

VCSEL Market Set to Reach New Heights with Advancements in 3D Sensing

Global VCSEL Market Expected to Reach \$4,749 Million by 2023

WILMINGTON, DE, UNITED STATES, December 9, 2024 /EINPresswire.com/ -- Allied Market Research, titled, "[VCSEL Market](#) by Type and Application: Global Opportunity Analysis and Industry Forecast, 2017 - 2023," the global VCSEL market was valued at \$1,602 million in 2016, and is projected to reach \$4,749 million by 2023, growing at a CAGR of 15.7% from 2017 to 2023.



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A Vertical Cavity Surface Emitting Laser (VCSEL) is a semiconductor-based laser diode that emits high high-power optical laser beam vertically from its top surface. Such devices replace edge emitting lasers (EEL) offering a wide range of applications, especially in networks. A VSCEL device operates within a wavelength of 850 nm to 1310 nm and at a transmission rate of 2.125-150 Gbps.



Multimode VCSELS Drive Growth in the Global VCSEL Market with Expanding Applications."

Allied Market Research

North America dominates this market presently, followed

by Europe. In 2016, the U.S. dominated the market in North America; similarly, the rest of Europe excluding the UK, Germany, France, Spain, and Italy led the overall market in the European region. China is dominating the market in Asia-Pacific presently.

Asia-Pacific witnessed the highest growth rate during the forecast period due to lucrative opportunities offered by countries such as China, India, Singapore, South Korea, Japan, and other countries. These countries have adopted VCSEL solutions owing to the growth in

penetration of mobility and cloud deployment by small and mid-sized companies

The surge in demand for VCSEL in data communication is expected to boost the market. Further, a rise in the usage of VCSELS in infrared illumination owing to technological advancements is also anticipated to fuel the market growth. However, high costs and limitations in the data range of VCSELS hinder the market. Furthermore, demand for VCSELS in consumer electronics is expected to boost the VCSEL market in the upcoming years.

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The VCSEL market size is segmented based on type, application, and region. By type, the market is divided into single mode and multimode VCSEL. By application, the VCSEL market is classified into data communications, infrared illumination, sensing, pumping, GPS, and others. Based on region, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

In 2016, the multi-mode VCSEL segment dominated the global VCSEL in type segment, in terms of revenue. However, based on application, data communication leads the global market followed, by infrared illumination in the year 2016. However, sensing applications are anticipated to depict the highest CAGR throughout the forecast period.

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- Multi-mode VCSEL generated the highest revenue of the global VCSEL market, in 2016.
- During the forecast period, sensing applications are expected to register the highest CAGR rate.
- Asia-Pacific is anticipated to exhibit the highest CAGR during the forecast period.
- In 2016, the data communication application segment contributed the highest market shares in the VCSEL market.

The key players profiled in the report include Finisar Corporation, Avago Technologies, JDS Uniphase Corporation, Royal Philips Electronics N.V., II-VI Incorporated, IQE PLC, Vertilas GmbH, Princeton Optronics, Vixar Inc., and Ultra Communications Inc. These key players have adopted a product launch strategy to strengthen their [VCSEL market share](#). For instance, in June 2017, VIAVI Solutions launched CPRIAdvisor, a remote RF spectrum monitoring system that addresses a wide range of antenna deployment options in heterogeneous networks. This strategic move was made to cut down the cost and manufacturing time. In June 2017, Vixar Inc.

Extended its product line of 940 nm VCSELS used for various applications such as IR illumination, spectroscopic sensing, structured illumination, and time-of-flight (TOF) sensors for 3D sensing and imaging & gesture recognition. Moreover, In March 2016, Broadcom launched its latest portfolio of optical component solutions for multimode fiber (MMF) and single-mode fiber (SMF) transceivers. This product launch helped the company to strengthen its optical component

product portfolio.

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