Laser Diode Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Market Report | 2023-07-05 | 144 pages | IMARC Group

AVAILABLE LICENSES:

- Electronic (PDF) Single User $3999.00
- Five User Licence $4999.00
- Enterprisewide License $5999.00

Report description:

Market Overview:

The global laser diode market size reached US$ 10.4 Billion in 2022. Looking forward, IMARC Group expects the market to reach US$ 20.6 Billion by 2028, exhibiting a growth rate (CAGR) of 12.6% during 2023-2028.

A laser diode, also known as a diode laser, refers to a semiconductor device which generates coherent radiation in the visible or infrared (IR) spectrum when current passes through it. It is similar to a light-emitting diode, wherein a laser beam is created at the diode's junction. As the light consists of a single frequency, it can be focused on a very small point by using a simple lens system. Laser diodes are small in size, light in weight and have low power requirements which make them highly efficient in nature and ideal for portable electronic equipment. Due to this, they are used in various devices such as barcode readers, autonomous vehicles, laser printers, fiber optic communications and security systems.

Global Laser Diode Industry Drivers:
Over the past few years, the demand for laser diodes in the healthcare sector has witnessed a growth. A laser diode can assist physicians to focus the beam with better precision on targeted areas, preventing any kind of damage to the surrounding area. As a result, the employment of semiconductor laser diodes is continuously expanding in the spine, cardiovascular and cataract surgeries. Besides this, laser diodes also find vast applications in hair removal, body contouring, LASIK surgery, skin resurfacing, tattoo removal, and wrinkle and pigmentation reduction.
In the industrial sector, laser diodes are employed in material processing owing to their advantages like compact size, low maintenance, short wavelength and high-electrical efficiency. Material processing applications involve metal welding, metal hardening, laser brazing, cladding, and cutting of metals. As material processing forms an integral part of the manufacturing process in the automotive, aerospace, heavy engineering and consumer electronics industries, the demand for laser diodes is gaining momentum.

Researchers and developers are continuously introducing innovations in the laser diode industry so as to provide more convenience and higher accuracy at a lower price point. For instance, Coherent, one of the major players in the market, has improved the usage of laser diodes by integrating a water chiller directly into the laser head.
In the automotive industry, laser diodes are now being used in the manufacturing of automotive headlamps as they offer the driver improved visibility, resulting in increased road traffic safety. Apart from this, they also provide the longest range in comparison with any other current headlight technology. In the upcoming years, the sales of laser diodes are expected to rise significantly in this industry on account of mounting demand for luxury vehicles, driven by inflating income levels and improving living standards.

Key Market Segmentation:
IMARC Group provides an analysis of the key trends in each sub-segment of the global laser diode market report, along with forecasts at the global and regional level from 2023-2028. Our report has categorized the market based on product type and application.

Breakup by Product Type:

Injection Laser Diode (ILD)
Optically Pumped Semiconductor Laser (OPSL)

On the basis of types, the market is bifurcated into injection laser diode (ILD) and optically pumped semiconductor laser (OPSL). Currently, injection laser diode represents the most popular product type, holding the majority of the market share.

Breakup by Application:

Optical Storage and Communication
Industrial Applications
Medical Applications
Military and Defence Applications
Instrumentation and Sensor Applications
Others

Based on applications, the global laser diode market is segregated as optical storage and communication, industrial applications, medical applications, military and defense applications, instrumentation and sensor applications and others. At present, industrial applications account for the majority of the market share, representing the biggest application area.

Regional Insights:

North America
Europe
Asia Pacific
Latin America
Middle East and Africa

On a geographical front, Asia Pacific enjoys the leading position in the global laser diode market. Constant demand emerging for material processing in automotive, heavy industries and general manufacturing is contributing to the growth of the market in the region. Other major markets include North America, Europe, Latin America, and Middle East and Africa.

Competitive Landscape:
The market is fragmented in nature with the presence of numerous small and large manufacturers who compete against one another in terms of prices, quality, and innovation. Some of the leading players operating in the market are:

Coherent
IPG Photonics
OSRAM Licht AG
TRUMPF GmbH + Co. KG
Jenoptik AG

This report provides a deep insight into the global laser diode market covering all its essential aspects. This ranges from macro overview of the market to micro details of the industry performance, recent trends, key market drivers and challenges, SWOT analysis, Porter's five forces analysis, value chain analysis, etc. This report is a must-read for entrepreneurs, investors, researchers, consultants, business strategists, and all those who have any kind of stake or are planning to foray into the laser diode industry in any manner.

