

Europe Laser Diode Market Forecast to 2030 - Regional Analysis - by Doping Material (AlGaInP, GaAlAs, GaN, InGaN, and Others), Wavelength (Infrared Laser Diode, Red Laser Diode, Blue Laser Diode, Blue-Violet Laser Diode, and Others), and Application (Telecommunication, Consumer Electronics, Healthcare & Life Sciences, Automotive, Military & Defense, and Others)

<https://marketpublishers.com/r/E0F47F0BFD34EN.html>

Date: April 2024

Pages: 98

Price: US\$ 3,550.00 (Single User License)

ID: E0F47F0BFD34EN

Abstracts

The Europe laser diode market was valued at US\$ 1,738.37 million in 2022 and is expected to reach US\$ 4,391.62 million by 2030; it is estimated to record a CAGR of 12.3% from 2022 to 2030.

Rise in Adoption of VCSEL for 3D Sensing Applications Fuels Europe Laser Diode Market

3D sensing technologies are used in various industries such as consumer electronics, medical, industrial, automotive, and automation. The 3D sensing technologies in these applications help to gain high precision and accuracy for the required task. For example, 3D sensing technologies in cameras help scan and render objects in 3D, one of the most common uses in smartphones, automobiles, drones, and robots. In consumer electronics such as smartphones, it is widely used for facial recognition and gesture control technologies. In industry automation, vertical-cavity surface-emitting laser (VCSEL) is used for accurate sensing technologies. In addition, it is widely adopted in virtual reality and gaming applications. Thus, the rise in these industries contributes to the requirement for 3D sensing technologies, which further demands VCSEL. To cater

to the demand for VCSEL, several market players are introducing new VCSEL products. A few of them are mentioned below:

In April 2022, TRUMPF launched new VCSEL products to expand their VCSEL product portfolio for 3D sensing in consumer and industrial applications.

In March 2021, IQE PLC unveiled an IQVCSEL™ product line to expand its VCSEL portfolio for service communication and advanced sensing markets.

In March 2021, Lumentum Operations LLC launched five and six-junction VCSEL array products for advanced consumer and other 3D sensing applications.

Further, the use of VCSEL-based imaging increases the power and wavelength for 3D sensing. Its ability to produce higher power outputs makes it an optimal solution for its robotics and autonomous vehicle applications. Thus, the rise in the adoption of VCSEL for 3D sensing applications contributes to the laser diode market growth.

Europe Laser Diode Market Overview

Laser diodes have applications in the medical industry for medical therapies and advanced imaging capabilities. Thus, several entities are installing high-energy laser systems. For instance, in May 2023, Leonardo Electronics US installed a new high-energy laser system at the Science and Technology Facilities Council's (STFC's) Central Laser Facility in Oxfordshire, one of the UK's national scientific research laboratories. The newly installed technology will be used in the high-energy laser amplification system at the Extreme Photonics & Applications Center (EPAC), which is a part of STFC's Central Laser Facility (CLF).

Further, laser diodes are used in voltage regulation, surge protection, switching, and power conversion. One of the main advantages of using diodes is that they can protect electrical circuits from damage mainly caused by short circuits, overcurrent's, and overvoltage. For example, in April 2022, Ram LichtA introduced the green laser diode for multiple applications, including B. Leveling, scanning, and point projection. This is an edge-emitting laser with a peak power of 20 mW, a spectral bandwidth of 2 nm, and a peak wavelength of 520 nm.

Europe Laser Diode Market Revenue and Forecast to 2030 (US\$ million)

Europe Laser Diode Market Segmentation

The Europe laser diode market is segmented based on doping material, wavelength, application, and country. Based on doping material the Europe laser diode market is segmented into AlGaInP, GaAIAs, GaN, InGaN, and others. The AlGaInP segment held the largest market share in 2022.

Based on wavelength , the Europe laser diode market is segmented into infrared laser diode, red laser diode, blue laser diode, blue-violet laser diode, and others. The infrared laser diode segment held the largest market share in 2022.

Based on application, the Europe laser diode market is segmented into telecommunication, consumer electronics, healthcare & life sciences, automotive, military & defense, and others. The telecommunication segment held the largest market share in 2022.

Based on country, the Europe laser diode market is segmented into Germany, the UK, France, Italy, Russia, and the Rest of Europe. Germany dominated the Europe laser diode market share in 2022.

ams -ORSAM AG, Coherent Corp, IPG Photonics Corp, Jeptonik AG, Mitsubishi Electric Corp, Nuvoton technology Corporation, Sharp Corp, Sheumann Laser, Inc, Sumitomo Electric Industries Ltd, and TRUMPH SE + CO KG are some the leading companies operating in the Europe laser diode market.

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