

Photonics Market Report by Type (LED, Lasers, Detectors, Sensors and Imaging Devices, Optical Communication Systems and Components, and Others), Application (Surveying and Detection, Production Technology, Data Communication, Image Capture and Display, Medical Technology, Lighting, and Others), End User (Building Construction, Media, Broadcasting and Telecommunication, Consumer Electronics, Medical, Safety and Defense, Industrial), and Region 2024-2032

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Abstracts

The global photonics market size reached US\$ 849.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 1,352.5 Billion by 2032, exhibiting a growth rate (CAGR) of 5.15% during 2024-2032.

Photonics represents a technology or an area of study that deals with the science of generating, detecting, controlling, and manipulating photons, radiant energies, and light. It is considered a subset of various optic disciplines, including geometrical, physical, and quantum. It includes a light-emitting diode (LED), imaging devices, laser, sensors, and detectors as standard product types. These photonics-enabled devices offer higher energy efficiency, a longer life span, better accuracy, and faster operations than their counterparts. Apart from this, photonics ensures data transmission, generates less heat, and minimizes energy consumption cost-effectively. Based on these properties, it finds extensive applications in displays, photovoltaics, machine vision, image processing, optical components, and medical technologies.

Photonics Market Trends:

The widespread product adoption across various industrial verticals can be attributed to the need for photonic-enabled connected services and the extensive utilization of additive manufacturing (AM) to produce complex components and prototype tools. In line with this, significant enhancements in the healthcare infrastructure and the escalating demand for non-invasive disease detection have facilitated the uptake of photonics in imaging techniques and point-of-care technologies, which is acting as another growth-inducing factor. Such solutions are used in medical and biological research for drug development, medical imaging, laser beam diagnostics, and optical coherence tomography (OCT) scanning to detect health conditions. Additionally, the extensive utilization of photonics in communication networks, integrated circuits (IC), computing systems, and next-generation sensors to transmit, generate, convert, and use data instantly is impelling the market growth. Apart from this, the large-scale product incorporation in residential security systems, amplifiers, switches, light modulation devices, light detection and ranging (LiDAR), and the integration of the Internet of Things (IoT) solutions are creating a positive outlook for the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global photonics market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on type, application, and end user.

Breakup by Type:

LED

Lasers, Detectors, Sensors and Imaging Devices

Optical Communication Systems and Components

Others

Breakup by Application:

Surveying and Detection

Production Technology

Data Communication

Image Capture and Display

Medical Technology

Lighting

Others

Breakup by End User:

Building Construction
Media, Broadcasting and Telecommunication
Consumer Electronics
Medical
Safety and Defense
Industrial

Breakup by Region:

North America
United States
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being ams-OSRAM AG, Genia Photonics Inc., Hamamatsu Photonics, II-VI Incorporated, Infinera Corporation, Intel Corporation, IPG Photonics, Koninklijke Philips N.V., Ocean Insight (Halma plc) and Teem Photonics.

Key Questions Answered in This Report

1. What was the size of the global photonics market in 2023?
2. What is the expected growth rate of the global photonics market during 2024-2032?
3. What has been the impact of COVID-19 on the global photonics market?
4. What are the key factors driving the global photonics market?
5. What is the breakup of the global photonics market based on the application?
6. What are the key regions in the global photonics market?
7. Who are the key players/companies in the global photonics market?

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