

Photonics Market to Surpass USD 796.46 Billion by 2031, Witnessing 7.20 % CAGR Growth

WESTFORD, MA, UNITED STATES, October 16, 2024 /EINPresswire.com/ -- [Photonics Market](#) size was valued at USD 426 billion in 2022 and is poised to grow from USD 456.67 billion in 2023 to USD 796.46 billion by 2031, growing at a CAGR of 7.20% during the forecast period (2024-2031).

Photonics is a field that is showing remarkable growth owing to its varied applications in the medical, jewellery, security, automotive, lighting, manufacturing and information technology domains. The developments of optics have reached its peak with the advancement of contemporary lasers used to replace the electric bulb and the primitive lamp. With this, optics are making fast developments and stepping up in the photonics field for past few years and further expanding the technological possibilities. The flat-screen displays and the increasing use of the photonic silk-enabled high-speed internet have since transformed the market. Photonics is currently regarded amongst the key enable technologies within the information and communications and technology vertical because of its inherent strengths and high economic growth across multiple industries. The current emerging trend in this photonics market is the environmentally friendly photonic-enabled renewable energy sources, such as the solar cells. Numerous other developments, such as the flexible PV-based on plastic electronics provide lower efficiencies, which will substantially reduce the production costs of solar cells enabling mass production. This will also increase the usage of solar cells within the outer cladding of buildings or even clothing and cars, fueling growth of the market.

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Growing Applications of Photonics in Healthcare Sector to Drive Market Growth

As increasing focus has been dedicated to research and development operations, the adoption of photonics across different end-use industries, mainly medical sector is likely to surge at a remarkable rate over the next few years. The healthcare industry is expected to serve a plethora of growth opportunities to the market players currently operating in the photonics market. The capability of light to measure and detect objects at levels of precision is anticipated to drive the adoption of photonics in the healthcare industry and it is a step that promises to change the face of the healthcare industry in the coming years. The ongoing advancements in biophotonics in medical science to detect the onset of various diseases at an early stage through the use of point-of-care applications and non-invasive imaging systems are expected to bolster the growth

of the global photonics market over the period of assessment.

Increasing Demand for Flexible Data Communication Networks to Connect Servers to Drive Market Growth Next 4-5 Years

The development of cloud-based services and data centers creation has led to a significant increase in data traffic. Photonics technologies are helping the servers and networking equipment within data centers to connect smoothly. In the form of optical connects, photonics allows rapid and dependable data transfer. The emerging popularity of services such as video streaming and online gaming has led to the creation of a strong demand for fast data communication networks. These factors are increasing the demand of flexible and dependable data services, which is provided by photonics. This is massively fueling the growth of the photonics market. The deployment of the 5G network service has attracted the attention of many countries, particular in the developing regions. This is also boosting the global photonics market.

Latest Headlines to Follow in the Photonics Market

- In March 2024, VLC Photonics and Hitachi Group companies partnered to design and test photonic integrated circuits using the OpenLight process design kit. As a result, the ability to design OpenLight-compatible designs was added to the capacity of the Tower Semiconductor PH18DA process. Several applications and market segments have benefited as a result, advancing the silicon photonics industry.
- In July 2023, Celestial AI raised another \$100 million to develop its Photonic Fabric technology platform. This will allow Celestial AI to continue to develop a unique and promising solution for data transmission and processing with high speed, low latency.
- In September 2023, IPG Photonics Corporation has announced a new dual-beam laser with the highest single-mode core power yet unveiled at The Battery Exhibition in Novi, Mich. The device offers unmatched battery welding, beam scanning, and linear processing speeds and performance upgrades, including spatter-free welding as fast as 2× at low core power levels.

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This Market has the Following Segments

Product Type

1. LED
2. Consumer Electronics & Devices

Application

1. Medical Technology & Life Sciences
2. Display

End Use

1. Building & Construction
2. Media
3. Broadcasting & Telecommunication
4. Consumer & Business Automation

5. Medical, Security & Defense
6. Industrial
7. Others

Top Players Operating in the Photonics Market

The following are the key [Photonics Trends](#) that will shape the growth of the market in the next 5 years

- Signify (Netherlands)
- Schott (Germany)
- Shin-Etsu Chemical Company (Japan)
- Nikon Corporation (Japan)
- Hoya (Japan)
- Corning (US)
- American Elements (US)
- Ohara (Japan)
- Asahi Glass (Japan)
- II-VI (US)
- Huawei Technologies (China)
- Cisco Systems (US)

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Increasing Usage of Photonics Technology in Defense Sector to Drive Market Growth Next 10 Years

Currently, photonics is one of the most critical factors that allow implementing various devices and systems used throughout the modern defense. The technology represents one of the fundamental solutions used for the development of advanced sensors and imaging systems. It helps to design systems used to survey, recognize, and detect targets. There are several examples of photonics technologies and devices that contribute to advanced situational awareness, including infrared cameras, LiDAR, night vision devices, and more. Finally, defense is also increasingly adopting directed energy weapons like high-energy lasers, that needs advanced photonics technologies. The increasing demand for cost-efficient solutions with concentrated technological platform is also rising the popularity for photonics systems.

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