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Global Lasers for Quantum Technologies Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Lasers for Quantum Technologies market size was valued at US$ 363 million in 2025 and is forecast to a readjusted size of US$ 970 million by 2032 with a CAGR of 14.9% during review period.

Lasers for quantum technologies refer to high-stability laser sources and laser systems designed to cool, trap, pump, probe, coherently manipulate, and frequency-reference atoms, ions, molecules, photons, and solid-state quantum systems used in quantum computing, quantum sensing, optical clocks, quantum communication, cold-atom experiments, and trapped-ion platforms. The scope of this study focuses on external-cavity diode lasers, narrow-linewidth DFB/DBR lasers, single-frequency fiber lasers, tunable Ti:sapphire lasers, frequency-converted UV/visible/NIR laser systems, ultrastable lasers, optical frequency combs, and integrated multi-channel rack-mounted quantum laser systems. Typical performance requirements include narrow linewidth, low phase noise, low relative intensity noise, high frequency stability, wavelength tunability, high power stability, atomic or ionic transition wavelength matching, long-term operational reliability, and system-level integration capability.

Based on our research, lasers for quantum technologies should not be treated as a conventional single-product laser category. The defining value of this market lies in frequency stability, linewidth, phase noise, relative intensity noise, wavelength accuracy, and the ability to integrate multiple optical channels around a specific atomic, ionic, molecular, or solid-state quantum platform. Cold-atom systems, trapped-ion systems, optical clocks, and quantum sensors normally require several lasers with different wavelengths, power levels, locking schemes, and frequency-conversion paths. Therefore, the commercial scope of this market increasingly extends from individual

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laser heads to amplifiers, frequency-doubling modules, optical frequency combs, stabilization electronics, and rack-mounted laser subsystems. This is why this report adopts a narrow ?precision laser systems for quantum technologies? scope rather than including generic industrial lasers, broad scientific lasers, or the entire quantum cascade laser market.

From the demand side, quantum computing attracts the highest visibility, but near- and medium-term laser demand is broader than quantum computing alone. Optical clocks, atom interferometers, gravimeters, magnetometers, quantum timing, quantum networking, and AMO research platforms all require high-performance laser sources. Public policy support in the United States, Europe, the United Kingdom, and China continues to create long-term demand for quantum infrastructure and domestic supply-chain development. The key growth driver is not simply higher average selling prices for individual lasers; rather, it is the transition from laboratory experiments to engineered prototypes and field-deployable systems, which increases the need for multi-wavelength, multi-channel, low-SWaP, reliable, and serviceable laser subsystems.

From a technology-route perspective, external-cavity diode lasers and single-frequency fiber lasers remain the baseline architectures for many quantum applications. Frequency-converted ultraviolet and deep-ultraviolet lasers are becoming increasingly important for trapped-ion and neutral-atom platforms, while optical frequency combs and ultrastable lasers are essential for optical clocks, precision metrology, and time-frequency transfer. Chip-scale DFB/DBR lasers, visible DFB lasers, VECSELs, and photonic integration may reduce system size and complexity over time, but they are unlikely to fully replace mature laboratory and rack-mounted systems in the near term. Competitive differentiation will increasingly depend on the ability to deliver stable, repeatable, maintainable, and application-specific laser subsystems rather than simply supplying a single laser source.

This report is a detailed and comprehensive analysis for global Lasers for Quantum Technologies market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

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Global Lasers for Quantum Technologies market size and forecasts, in consumption value ($ Million), sales quantity (Units), and average selling prices (US$/Unit), 2021-2032

Global Lasers for Quantum Technologies market size and forecasts by region and country, in consumption value ($ Million), sales quantity (Units), and average selling prices (US$/Unit), 2021-2032

Global Lasers for Quantum Technologies market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (Units), and average selling prices (US$/Unit), 2021-2032

Global Lasers for Quantum Technologies market shares of main players, shipments in revenue ($ Million), sales quantity (Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Lasers for Quantum Technologies

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Lasers for Quantum Technologies market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include TOPTICA Photonics SE, Coherent Corp., MKS Inc., Hamamatsu Photonics K.K., Leonardo DRS, Inc., IPG Photonics Corporation, Thorlabs, Inc., Menlo Systems GmbH, Shanghai Precilasers Technology Co., Ltd., Vescent Technologies Inc., etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

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Lasers for Quantum Technologies market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

- Narrow-linewidth Diode Lasers
- Single-frequency Fiber Lasers
- Tunable Solid-state Lasers
- Other

Market segment by Wavelength Range

- Ultraviolet / Deep-ultraviolet Lasers
- Visible Lasers
- Near-infrared Lasers
- Telecom-band Lasers
- Mid-infrared Lasers
- Multi-wavelength Laser Systems

Market segment by Technical Function

- Cooling and Trapping Lasers
- Pumping Lasers
- Probe and Readout Lasers

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Manipulation Lasers

Frequency Reference Lasers

Calibration and Metrology Lasers

Market segment by Gain Medium

Semiconductor Lasers

Fiber Lasers

Solid-state Lasers

Other Laser Sources

Market segment by Application

Quantum Computing

Quantum Sensing and Metrology

Optical Clocks and Time-frequency

Quantum Communication

AMO Research

Other Quantum-related Applications

Major players covered

TOPTICA Photonics SE

Coherent Corp.

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MKS Inc.

Hamamatsu Photonics K.K.

Leonardo DRS, Inc.

IPG Photonics Corporation

Thorlabs, Inc.

Menlo Systems GmbH

Shanghai Precilasers Technology Co., Ltd.

Vescent Technologies Inc.

santec Holdings Corporation

H?BNER Photonics GmbH

Photodigm, Inc.

RIO Lasers

indie Semiconductor, Inc.

Lumibird S.A.

AOSense Inc.

Sacher Lasertechnik GmbH

Novacene Photonics Ltd

OXIDE Corporation

Vexlum Ltd.

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Oxxius SA

EKSPLA UAB

MPB Communications Inc.

Azurlight Systems SAS

Orbits Lightwave Inc.

OEwaves Inc.

Stable Laser Systems

Octave Photonics Inc.

InPhenix Inc.

Eblana Photonics Ltd.

Beijing Wavicle Optoelectronic Technology Co., Ltd.

Beijing UniQuanta Technology Co., Ltd.

Shanghai Connet Fiber Optics Co., Ltd.

Changchun New Industries Optoelectronics Technology Co., Ltd.

Market segment by region, regional analysis covers

North America (United States, Canada, and Mexico)

Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)

Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)

South America (Brazil, Argentina, Colombia, and Rest of South America)

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Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Lasers for Quantum Technologies product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Lasers for Quantum Technologies, with price, sales quantity, revenue, and global market share of Lasers for Quantum Technologies from 2021 to 2026.

Chapter 3, the Lasers for Quantum Technologies competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Lasers for Quantum Technologies breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Lasers for Quantum Technologies market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Lasers for Quantum Technologies.

Chapter 14 and 15, to describe Lasers for Quantum Technologies sales channel, distributors, customers, research findings and conclusion.

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