Quantum Photonics Market Size by Offering (Systems, and Services), Application (Quantum Communications, Quantum Computing, and Quantum Sensing & Metrology), Vertical (Banking & Finance, Agriculture & Environment) and Region - Global Forecast to 2030

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Report description:

The quantum photonics market is valued at USD 0.4 billion in 2023 and is anticipated to be USD 3.3 billion by 2030, growing at a CAGR of 32.2% from 2023 to 2030. Factors such as rising demand for secure communication and growing investment in quantum photonics computing are driving the growth of the market during the forecast period.

Growing investment in quantum photonics

In recent years, several businesses and academic organizations have made large investments in quantum photonics. Growing investment in quantum photonics is a major driver for its advancement and adoption. Companies and organizations are recognizing the immense potential of quantum photonics technology in revolutionizing various industries, including computing, communications, and sensing. The increasing investment is fueling research and development efforts, leading to hardware, algorithms, and applications breakthroughs. Funding from governments, venture capitalists, and technology giants areproviding the necessary resources to accelerate the progress of quantum photonics. The increased investment in quantum photonics fosters innovation, attracts highly skilled professionals, and expands the ecosystem. This surge in funding is propelling the growth of quantum photonics and creating opportunities for transformative solutions in various industries.

PsiQuantum, a California-based firm, is working to create a viable, fault-tolerant quantum computer utilizing photonic qubits quantum computer. In a fundraising round that was headed by BlackRock and included Baillie Gifford and M12 (Microsoft's startup fund), the business raised USD 215 million in 2020. With this funding, PsiQuantum will be able to expand its business and quicken the development of its quantum photonics technology.

Xanadu, a Canadian quantum computing startup that raised USD 100 million in a funding round in 2021, and QuTech, a Dutch

research institute that is working to develop a photonic-based quantum computer in cooperation with several industrial partners, are two other notable players in the quantum photonics market in addition to PsiQuantum.

Potential for quantum supremacy

Quantum photonics is an exciting technology that has the potential to transform computing by utilizing photons' unique features to conduct sophisticated computations. The capacity of quantum computers to do tasks that are beyond the capability of classical computers is referred to as quantum supremacy. While there has been considerable success in showing quantum supremacy with superconducting qubits, quantum supremacy with photonic qubits has yet to be shown. However, major research is being conducted in the field of photonic quantum computing, and quantum photonics computing may attain quantum supremacy in the future.

In June 2022, Xanadu announced the launch of Borealis, the company's newest quantum computer, for public use through the cloud. Borealis is the biggest photonic quantum computer ever developed and the first to be made available to the public, with 216 squeezed-state qubits.

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Asia Pacific is the fastest-growing region in the quantum photonics market

There is an significant market for quantum photonics in Asia Pacific, specifically in countries like Japan, South Korea, and China. The significant growth of the Asia Pacific quantum photonics market can be attributed to the increasing demand for quantum photonics systems and services from emerging economies such as China and Japan for use in different applications in the space & defense, healthcare & pharmaceutical, and energy & power industries in the coming years.

The breakup of primaries conducted during the study is depicted below:

-□By Company Type: Tier 1 - 18 %, Tier 2 - 22%, and Tier 3 -60%

-□By Designation: C-Level Executives - 21%, Directors - 35%, and Others - 44%

-□By Region: North America- 45%, Europe - 38%, Asia Pacific - 12%, Rest of world- 5%

Research Coverage

The report segments the quantum photonics market and forecasts its size, by value, based on region (North America, Europe, Asia Pacific, and RoW), offering (systems, and services), application (quantum communication, quantum computing, quantum sensing & metrology), and vertical (Space & Defense, Banking & Finance, Healthcare & Pharmaceutical, Transportation & Logistics, Government, Agriculture & Environment, Others(include academia, retail, telecom, media, energy & power, chemical, industrial, and oil & gas sectors). The report also provides a comprehensive review of market drivers, restraints, opportunities, and challenges in the quantum photonics market. The report also covers qualitative aspects in addition to the quantitative aspects of these markets.

Reason to buy 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 photonics market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to 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 (rising demand for secure communication ,growing investment in quantum photonics, and potential for quantum supremacy), restraints (lack of standardization in quantum photonics, and regulatory challenges can hinder quantum photonics adoption and commercialization), opportunities (Advancements in quantum communications, Growing R&D and investments in quantum photonics computing), and challenges (Experimental constraints in quantum photonics computing) influencing the growth of the quantum photonics market

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

-Market Development: Comprehensive information about lucrative markets - the report analyses the quantum photonics market across varied regions

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

-Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like Toshiba (Japan), Xanadu (Canada), Quandela (France), ID Quantique (Switzerland), and PsiQuantum (US), among others in the quantum photonics market

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