Key Questions Answered in This Report

1. How big is the global laser diode market?
2. What is the expected growth rate of the global laser diode market during 2023-2028?
3. What are the key factors driving the global laser diode market?
4. What has been the impact of COVID-19 on the global laser diode market?
5. What is the breakup of the global laser diode market based on the product type?
6. What is the breakup of the global laser diode market based on the application?
7. What are the key regions in the global laser diode market?
8. Who are the key players/companies in the global laser diode market?

Table of Contents:

1 Preface
2 Scope and Methodology
  2.1 Objectives of the Study
  2.2 Stakeholders
  2.3 Data Sources
    2.3.1 Primary Sources
    2.3.2 Secondary Sources
  2.4 Market Estimation
    2.4.1 Bottom-Up Approach
    2.4.2 Top-Down Approach
  2.5 Forecasting Methodology
3 Executive Summary
4 Introduction
  4.1 Overview
  4.2 Key Industry Trends
5 Global Laser Diode Market
  5.1 Market Overview
  5.2 Market Performance
  5.3 Impact of COVID-19

5.4 Market Breakup by Product Type
5.5 Market Breakup by Application
5.6 Market Breakup by Region
5.7 Market Forecast
5.8 SWOT Analysis
5.8.1 Overview
5.8.2 Strengths
5.8.3 Weaknesses
5.8.4 Opportunities
5.8.5 Threats
5.9 Value Chain Analysis
5.9.1 Overview
5.9.2 Research and Development
5.9.3 Raw Material Procurement
5.9.4 Manufacturing
5.9.5 Marketing
5.9.6 Distribution
5.9.7 End-Use
5.10 Porters Five Forces Analysis
5.10.1 Overview
5.10.2 Bargaining Power of Buyers
5.10.3 Bargaining Power of Suppliers
5.10.4 Degree of Competition
5.10.5 Threat of New Entrants
5.10.6 Threat of Substitutes
6 Market Breakup by Product Type
6.1 Injection Laser Diode (ILD)
6.1.1 Market Trends
6.1.2 Market Forecast
6.2 Optically Pumped Semiconductor Laser (OPSL)
6.2.1 Market Trends
6.2.2 Market Forecast
7 Market Breakup by Application
7.1 Optical Storage and Communication
7.1.1 Market Trends
7.1.2 Market Forecast
7.2 Industrial Applications
7.2.1 Market Trends
7.2.2 Market Forecast
7.3 Medical Applications
7.3.1 Market Trends
7.3.2 Market Forecast
7.4 Military and Defence Applications
7.4.1 Market Trends
7.4.2 Market Forecast
7.5 Instrumentation and Sensor Applications
7.5.1 Market Trends

7.5.2 Market Forecast
7.6 Others
7.6.1 Market Trends
7.6.2 Market Forecast
8 Market Breakup by Region
8.1 North America
8.1.1 Market Trends
8.1.2 Market Forecast
8.2 Europe
8.2.1 Market Trends
8.2.2 Market Forecast
8.3 Asia Pacific
8.3.1 Market Trends
8.3.2 Market Forecast
8.4 Latin America
8.4.1 Market Trends
8.4.2 Market Forecast
8.5 Middle East and Africa
8.5.1 Market Trends
8.5.2 Market Forecast
9 Laser Diode Manufacturing Process
9.1 Product Overview
9.2 Raw Material Requirements
9.3 Manufacturing Process
9.4 Key Success and Risk Factors
10 Competitive Landscape
10.1 Market Structure
10.2 Key Players
10.3 Profiles of Key Players
10.3.1 Coherent
10.3.1.1 Company Overview
10.3.1.2 Description
10.3.1.3 Product Portfolio
10.3.1.4 Financials
10.3.1.5 SWOT Analysis
10.3.2 IPG Photonics
10.3.2.1 Company Overview
10.3.2.2 Description
10.3.2.3 Product Portfolio
10.3.2.4 Financials
10.3.2.5 SWOT Analysis
10.3.3 OSRAM Licht AG
10.3.3.1 Company Overview
10.3.3.2 Description
10.3.3.3 Product Portfolio
10.3.3.4 Financials
10.3.3.5 SWOT Analysis

10.3.4 TRUMPF GmbH + Co. KG
10.3.4.1 Company Overview
10.3.4.2 Description
10.3.4.3 Product Portfolio
10.3.4.4 Financials
10.3.4.5 SWOT Analysis
10.3.5 Jenoptik AG
10.3.5.1 Company Overview
10.3.5.2 Description
10.3.5.3 Product Portfolio
10.3.5.4 Financials
10.3.5.5 SWOT Analysis

SCOTTS INTERNATIONAL

Laser Diode Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

Market Report | 2023-07-05 | 144 pages | IMARC Group

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Electronic (PDF) Single User	$3999.00
	Five User Licence	$4999.00
	Enterprisewide License	$5999.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-11
		Signature	