HANAMI

PRESS RELEASE

Funded by the European Union

EuroHPC Joint Undertaking

This project received funding from the project HANAMI, funded by the European High Performance Computing Joint Undertaking (EuroHPC JU) under the European Union's Horizon Europe framework program for research and innovation.

HANAMI PRESENTS ROADMAP FOR EU-JAPAN SUPERCOMPUTING COOPERATION AT ITS CLOSING SYMPOSIUM IN FINLAND

Kittilä, Finland | 5 November 2026

HANAMI, one of the flagship initiatives linking Europe and Japan in high-performance computing (HPC), presented its Roadmap on Future EU-Japan Collaboration in HPC at the last of its annual events for this project phase, held in Kittilä, Finland, from 2 to 5 November 2026.

The Roadmap, which went through a public consultation earlier this year, was introduced at the HANAMI Europe-Japan Strategic Dialogue on 5 November. Policymakers, research funders and leading scientists discussed how the cooperation built over the past years can continue beyond the project.

Reflecting on the project's journey, HANAMI coordinator France Boillod- Cerneux, from CEA, France, and HANAMI coordinator said: "Since February 2024, HANAMI has grown from a small initiative into a consortium of more than 70 researchers, delivering advanced results in materials, climate and biomedical sciences. The journey must continue, and I will do my best to make HANAMI sustainable."

On the Roadmap's legacy, Pihla Kauranen, from CSC, Finland, explained: "The Roadmap outlines a path towards long-term strategic cooperation in HPC between the EU and Japan, setting out the building blocks to continue the collaboration beyond the project. We hope it will become a cornerstone of the future of HANAMI."

The Strategic Dialogue, held as the project's third High-Level Stakeholder Event, opened with statements from the Finnish Ministry of Education and Culture and from Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT). RIKEN R-CCS delivered a keynote on multilevel efforts towards AI-for-Science in Japan, and the HANAMI community offered its perspective on future trends in HPC and AI. The session closed with an interactive discussion with participants.

"Long-term international partnerships enable us to combine expertise, share resources, and build stronger research ecosystems that benefit all participants", said Petteri Kauppinen, Senior Ministerial Adviser, Department of Higher Education and Science Policy, Finnish Ministry of Culture and Education. "Europe and Japan already have a strong foundation for collaboration. We share a commitment to scientific excellence, open and trusted research, and the responsible development of emerging technologies. Through initiatives such as HANAMI, we are strengthening links between our research communities, identifying common priorities, and creating opportunities for future joint activities", added Petteri Kauppinen.

“Our mission is to make these resources easier to use, better connected, and to use a new way of science, a new way of AI for science. We want to use a new approach to science in the AI for science area, and the HANAMI Roadmap recommends access to HPC infrastructure”, explains Kiyoshi Kurihara, Director, Office for the Promotion of Computing Science, Research Promotion Bureau, Japan Ministry of Education, Culture, Sports, Science and Technology.

The Dialogue ran alongside the 3rd HANAMI High-Level Symposium, which brought together researchers from both regions to discuss strategic priorities and scientific opportunities in climate and weather modelling, biomedical sciences and materials science. The programme combined keynote lectures, plenary and parallel sessions and a poster session, and the HANAMI Scientific Advisory Board met during the event. Keynote speakers came from leading institutions in Europe and Japan, including RIKEN R-CCS, CEA, DKRZ, the Jülich Supercomputing Centre, Osaka University, the Institute of Science Tokyo and KTH. Topics ranged from cloud microphysics and domain-specific benchmarks for climate codes to mixed-precision linear algebra, open large language models as scientific infrastructure, and multiscale simulation of biomolecular systems. Full programme and speaker list: https://hanami-project.com/2026/01/16/hanami-high-level-symposium-3rd-edition/.

The Kittilä meeting was the last in a series of annual events that began with the project’s launch in March 2024 under the EU-Japan Digital Partnership. It followed the second Symposium and Strategic Dialogue, held in Chamonix, France, in December 2025, and gathered more than 60 participants and over 35 talks. HANAMI’s work continues over the coming months, including improving some results, dissemination, and remaining deliverables, and the Roadmap is intended to guide cooperation beyond the project.

Results on both sides

In materials science, joint teams optimised key codes for Japan’s Fugaku supercomputer, including Yambo and SIESTA on the ARM-based A64FX architecture. The Yambo improvements are now part of its 5.4 beta release. The ChASE eigen solver library gained a new pseudo-Hermitian solver (release 1.7.0), validated on distributed GPU systems and CPU-only architectures. ChASE is now being combined with the Japanese-developed Ozaki Scheme II and tested on JUPITER, Europe’s first exascale system; an example of technology flowing in both directions. HANAMI also secured Fugaku allocations for simulations of a lead-free perovskite for more sustainable solar cells, high-accuracy data on the LaH10 superhydride to train machine-learning potentials, and studies of water-in-salt electrolytes for zinc-based batteries.

In climate science, HANAMI has enabled European and Japanese teams to run and compare simulations on both sides of the world. By combining Autosubmit for

portable simulation workflows, pyhanami for assessing scientific reliability, and the HPCW benchmark suite for measuring computational performance, the project has established shared tools and methods to compare, validate and optimise climate simulations across European and Japanese supercomputers, including LUMI, MareNostrum5, and FUGAKU.

HANAMI's collaboration also extends to biomedical sciences. HANAMI has delivered scientific tools through close collaboration between European and Japanese research groups. In molecular simulation, the project combined and extended the leading European GROMACS and Japanese ExaFMM codes, using mixed-precision on GPUs to significantly improve parallel scaling. The resulting code runs efficiently on supercomputers in both Europe and Japan. In cell biology, the consortium developed a framework of tools to model processes within and between cells, with the aim of predicting and treating diseases. Here, AI has proven useful for gathering the many connections and parameters of cellular networks and implementing them in the models.

The project also covers more fundamental research topics. Kengo Nakajima, from RIKEN, Japan, explained how his work fits into the project: "HANAMI has three target applications, but my background is in HPC, so my part of the project is the collaboration on more fundamental topics, such as HPC, AI and algorithms."

HANAMI also worked on the conditions that make such cooperation possible. It organised three High-Level Symposia and three strategic stakeholder events, supported around 10 young researcher exchanges and 30 travel grants, and surveyed supercomputing access policies, publishing recommendations on sustainable cross-access. In December 2025, it released the policy paper "EU-Japan supercomputing collaboration boosts disruptive research and innovation". The project was also present at SC25, HPCAsia 2026 in Osaka, ISC 2026 and EuroHPC User Days 2026, among other international HPC events.

Beyond the scientific results, the consortium is already considering how to continue working together. "We want this collaboration to be sustainable and to last over the long term, more than five years," said France Boillod-Cerneux. "Right now, we design and construct our supercomputer systems separately, but in five years, we can share ideas for designing the systems together," she added.

Together, the High-Level Symposia and strategic stakeholder events linked in-depth scientific exchange with strategic discussion on the future of EU-Japan cooperation in HPC-enabled research.

About HANAMI

HANAMI (Hpc AlliaNce for Applications and supercoMputing Innovation) is a project funded by the EuroHPC Joint Undertaking under Horizon Europe. It aims to foster deep cooperation between European and Japanese institutions in HPC and advanced scientific applications, with a particular focus on Climate and Weather Modelling, Biomedical Science, and Materials Science.

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