

Quantum Technology Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Hardware, Software, Service), By Application (Cybersecurity, Drug Development, Financial Modeling, Artificial Intelligence, Other Applications), By End-User

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Abstracts

The Quantum Technology Market is valued at USD 2.2 billion in 2025 and is projected to grow at a CAGR of 22.3% to reach USD 13.5 billion by 2034.

Market Overview

The quantum technology market is a rapidly growing sector, driven by innovations in quantum computing, quantum communication, quantum sensing, and quantum cryptography. These technologies harness the unique properties of quantum mechanics, such as superposition and entanglement, to solve problems that classical systems cannot efficiently address. Quantum computing promises to revolutionize industries by providing exponentially faster processing capabilities for data-heavy tasks, such as drug discovery, optimization, and machine learning. Quantum communication and cryptography are set to redefine data security, offering practically unbreakable encryption. Additionally, quantum sensing technologies are improving measurement precision and are being applied in various fields, including healthcare, defense, and manufacturing. The market is being driven by substantial investments from both governments and private sector players, with global players like IBM, Google, Microsoft, and startups leading the way in research and development. Quantum technologies have the potential to impact numerous industries, including healthcare, energy, finance, and telecommunications. However, challenges remain, including the high cost of

development, scalability issues, the complexity of quantum systems, and a shortage of specialized talent. Despite these obstacles, the growing interest and potential of quantum technologies are expected to drive substantial growth in the coming years. The quantum technology market witnessed significant advancements, particularly in quantum computing and quantum communication. Notable progress was made with quantum computers achieving higher qubit coherence, improved error correction techniques, and better processing power. Companies like IBM and Google continued to refine their quantum computing hardware and software, pushing the boundaries of what is possible with quantum processors. The adoption of quantum communication systems, such as quantum key distribution (QKD), also saw significant progress, with both government-backed projects and private sector initiatives deploying pilot quantum networks. Governments across the world, including in China, the United States, and the European Union, increased their investments in quantum technologies, aiming to establish national leadership in quantum innovation. In addition, the use of quantum sensors in critical applications, such as detecting environmental changes or improving precision in medical diagnostics, became more widespread. However, while progress in these areas was evident, challenges around cost, scalability, and the integration of quantum technologies with classical systems persisted. These challenges slowed the broader market adoption of quantum technologies, though the foundations for future growth were clearly established. The quantum technology market is expected to experience accelerated growth as advancements in quantum computing and quantum communication systems mature. Quantum computers are anticipated to become more reliable and scalable, allowing them to tackle a wider range of complex problems, from drug design to climate modeling. Quantum communication systems, particularly quantum key distribution, are set to become more widely deployed, securing communication networks against future threats posed by quantum computing. Additionally, quantum sensing technologies are expected to see even greater adoption in industries such as defense, healthcare, and manufacturing, where precision and accuracy are critical. As quantum hardware becomes more accessible, the market will witness an increasing number of commercial applications and a broader customer base. Governments and private companies will continue to invest heavily in quantum infrastructure, and collaborations across industries will foster faster adoption of quantum technologies. The biggest challenge to this widespread adoption will still be the cost of quantum systems and the need for regulatory standards to ensure interoperability and widespread deployment, but these obstacles will likely be overcome as the industry matures.

Key Insights Quantum Technology Market

Increased government and private sector investment in quantum technologies, particularly quantum computing and quantum communication, to drive innovation and establish global leadership in these fields.

Expansion of quantum communication systems, such as quantum key distribution (QKD), to secure critical infrastructure and communications, offering enhanced cybersecurity against future quantum threats.

Integration of quantum sensors in healthcare, defense, and manufacturing industries, improving precision, diagnostics, and environmental monitoring, thereby enhancing operational efficiency and safety.

Development of hybrid quantum-classical systems, combining the strengths of both quantum and classical computing to improve performance and make quantum systems more accessible to businesses and industries.

Advancements in quantum cryptography, focusing on the creation of unbreakable encryption systems to safeguard sensitive data against potential cyber threats posed by quantum computers.

Rising demand for high-performance computing, particularly in industries like healthcare, finance, and energy, where quantum computing can solve complex problems that classical systems cannot efficiently handle.

Increasing need for secure communication systems, especially in the face of emerging quantum threats, driving the development and deployment of quantum key distribution systems and quantum-safe encryption technologies.

Government-backed funding for quantum research and development, with national initiatives aimed at fostering innovation in quantum computing, cryptography, and communication to maintain technological competitiveness.

Technological advancements in quantum computing hardware and software, improving scalability, error correction, and processing power, making quantum systems more applicable and reliable for real-world applications.

High costs of quantum hardware and infrastructure, along with the complexity of scaling quantum systems and the shortage of skilled professionals, remain significant barriers to the widespread adoption of quantum technologies in

various industries.

Quantum Technology Market Segmentation

By Type

Hardware

Software

Service

By Application

Cybersecurity

Drug Development

Financial Modeling

Artificial Intelligence

Other Applications

By End-User

Transport And Logistics

Banking And Finance

Aerospace And Defense

Education

Information technology (IT) And Telecommunication

Healthcare And Pharmaceuticals

Automotive

Other End-Users

Key Companies Analysed

Huawei Technologies Co. Ltd.

Samsung Electronics

Microsoft Corporation

Dell Technologies Inc.

Amazon Web Services

Hitachi Ltd.

Siemens AG

Raytheon Technologies Corporation

Lockheed Martin Corporation

General Electric Company (GE)

Intel Corporation

Airbus SE

Accenture plc

International Business Machines Corporation

Cisco Systems Inc.

Oracle Corporation

Mitsubishi Electric Corporation

Honeywell International Inc.

Fujitsu Limited

Nokia Corporation

BAE Systems plc

Toshiba Corporation

NEC Corporation

Thales Group

Quantum Computing Inc.

Quantum Technology Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Quantum Technology Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers &

acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Quantum Technology market data and outlook to 2034

United States

Canada

Mexico

Europe — Quantum Technology market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Quantum Technology market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Quantum Technology market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Quantum Technology market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Quantum Technology value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Quantum Technology industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Quantum Technology Market Report

Global Quantum Technology market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Quantum

Technology trade, costs, and supply chains

Quantum Technology market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Quantum Technology market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Quantum Technology market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Quantum Technology supply chain analysis

Quantum Technology trade analysis, Quantum Technology market price analysis, and Quantum Technology supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Quantum Technology market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

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** The updated report will be delivered within 3 working days*

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