

D-Wave Quantum Computing Discussion



AI ASSET BUILDERS



Navigating the AI Revolution Through Informed Analysis

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References:

Website: [DWAVE.COM](https://dwave.com)

Date: September 27, 2025

Ticker: QBTS

Market: NASDAQ

D-WAVE QUANTUM INC **QBTS**: NYSE Buy Sell ≡

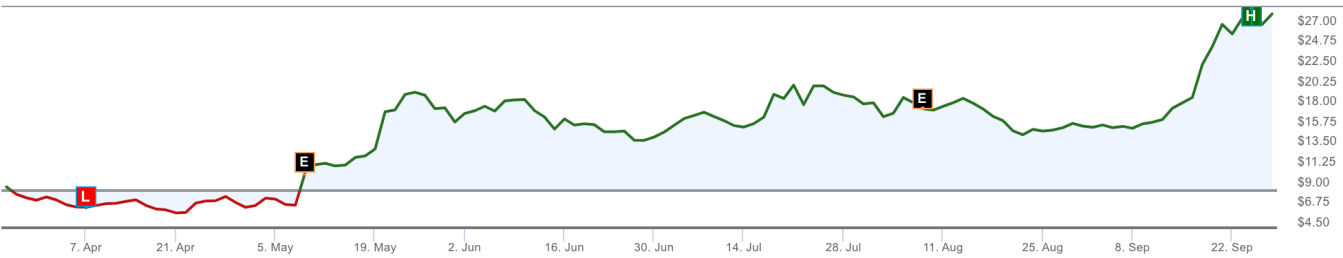
Software

\$26.64 -\$0.1200 (-0.45%)	\$26.76 +\$0.4200 (+1.59%)	Bid	Ask	Bid/Ask Size	Previous close	Today's open
After hours: 7:59:59 PM ET, 09/26/2025	At close: 4:00:00 PM ET, 09/26/2025	\$26.63	\$26.64	1/16	\$26.34	\$26.35
Today's volume	Today's range	52-week range				
60.6M ▲ Above Avg.	\$26.02 \$28.50	\$0.8724 \$29.18				

1 Day 5 Day 1 Mo 3 Mo **6 Mo** YTD 1 Yr 3 Yr 5 Yr

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+\$17.97 (+204.67%)



Key Performance Metrics

QBTS has experienced explosive growth, with the stock surging approximately 46% in the past week, 80% over the month, and an astounding 2,000%+ over the past year. The stock reached an all-time high of \$27.33 on September 19, 2025, with current market capitalization at approximately \$9.41 billion.

Major Catalysts Driving Recent Performance

1. Federal Reserve Rate Cut Impact

The Federal Reserve's rate cut in mid-September 2025 provided a significant boost to growth-dependent stocks like D-Wave, as lower interest rates make future profits more valuable and increase appetite for high-growth names with long-term potential. For capital-intensive companies like D-Wave, rate cuts reduce borrowing costs for funding long-term R&D projects and infrastructure development.

2. Strong Technical and Commercial Progress

Advantage2 System Launch: D-Wave announced the general availability of its Advantage2 quantum computer, featuring increased connectivity, reduced noise, greater coherence, and increased energy scale. The system delivers 4,400+ qubits, 20-way connectivity, 40% higher energy scale, and double coherence time, with over 20.6 million problems solved via Leap cloud by mid-2025.

Quantum Supremacy Achievement: D-Wave published a peer-reviewed paper in Science demonstrating quantum computational supremacy on a useful real-world problem - their annealing quantum computer performed a magnetic materials simulation in minutes that would take nearly one million years on classical supercomputers.

3. Financial Performance and Cash Position

Strong Revenue Growth: D-Wave reported 42% year-over-year revenue growth in Q2 2025 to \$3.1 million, with first-half 2025 revenue of \$18.1 million representing a 289% increase from 2024.

