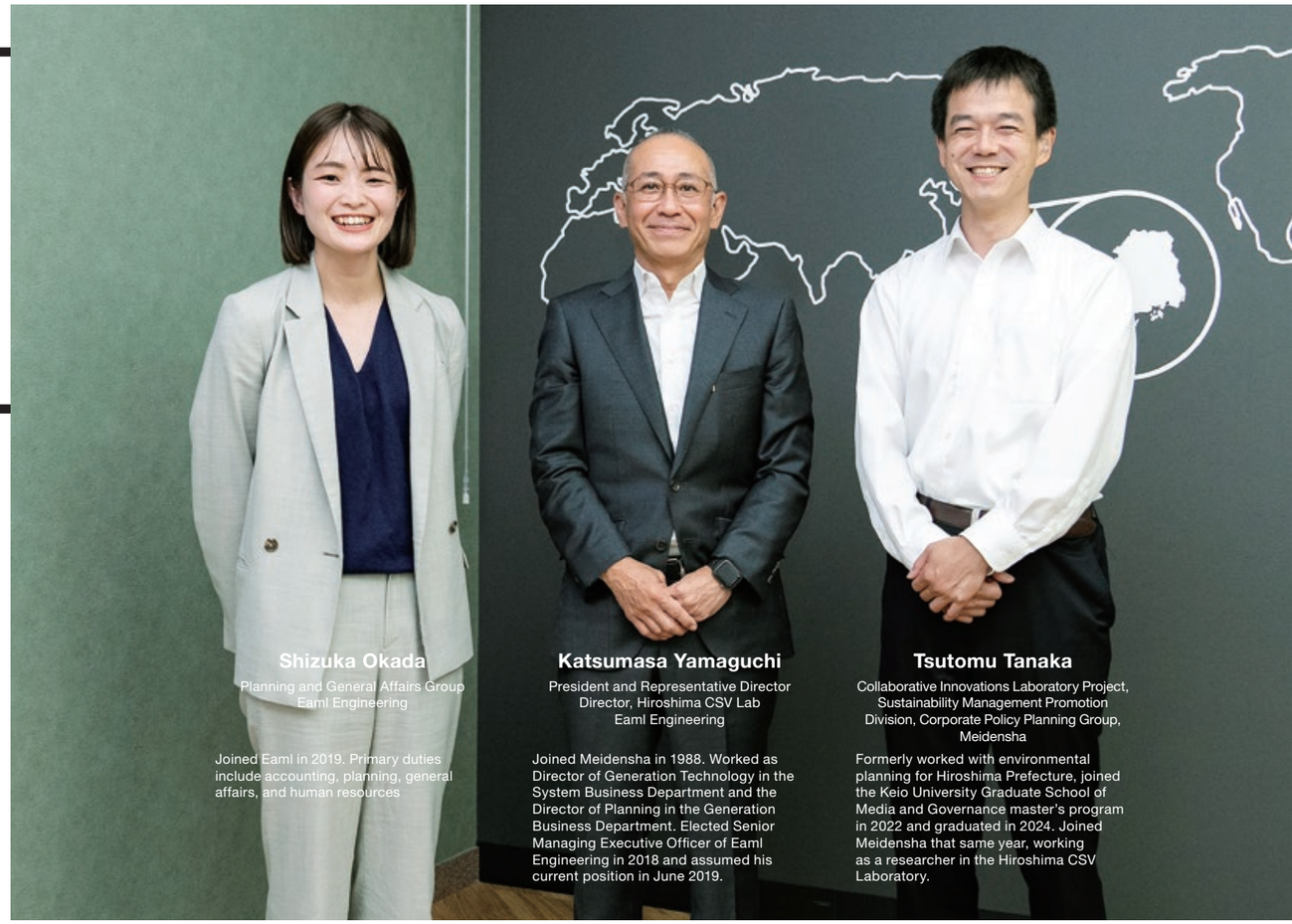
*CSV = Creating Shared Value

FOCUS

Partnership Co-Creating a Plethora of Values

It feels like Eaml Engineering and the Meiden Group possess a lot of people with ambitious mindsets and long-term visions for the future. The studies carried out by the lab so far are leading to partnerships that co-create a wide array of value, starting with small-scale hydropower projects. Once the Hiroshima model is established in Hiroshima and around Japan, I would love to see it spread across the globe.

Masatoshi Tamamura, Ph.D.
Professor, Faculty of Policy Management, Keio University
Director, Social Innovation Laboratory, Keio Research Institute at SFC



Shizuka Okada
Planning and General Affairs Group
Eaml Engineering

Joined Eaml in 2019. Primary duties include accounting, planning, general affairs, and human resources

Katsumasa Yamaguchi
President and Representative Director
Director, Hiroshima CSV Lab
Eaml Engineering

Joined Meidensha in 1988. Worked as Director of Generation Technology in the System Business Department and the Director of Planning in the Generation Business Department. Elected Senior Managing Executive Officer of Eaml Engineering in 2018 and assumed his current position in June 2019.

Tsutomu Tanaka
Collaborative Innovations Laboratory Project, Sustainability Management Promotion Division, Corporate Policy Planning Group, Meidensha

Formerly worked with environmental planning for Hiroshima Prefecture, joined the Keio University Graduate School of Media and Governance master's program in 2022 and graduated in 2024. Joined Meidensha that same year, working as a researcher in the Hiroshima CSV Laboratory.

Yamaguchi ▷ "One interesting and unique idea is to establish an e-sports town. Such use of this electricity could lead to dreams of producing elite e-athletes. It's an exciting chemical change for this energy and connects the hopes of young people to regional development and job creation."

Expanding Value Co-Creation for Global Deployment of the Hiroshima Model

The lab team meets three times a month to study small-scale hydropower systems and new technologies, as well as discuss with experts topics like revitalization around Japan and the issues facing mountainous regions. They solidify target ideas during the year and draft strategies to make plans reality.

Okada ▷ "It allows us to learn the perspectives of people in industries we don't usually interact with in our regular jobs. I hope to make meaningful contributions with the expertise I gain here."

Tanaka ▷ "We have people from a range of fields and ages, so new ideas spur lively discussions. With all the directions our ideas go in, I expect this to become a place that can share the starting points and direction for what society should achieve."

Compared to other renewable energy sources, hydropower provides a very stable supply of power and is centered in the local region. Japan has a wealth of unexplored areas with hydroelectric potential that are suitable for constructing hydropower plants. The value of renewable energy is expected to rise sharply, and the members of this lab are looking forward to seeing their initiatives generate lateral development models to address issues throughout Japan and the world.

From Hiroshima and Meiden Group to the world. The potential of this lab is infinite and the best is yet to come.