



NVIDIA Powers Japan's ABCI-Q Supercomputer for Quantum Research

ABCI-Q Powered by NVIDIA Hopper Architecture and NVIDIA CUDA-Q to Advance Nation's Quantum Computing Efforts

GTC—NVIDIA today announced that Japan's new ABCI-Q supercomputer — designed to advance the nation's quantum computing initiative — will be powered by NVIDIA platforms for accelerated and quantum computing.

ABCI-Q will enable high-fidelity quantum simulations for research across industries. The high-performance, scalable system is integrated with [NVIDIA@CUDA-Q™](#), an open-source hybrid quantum computing platform with powerful simulation tools and capabilities to program hybrid quantum-classical systems. The supercomputer is powered by more than 2,000 [NVIDIA H100 Tensor Core GPUs](#) in 500+ nodes interconnected by [NVIDIA Quantum-2 InfiniBand](#), the world's only fully offloadable, in-network computing platform.

Built by Fujitsu at the Global Research and Development center for Business by Quantum-AI Technology (G-QuAT) National Institute of Advanced Industrial Science and Technology (AIST) ABCI supercomputing center, ABCI-Q is expected to be deployed early next year and is designed for integration with future quantum hardware.

"Researchers need high-performance simulation to tackle the most difficult problems in quantum computing," said Tim Costa, director of high performance computing and quantum computing at NVIDIA. "CUDA-Q and the NVIDIA H100 equip pioneers such as those at ABCI to make critical advances and speed the development of quantum-integrated supercomputing."

"ABCI-Q will let Japanese researchers explore quantum computing technology to test and accelerate the development of its practical applications," said Masahiro Horibe, deputy director of G-QuAT/AIST. "The NVIDIA CUDA-Q platform and NVIDIA H100 will help these scientists pursue the next frontiers of quantum computing research."

ABCI-Q is part of Japan's quantum technology innovation strategy, which aims to create new opportunities for businesses and society to benefit from quantum technology, including through research in AI, energy and biology.

The ABCI-Q system is intended to be a platform for the advancement of quantum circuit simulation and quantum machine learning, the building of classical-quantum hybrid systems, and the development of new algorithms inspired by quantum technology.

NVIDIA and G-QuAT/AIST also plan to collaborate on industrial applications using ABCI-Q.

About NVIDIA

Since its founding in 1993, [NVIDIA](#) (NASDAQ: NVDA) has been a pioneer in accelerated computing. The company's invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, ignited the era of modern AI and is fueling industrial digitalization across markets. NVIDIA is now a full-stack computing infrastructure company with data-center-scale offerings that are reshaping industry. More information at <https://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact, performance, features, and availability of NVIDIA's products and technologies, including NVIDIA CUDA-Q, NVIDIA H100 Tensor Core GPUs, and NVIDIA Quantum-2 InfiniBand; NVIDIA platforms empowering Japan's new ABCI-Q supercomputer; the features, performance, availability, and impacts of ABCI-Q; NVIDIA technologies helping scientists pursue the next frontiers of quantum computing research; Japan's quantum technology innovation strategy aiming to create new opportunities for businesses and society to benefit from quantum technology, including through research in AI, energy and biology; and our collaboration with third parties are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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