

Quantum Networking Market by Offering (Quantum Key Distribution (QKD), Quantum Random Number Generator (QRNG), Quantum Repeater, Quantum Memory, Photon Detectors, Software), End User Industry (BFSI, Government & Defense, IT & Telecom) - Global Forecast to 2029

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Abstracts

The quantum networking market is expected to be worth USD 861.8 million in 2024 and is estimated to reach USD 5,382.0 million by 2029, growing at a CAGR of 44.2% between 2024 and 2029. The market growth is driven by expanding use cases in secure communication, financial transactions, and defense. Also, with an increased focus of financial institutions and defense organizations toward protection and maintenance of privacy of data, demand will grow for devices such as quantum key distribution. Added to this is quantum technologies funding and initiatives by governments and corporations that further catapult the quantum networking market.

“Quantum Key Distribution (QKD) system segment to hold the high market share during the forecast period.”

Quantum Key Distribution (QKD) system segment will hold high market share during the forecast period. The market growth is credited to growing concerns over data security and threat towards traditional data encryption methods. This has led to increase in adoption of quantum networking solutions across banking and finance, government, and defense sectors. The industry participants are focusing on implementations of QKD systems and running quantum networking pilot projects to gain a competitive edge in the market. For instance, in March 2024, Toshiba Corporation (Japan) announced strategic partnership with SoftBank Corp. (Japan) to demonstrate QKD operations with

optical wireless communication. The partnership aims to showcase that secure QKD networks can be deployed over wireless communication infrastructure. Such significant partnership activities will propel the QKD segment growth over the forecast timeframe.

“Market for Government & Defense segment is projected to hold for largest share during the forecast timeline.”

Government and defense end user industry is projected to hold larger share during the forecast timeline. Quantum networking is done for the secure communication of classified information and national security in government and defense sectors. Quantum networks ensure that the communication channels can, in effect, be made immune to eavesdropping. QKD will enable the generation of cryptographic keys, which, by the very law of Physics itself, are safe against any form of computational attack, including those coming from the future quantum computers. This opens up a way to protect sensitive information, assure military communications integrity, and protect national secrets. In addition, quantum-secured military communications are supposed to be kept confidential and authenticated against advanced cyber threats; therefore, they become exceedingly important for secret defense operations and strategic planning.

“North America is expected to hold for largest share during the forecast timeline.”

North America will occupy the largest share during the forecast period since The US is home to research institutions and innovation hubs of worldwide repute, leading from the forefront in quantum networking research. Universities like MIT, Stanford, and the University of Chicago, along with national laboratories such as Argonne and Los Alamos, are leading different cutting-edge researches in quantum communication and networking. Recently, The U.S. Department of Energy declared USD 24 million, in funding for three projects driving the research into quantum networks. The focus will be on scalable quantum network communications. The funding will go to three projects whose objectives are threefold: allowing distributed quantum computers, integrating precision quantum sensors, and giving rise to new network architectures and protocols that will realize improved quantum information flow and error mitigation.

Extensive primary interviews were conducted with key industry experts in the quantum networking market space to determine and verify the market size for various segments and subsegments gathered through secondary research. The break-up of primary participants for the report has been shown below: The break-up of the profile of primary participants in the quantum networking market:

By Company Type: Tier 1 – 40%, Tier 2 – 35%, and Tier 3 – 25%

By Designation: C Level – 45%, Director Level – 35%, Others-20%

By Region: North America – 40%, Europe – 18%, Asia Pacific – 35%, ROW- 7%

The report profiles key players in the quantum networking market with their respective market ranking analysis. Prominent players profiled in this report are TOSHIBA CORPORATION (Japan), Terra Quantum (Switzerland), Quantumctek Co.,Ltd. (China), ID Quantique (Switzerland), HEQA Security (Israel), QuintessenceLabs (Australia), MagiQ Technologies (US), Crypta Labs Limited (UK), Quantum Xchange (US), Qconnect Inc. (US), among others.

Apart from this, Qubitekk, Inc. (US), Aliro Technologies, Inc. (US), QuNu Labs Private Limited. (India), Arqit Quantum Inc. (UK), Miraex (Switzerland), SpeQtral Pte Ltd (Singapore), KETS QUANTUM SECURITY LTD (UK), Aegiq Ltd. (Sheffield), QuBalt GmbH (Germany), SSH (Finland), QuSecure, Inc. (US), VeriQloud (France), Qrypt (New York), Quside Technologies. (Spain), LuxQuanta Technologies S.L. (Spain), are among a few emerging companies in the quantum networking market.

Research Coverage: This research report categorizes the quantum networking market based on offering, end user Industry, application, and region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the quantum networking market and forecasts the same till 2029. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the quantum networking ecosystem.

Key Benefits of Buying the Report The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall quantum networking market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (expanding cyber threats; the surge in data generation

necessitating robust and scalable security solutions capable of handling large volumes of sensitive information) influencing the growth of the quantum networking market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the quantum networking market.

Market Development: Comprehensive information about lucrative markets – the report analysis the quantum networking market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the quantum networking market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like TOSHIBA CORPORATION (Japan), Terra Quantum (Switzerland), Quantumctek Co.,Ltd. (China), ID Quantique (Switzerland), HEQA Security (Israel), among others in the quantum networking market.

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