Record Cash Reserves: The company ended Q2 with \$819 million in cash - the highest in its history - following a \$400 million equity offering. This provides substantial runway for R&D and expansion efforts.

4. Expanding Customer Base and International Growth

The company now has over 100 revenue-generating clients including major names like Ford, GE Vernova, Nikon, Sharp, and Oxford. At the Qubits Japan 2025 conference, D-Wave reported an 83% year-over-year increase in APAC bookings, with customers like Japan Tobacco and NTT DOCOMO moving beyond proofs of concept into real-world applications.

5. Industry and Policy Tailwinds

Recent reports suggest the Trump administration is planning significant expansion of U.S. quantum computing strategy, considering new executive orders or national action plans to defend against quantum-enabled cyberattacks and maintain technological leadership. D-Wave also benefited from positive quantum computing news, including a competitor's Air Force Research Lab contract.

Risk Factors to Consider

Valuation Concerns: D-Wave is trading at over 236X forward sales, significantly higher than its one-year median of 100.30X, suggesting shares are currently overvalued with limited near-term upside.

Profitability Challenges: Despite revenue growth, the company posted a \$167.3 million net loss in Q2, largely due to warrant-related charges, while adjusted EBITDA loss rose to \$20 million.

High Volatility: The stock has a beta coefficient of 1.95 and is considered "very high risk" with daily volatility averaging 12.68%.

Investment Perspective

D-Wave's recent performance reflects a confluence of favorable macroeconomic conditions (rate cuts), strong technical achievements (Advantage2 system and quantum supremacy), growing commercial traction, and policy support for quantum computing. However, given the current valuation levels and early stage of quantum computing commercialization, this remains a high-risk, high-reward speculative play that's trading more on future potential than current fundamentals.

The company's unique position as the world's first commercial quantum computer supplier with both annealing and gate-model capabilities, combined with its substantial cash reserves, provides a strong foundation for continued development, but investors should be prepared for continued volatility as the quantum computing market matures.

AI and Quantum Computing Convergence: The Future of Computing

How AI and Quantum Computing Connect

Fundamental Synergies

Quantum-Enhanced AI: Quantum computers can potentially process information exponentially faster than classical computers, which could drastically improve AI tasks that involve massive datasets or complex calculations through superposition and entanglement properties.

AI-Enhanced Quantum: AI can help make quantum systems more reliable, reducing errors and fine-tuning performance through machine learning-driven calibration routines and fault-tolerant quantum computing decoders.

Core Computational Advantages

Parallel Processing: Quantum systems can exist in multiple states simultaneously (superposition), and qubits can be entangled, allowing quantum AI to explore multiple solutions in parallel, speeding up problem-solving.

Optimization Breakthroughs: Quantum Approximate Optimization Algorithm (QAOA) and Variational Quantum Eigensolver (VQE) could improve AI optimization tasks, while quantum algorithms can perform optimization tasks much faster than classical computers by exploring multiple solutions simultaneously.

How D-Wave (QBSTS) is Specifically Leveraging AI

Quantum AI Toolkit Development

PyTorch Integration: D-Wave released an open-source quantum AI toolkit that provides direct integration between D-Wave's quantum computers and PyTorch, a production-grade ML framework widely used to build and train deep learning models.

Restricted Boltzmann Machines (RBMs): The toolkit includes a PyTorch neural network module for using quantum computers to build and train ML models known as restricted Boltzmann machines, which are employed for generative AI tasks such as image recognition and drug discovery.

Quantum Image Generation: D-Wave's demo illustrates how developers can leverage their toolkit to experiment with using D-Wave quantum processors to generate simple images, reflecting what they believe is a pivotal step in the development of quantum AI capabilities.

Real-World AI Applications

Drug Discovery Success: D-Wave completed a joint proof-of-concept project with Japan Tobacco Inc. that used quantum computing technology and AI in the drug discovery process, with the quantum proof-of-concept outperforming classical methods for AI model training.

