

Photonic Sensor Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

Market Overview:

The global photonic sensor market size reached US\$ 18.8 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 45.4 Billion by 2028, exhibiting a growth rate (CAGR) of 15.63% during 2023-2028.

A photonic sensor refers to a device that intercepts light and converts it into an electrical signal. It is commonly used for integrated emission of light detection and transmission through fiber optics and other optical components. It is also used for solar and photovoltaic cells, light-emitting diodes (LEDs), LIDAR, Laser-Induced Fluorescence (LIF), calorimetry, scintillation detection, spectrometry and biological fluorescence detection. In comparison to the traditionally used sensors, these variants are more cost-effective, compact, faster and lightweight. As a result, they find extensive applications in the early-detection and warning systems for biological hazards, structural flaws and security threats across the aerospace and defense, energy and power, healthcare and manufacturing industries.

Rapid industrialization across the globe, especially in the developing economies, along with the growing demand for enhanced safety and security solutions, is one of the key factors creating a positive outlook for the market. Photonic sensors enable self-operated monitoring of industrial processes and can collect accurate data on centralized servers. Furthermore, widespread adoption of wireless sensing technology is providing a thrust to the market growth. With improvements in the fiber optics technology, photonic sensors are gaining immense traction in the manufacturing of image and illumination sensors, lasers, LED flashes and other electro-optical instruments. Additionally, various

technological advancements, such as the development of advanced photonic sensors with higher performance and multi-wavelength light generation capabilities, are also contributing to the growth of the market. Other factors, including the advent of industry 4.0 revolution, along with the increasing deployment of photonic sensors for early-warning, wind measurement and turbine structural health monitoring, are anticipated to drive the market further.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global photonic sensor market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on product type and end use industry.

Breakup by Product Type:

- Fiber Optic Sensors
- Image Sensors
- Biophotonic Sensors
- Others

Breakup by End Use Industry:

- Aerospace and Defense
- Transportation
- Manufacturing
- Healthcare
- Energy and Power
- Others

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 report has also analysed the competitive landscape of the market with some of the key players being A2 Photonic Sensors, Banner Engineering Corp., Baumer Holding AG, BaySpec Inc., Honeywell International Inc., LAP Laser LLC, Mitsubishi Electric Corporation, Omron Corporation, Prime Photonics LC, Samsung Electronics Co. Ltd., Smart Fibres Ltd. (Halliburton Company) and Toshiba Corporation.

Key Questions Answered in This Report:

How has the global photonic sensor market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global photonic sensor market?

What are the key regional markets?

What is the breakup of the market based on the product type?

What is the breakup of the market based on the end use industry?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global photonic sensor market and who are the key players?

What is the degree of competition in the industry?

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