

Photonic Crystals Market Size, Share and Forecast By Key Players Agilent Technologies, ICX Photonics, Luminus Devices

Photonic Crystals Market Impact of Existing and Emerging Flexible Trends and Top Key Players

PORTLAND, OR, UNITED STATES, September 17, 2024 /EINPresswire.com/ -- The global [photonic crystals market](#) was valued at \$34,199 million in 2015, and is projected to reach \$60,230 million

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Photonic crystals are optical materials that have a periodic structure, designed to affect the movement of photons, much like the periodic potential in a semiconductor affects electron flow.”

David Correa

by 2022, growing at a CAGR of 8.0% during the forecast period 2016-2022. Industrial segment held the highest share of the total market in 2015. In 2015, two-dimensional (2D) photonic crystal segment held two-thirds share of the total market.

Currently, photonic crystal is a subject of interest for both academic and industrial research. These crystals are optical nano-structures with an arrangement of dielectric materials that have different refractive indices. It is widely used in novel applications such as optics, optoelectronics, quantum engineering, bio-photonics, and others. The

photonic crystals market has shown significant growth in the past few years, and is expected to provide lucrative opportunity in the near future owing to the extensive research in this field.

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COVID-19 impact analysis:

The outbreak of the COVID-19 pandemic left a significant impact on the global economy. The photonic crystal market report provides a detailed study of the micro- and macro-economic impacts of the pandemic. Moreover, the analysis depicts the direct impact of COVID-19 on the photonic crystal market. It recapitulates the detailed information about the market extent and shares owing to the impact of the outbreak. The report also emphasizes on the supply chain and the sales of the photonic crystal market. Last but not the least; the study also exhibits a post-COVID-19 scenario, portraying different measures and initiatives taken by the government bodies across the world.

The growth of the global photonic crystals market is driven by rise in demand for photonic crystals in LEDs, increased R&D activities, and ideal properties of photonic crystals such as exceptional control over behavior of light, unusual optical dispersion, and others. Development of green photonics technologies and economic development in emerging economies are expected to provide significant growth opportunities to the industry players. However, complications in the manufacturing of photonic crystals are projected to hamper the market growth during the forecast period.

Presently, the 2D photonic crystal segment is of substantial interest owing to the dimensional lattice structures, specifically square lattice, hexagonal lattice, honeycomb lattice, and others, and is expected to maintain its dominance throughout the analysis period. In addition, these crystals are easier to analyze & formulate.

Optical fiber application segment generated the highest revenue in 2015, with almost one-fourth of the total market share, followed by LED segment. Optical fiber-based photonic crystals offer much greater control over light and design freedom to achieve variety of peculiar properties.

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Industrial end user segment dominated the global market with almost half of the share in 2015. Photonic crystals are used in multiple industrial applications such as lighting & displays, optical sensing, solar energy, and others.

Key Findings of The Photonic Crystal Market

- In 2015, Asia-Pacific dominated the global market with around half of the share, in terms of revenue.
- The 3D photonic crystal segment shows the highest growth rate, in terms of revenue, registering a CAGR of 31.1% from 2018 to 2022.
- In 2015, 2D photonic crystal was the dominant segment with two-thirds of the share in the overall market, in terms of revenue.
- In 2015, optical fibers was the leading application segment with one-fourth of the share, in terms of revenue.
- Solar & PV cells is expected to grow at the highest CAGR of 8.6%, in terms of revenue.
- Aerospace & defense is projected to grow at a highest CAGR of 8.4%, in terms of revenue, during the forecast period.

In 2015, Asia-Pacific was the leading region owing to the increase in research activities and government support in countries such as Japan, China, Korea, and Australia. Furthermore, LAMEA is projected to show the highest growth rate, registering a CAGR of 8.9%, followed by Europe growing at a CAGR of 8.5%. This is attributed to the economic development and increase

in research communities to broaden new research topics in nano-photonics and molecular photonics.

The major companies profiled in the report include NKT Photonics, IPG Photonics Corporation, Opalux Inc., Corning Incorporated, Furukawa Electric Co., Ltd., DK Photonics, GLOphotonics SAS, Photonic Lattice Inc., Photeon Technologies GmbH, and NeoPhotonics.

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