

# Fujitsu on Quantum Computing

FUJITSU

## Outlook for 2026

- Shift from hype to strategic development, focusing on future advantage rather than just current tech.
- Hybrid quantum-classical systems as industry standard, mandating strong integration skills.
- Human capital and strategic partnerships over hardware acquisition.
- Market leaders defined by transparency and realistic claims.
- Post-Quantum Cryptography (PQC) deployment as a key near-term driver for quantum readiness investments.
- Quantum technology partnerships and development heavily influenced by geopolitical dynamics (export controls, funding).

## Future Vision



Seamless quantum + AI integration



Hybrid systems  
(quantum + simulators + HPC)

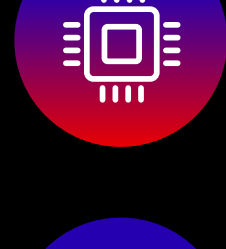


Utility-scale applications:  
**materials, pharma,  
finance, mobility**

## Why Quantum?



Classical computing is hitting limits  
(end of **Moore's Law**)



Quantum computers can solve  
**complex problems faster**  
(materials, drugs, and finance)



Main hurdle:  
**errors in qubits**  
(decoherence + entanglement)

## Current state

NISQ devices: up to  
~1,000 *physical* qubits, but  
only a few *logical* qubits

Fault-tolerant QC needs  
~1 million physical qubits

Superconducting qubits  
need **ultra-low temps**  
(~10 mK)

## Fujitsu breakthroughs

**2023–2024:** New “STAR”  
error-corrected architecture →  
**10,000 qubits may be enough**  
(vs. 1M)

**Mar 2025 (With QuTech):**  
**<0.1% error rate**  
in diamond spin qubits

**Apr 2025:**  
256-qubit superconducting  
quantum computer  
(4× density)

**Aug 2025:** Development  
begins on **10,000+ qubit system**  
(goal: 250 logical qubits by 2030,  
1000 by 2035)

**Robotics:** Quantum ML  
reduced robot control errors  
by **43%**

## Fujitsu Portfolio



**HPC and supercomputers**  
(Fugaku/FugakuNEXT).



**Quantum simulator**  
(40 qubits).



**Quantum-inspired  
Digital Annealer.**



**Hybrid quantum  
/ HPC platforms.**



“We’re on the brink of  
a **sybiotic relationship**  
**between quantum**  
**and AI**, pushing the  
boundaries of  
what’s possible.”

**Dr. Shintaro Sato,**  
Fujitsu Research

[Start your Quantum journey with Fujitsu Quantum Computing](#)