Protein-DNA Binding Prediction: Researchers at Jülich Supercomputing Centre used D-Wave's quantum technology to develop a machine learning tool that predicts protein-DNA binding with greater accuracy than traditional methods using classical computers.

High-Energy Physics: TRIUMF and partner institutions published research showing significant speedups using D-Wave's quantum computers over classical approaches for simulating high-energy particle-calorimeter interactions.

Hybrid Quantum-Classical AI Approach

D-Wave is involved with integrating quantum computing applications with AI, specifically focusing on applications where pre-trained AI could assist businesses and researchers, using a hybrid approach that involves quantum computers enhancing what traditional computers are already doing.

Future Applications and Industry Impact

Drug Discovery and Healthcare

Molecular Simulation: Quantum machine learning offers potential for significant advancements in chemistry, including molecular property prediction and molecular generation, with quantum computers capable of solving computationally complex problems in drug discovery beyond the reach of classical computers.

Personalized Medicine: Hybrid quantum neural networks have shown 15% better effectiveness than classical counterparts in predicting drug responses for cancer patients, presenting a step towards designing personalized drugs using quantum computer abilities.

KRAS Drug Discovery: Recent research at St. Jude and University of Toronto demonstrated quantum computing's potential to enhance drug discovery, successfully identifying ligands for KRAS, one of the most important cancer drug targets.

Machine Learning Acceleration

Neural Network Training: Quantum computers can perform complex matrix operations faster than classical systems, speeding up deep learning training, with recent Google research showing quantum algorithms could have exponential advantage over classical gradient-based methods in learning "periodic neurons".

Pattern Recognition: Scientists have successfully demonstrated quantum speedup in kernel-based machine learning, showing increased speed, accuracy and efficiency over standard classical computing methods for running machine learning algorithms.

Optimization and Decision Making

Financial Modeling: Quantum AI has potential applications in real-time optimization for logistics, manufacturing, global supply chains, and financial portfolio management.

Supply Chain Optimization: Quantum annealers and quantum approximate optimization algorithms are pioneering techniques for real-world applications like supply chain optimization, scheduling, and portfolio management.

Technological Breakthroughs on the Horizon

Quantum Neural Networks (QNNs)

Specialized quantum algorithms including Quantum Neural Networks and Quantum Support Vector Machines are being developed to perform tasks such as pattern recognition, optimization, and reinforcement learning more efficiently than classical counterparts, with QNNs able to represent and manipulate high-dimensional vectors more efficiently through quantum entanglement.

Data Processing Revolution

Big Data Analytics: Quantum computers have the potential to speed up data processing significantly by utilizing quantum parallelism, where multiple computations can occur simultaneously, enabling faster pattern recognition with greater accuracy.

Natural Language Processing: Quantum-enhanced NLP models could process language structures more efficiently, leading to better chatbots, translators, and AI assistants.

Investment Implications for QBTS

Market Position

D-Wave is advancing the intersection of quantum computing and artificial intelligence through their PyTorch integration, lowering barriers for data scientists and AI developers to experiment with quantum-enhanced models using familiar tools.

Competitive Advantages

First-Mover Advantage: D-Wave's customers are already tackling operational challenges across industries, advancing groundbreaking research, and exploring new efficiencies with AI, unlike other quantum systems that are years away from practical use.

Real-World Applications: Companies like Japan Tobacco and others are already using D-Wave's platform to build hybrid quantum-classical AI solutions that address real business problems by making AI workflows faster, more accurate and capable of solving tougher challenges.

The convergence of AI and quantum computing represents a paradigm shift that could revolutionize multiple industries. D-Wave's early focus on practical quantum AI applications, demonstrated through their PyTorch toolkit and real-world customer successes, positions them uniquely in this emerging field. As quantum-AI hybrid systems mature, they promise to solve previously intractable problems in drug discovery, optimization, and machine learning at unprecedented scales and speeds.