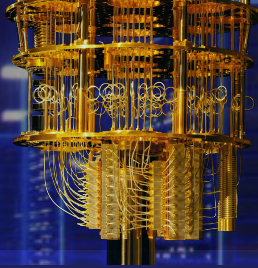




IBM Q

Building Quantum Supercomputers to Advance Humankind



PROBLEM

Capabilities of **classical computers are reaching the limits** yet they still won't satisfy our need to solve overriding problems requiring analysis of large data sets. Even in the quantum realm, **operations are error-prone** because qubits are disturbed by external atoms, interrupting their superposition before the operation is finished. Additionally, they **run too slowly** for the conventional compilation strategies to successfully repair decoherence issues.

SOLUTION

IBM Quantum **leads the world of quantum computing**. We exploit properties of quantum mechanics to run complex quantum computations well beyond the computational capability of any classical computer, with our world-leading **400 Qubit-Plus quantum processor** and tools for **error mitigation and correction**.

MISSION

We are devoted to promoting a quantum economy that is genuinely global. With more upcoming in the US, South Korea, and Quebec, Canada, our distinctive IBM Quantum System One is currently present in key partner locations in Germany and Japan. We want to construct national quantum ecosystems, workforce, and accelerate R&D on a national and international level with the help of our strategic partners.

IBM Quantum Composer



A customizable graphical quantum programming tool that allows you to build, visualize, and run quantum circuits on a real quantum hardware or simulators with automatically generated OpenQASM or Python code.

IBM Quantum Lab



An online platform that provides users with access to IBM Quantum's cloud-based quantum computing services and allows them to build quantum codes and experiments.

QISKIT Runtime



The leading Python Software Development Kit (SDK) for open-source quantum development. It is capable of executing more demanding circuits and get higher-quality results with the new quantum capabilities of error mitigation, dynamic circuits, and middleware tools.

IBM Quantum Safe



IBM Quantum Safe protects your data while in transit, offering education, strategic guidance, and an individualized program. The quantum safe algorithm will be used in a key exchange mechanism to cryptographically protect your data as it makes its way to the Key Protect service.



"IBM Quantum isn't just building quantum computers — we're developing an ecosystem around a technology which pushes the limit of human knowledge. In order to navigate forward in this field, we must rely on theoretical physicists to chart the course."

- Arvind Krishna CEO @ IBM

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