

Global Quantum Photonics Market Size study & Forecast, by Offering (Systems, Services) By Application (Quantum Computing, Quantum Sensing and Metrology, Quantum Communication) By Verticals (Banking and Finance, Space and Defense, Healthcare, Transportation and Logistics, Government, Others) and Regional Analysis, 2023-2030

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Abstracts

Global Quantum Photonics Market is valued approximately at USD 0.3 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 33.2% over the forecast period 2023-2030. Quantum Photonics refers to the study and application of quantum phenomena involving light particles, known as photons, within the field of quantum information science and technology. Quantum photonics leverages the principles of quantum mechanics to manipulate and control individual photons for the purpose of quantum computation, communication, and sensing. The Quantum Photonics market is expanding because of factors such as rising adoption of quantum technology and growing demand for high-performance computing. As a result, the demand of Quantum Photonics has progressively increased in the international market during the forecast period 2023-2030.

Quantum photonics is a fundamental component in quantum computing systems, which leverage the principles of quantum mechanics to perform complex computations. As the demand for more powerful and scalable quantum computers increases, so does the need for advanced quantum photonics devices that can manipulate and control quantum bits. According to Statista, the markets for quantum computing is projected to

be the major contributor to the market for quantum technologies, and is projected to reach up to USD 93 billion by 2040. Another important factor driving the Quantum Photonics market is increasing demand for high-performance computing. High-performance computing is essential for solving complex problems that classical computers struggle with. Quantum computers, relying on quantum photonics, have the potential to outperform classical computers in solving certain types of complex problems, such as optimization, simulation, and cryptography. The demand for more powerful computing solutions drives the interest and investment in quantum photonics technologies. In addition, as per Statista, the high-performance computing (HPC) market accounts USD 35 billion in 2023 and revenues are expected to reach USD 40 billion by the year 2026. Moreover, advancements in quantum communications and growing R&D and investments in quantum photonics computing is anticipated to create a lucrative growth opportunity for the market over the forecast period. However, lack of standardization in quantum photonics and regulatory challenges is going to impede overall market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Quantum Photonics Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 with largest market share owing to the development of quantum computers and associated technologies in the region. Quantum photonics plays a crucial role in the development of quantum gates and circuits, which are the building blocks of quantum processors. The precise control and manipulation of quantum states in photons are essential for the implementation of quantum algorithms and computations. The region's dominant performance is anticipated to propel the overall demand of Quantum Photonics. Furthermore, Asia Pacific is expected to grow at the fastest growth rate during the forecast period, owing to factors such as strong industrial base, which specializes in semiconductor production and telecommunications in the region. Telecommunications heavily rely on high-frequency electronics, and a strong industrial base in this sector brings expertise in dealing with signals at the quantum level. This experience is valuable for developing quantum communication devices and incorporating quantum technologies into existing telecommunications infrastructure.

Major market player included in this report are:

Quix Quantum B.V.

ID Quantique SA

PsiQuantum Technologies, Inc

Toshiba Corporation

Xanadu Inc

MagiQ Technologies, Inc

Quandela Inc

Tundra Systems Global Ltd

ORCA Computing Limited

International Business Machines Corporation

Recent Developments in the Market:

Recent development - NA

Global Quantum Photonics Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Offering, Application, Verticals, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional &

segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Offering

Systems

Services

By Application

Quantum Computing

Quantum Sensing and Metrology

Quantum Communication

By Verticals

Banking and Finance

Space and Defense

Healthcare

Transportation and Logistics

Government

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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