



FOR IMMEDIATE RELEASE

Fixstars Amplify SDK Adds Support for AIST's Japanese-built Quantum Computer "System F"

Multiple ABCI-Q solvers can now be accessed through a unified SDK, enabling the use of a domestically developed quantum computer with the same codebase

IRVINE, California – Aug 06, 2026 – Fixstars Corporation (TSE Prime: 3687, US Headquarters: Irvine, CA), a leading company in performance engineering technology, announces that its group subsidiary, Fixstars Amplify Corporation, has made its optimization development environment 'Fixstars Amplify SDK' (hereinafter 'Amplify SDK') compatible with 'System F.' This development was achieved in collaboration with the Global Research and Development Center for Business by Quantum-AI Technology (G-QuAT) of the National Institute of Advanced Industrial Science and Technology (AIST). System F is a Japanese-developed superconducting quantum computer manufactured by Fujitsu Limited and provided on the quantum-classical hybrid computing platform "ABCI-Q."

Amplify SDK already supports a wide range of solvers available on ABCI-Q. With this new support, users can now run optimization computations on System F with virtually no changes to their existing Amplify SDK code. G-QuAT and Fixstars Amplify will work together to promote the use of domestic quantum computers, starting with ABCI-Q.

About System F

System F is a superconducting quantum computer manufactured by Fujitsu Limited that forms part of ABCI-Q. It is a commercial machine developed through the transfer of superconducting quantum computer technology cultivated at RIKEN, and marks the first commercial deployment of a Japanese-built quantum computer. It is currently equipped with 64 qubits and is designed to be expandable to 256 qubits in the future.

Running Optimization on System F

Using the Amplify SDK extension library "Amplify Quantum," users can perform combinatorial optimization with a variety of quantum algorithms directly on quantum computers. The newly released Amplify Quantum version 1.3 adds OqtopusClient [2], which supports the open quantum computing platform "OQTOPUS" [1]. Simply by changing the solver specification to OqtopusClient, users can access System F through a unified interface shared with the multiple solvers available on ABCI-Q.

Usage overview:

- Existing Amplify SDK code can be used as is
- Only the solver specification needs to be changed (a few lines of edits)
- The same optimization problem can be run on different quantum and classical hardware, making performance comparison easy

This flexibility allows users to select the optimal solver according to the characteristics and scale of their problem, achieving both development efficiency and solution performance. This support, including the utilization of System F, is scheduled to be presented as "An Implementation Case of a Quantum-HPC Hybrid Computing Platform on ABCI-Q" at the 205th High Performance Computing Research Group meeting of the Information Processing Society of Japan, to be held on August 6, 2026.

About G-QuAT

The Global Research and Development Center for Business by Quantum-AI Technology (G-QuAT) is a support base for the industrialization of quantum technology, established at AIST in July 2023 under the "Quantum Future Industry Creation Strategy." It maintains the "ABCI-Q" computing platform—which integrates quantum computers, AI, and high-performance computing (HPC)—as well as environments for quantum device development and evaluation. Through use-case creation, supply-chain development, and business-ecosystem formation, G-QuAT promotes the social implementation of quantum technology and the strengthening of industrial competitiveness.

https://unit.aist.go.jp/g-quat/index_en.html

[1] OQTOPUS

OQTOPUS (Open Quantum Toolchain for OPERators and USers) is an open quantum computing platform being developed through a collaboration led by the university of Osaka, Fujitsu, SEC, and TIS. It offers unified access to multiple quantum computers and quantum simulators, providing an environment in which researchers and developers can efficiently use a variety of quantum devices. For details, please see <https://oqtopus-team.github.io/>.

[2] OqtopusClient

This result was obtained through the commissioned project of the New Energy and Industrial Technology Development Organization (NEDO), "Cyber-Physical Development Project for Quantum-Classical Hybrid Technology / Development of Libraries for Quantum-Classical Optimization and Related Fields / Research and Development of a Common Library Platform to Accelerate the Use of Quantum-AI Hybrid Technology" (JPNP23003).

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About Fixstars Corporation

Fixstars is a technology company dedicated to accelerating AI inference and training through advanced software optimization solutions. It supports innovation in healthcare, manufacturing, finance, mobility, and other industries. For more information, visit: <https://www.fixstars.com/>

Media Contact

Public Relations, Fixstars Corporation

Email: press@fixstars.com

Tel: +81-3-6420-0751