News Release
For Immediate Release

HITACHI

Hitachi to participate in Phase 2 research projects of JST Moonshot Research & Development Program Goal 6: "Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050"

Tokyo, March 3, 2026 Hitachi, Ltd. (TSE: 6501, "Hitachi") announces that it will participate in the Phase 2 (FY2026–FY2030) research and development projects under Moonshot Research & Development Program Goal 6, "Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050" (Program Director: KITAGAWA Masahiro) led by the Japan Science and Technology Agency (JST). Specifically, Hitachi will participate in the projects: "Development of Fault-Tolerant Silicon Quantum Computer Technology" (Project Manager: TARUCHA Seigo) and "Neutral Atom-Based Fault-Tolerant Quantum Computer" (Project Manager: OHMORI Kenji).

In the former project, Hitachi will collaborate with RIKEN to realize a fault-tolerant silicon quantum computer[*1]. The partners aim to develop fault-tolerant qubit devices, targeting 100 qubits[*2] by FY2028 and progressing toward a 1,000-qubit-scale device by FY2030. Within this project, Hitachi will be responsible for technology development related to device design, prototyping, verification, and system integration. In the latter project, Hitachi will develop system performance evaluation software for a neutral atom-based quantum computer[*3] being developed by the Institute for Molecular Science. This work will contribute to system design and the formulation of operational policies for actual hardware systems. Furthermore, the results from the latter project will also be applied to the former project and accumulated as evaluation and operational expertise that can be utilized across different approaches.

*1 Silicon quantum computer: A type of quantum computer that uses semiconductor technology to integrate qubits on a silicon substrate.
*2 Qubit: The smallest unit of information used in a quantum computer.
*3 Neutral atom-based quantum computer: A type of quantum computer that performs quantum computation by arranging and controlling electrically neutral atoms using lasers.

Comment from MIZUNO Hiroyuki, Corporate Chief Researcher, R&D Group, Hitachi, Ltd.
"Hitachi is advancing research and development of silicon quantum computers as a part of the 'NEXT' domain, which aims at solving increasingly complex social challenges and creating new value in the future. The company aims to make its experimental environment available on the cloud by FY2027.

"In recent years, in addition to the utilization of data, advanced computing capabilities themselves are becoming the foundation for competitiveness and the resolution of societal issues. In light of this trend, Hitachi is working toward the early realization and practical implementation of fault-tolerant quantum computers, which are essential for making quantum computers practically viable. Continuing on from our participation in the first five years (FY2020–FY2025) of the Moonshot Research & Development Program, we will also participate in the second five-year phase beginning in FY2026. In order for us to bring quantum computers into practical use and provide value that only quantum computers can deliver, it is important for us to conduct research and development with the future scalability of systems up to one million qubits in mind. Accordingly, leveraging Hitachi's semiconductor technologies and expertise in system integration, we will participate in two projects focusing on silicon quantum computers

and neutral atom-based quantum computers, both of which offer advantages in large-scale implementation. Furthermore, through collaboration with other related projects, we will accelerate the realization of fault-tolerant quantum computers."

About Hitachi, Ltd.
Through its Social Innovation Business (SIB) that brings together IT, OT (Operational Technology), and products, Hitachi contributes to a harmonized society where the environment, wellbeing, and economic growth are in balance. Hitachi operates globally in four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – and the Strategic SIB Business Unit for new growth businesses. With Lumada at its core, Hitachi generates value from integrating data, technology, and domain knowledge to solve customer and social challenges. Revenues for FY2024 (ended March 31, 2025) totaled 9,783.3 billion yen, with 618 consolidated subsidiaries and approximately 280,000 employees worldwide. Visit us at www.hitachi.com.

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