

VCSEL Market by Material (GaAs, InP, GaN), Type (Single Mode and Multimode), Application (Data Communication, Sensing, IR Illumination, Pumping, Industrial Heating, and Emerging Applications), End User, and Geography - Global Forecast to 2023

<https://marketpublishers.com/r/VD73FAF0ACBEN.html>

Date: July 2018

Pages: 138

Price: US\$ 5,650.00 (Single User License)

ID: VD73FAF0ACBEN

Abstracts

Rising adoption of VCSELs in proximity sensing and medical applications acts as a major driving factor for VCSEL market

The VCSEL market is expected to reach USD 3.89 billion by 2023 from USD 1.78 billion in 2018, at a CAGR of 16.9% from 2018 to 2023. This growth can be attributed to the rising adoption of VCSELs in proximity sensing and medical applications, increasing use of VCSELs for data communication, growing usage of VCSELs in infrared illumination, and surge in demand for VCSELs with advancements in automotive electronics. However, limited data transmission range restricts the growth of the VCSEL market.

VCSEL market for emerging applications to grow at highest CAGR during forecast period

The market for emerging applications is expected to grow at the highest CAGR during the forecast period. VCSELs are being widely used in emerging applications such as LiDAR, night vision, atomic clock, GPS, magnetometer, and display. Presently, this market is in the nascent stage, but it is expected to witness high growth in the coming years owing to the use of VCSELs for high-quality vision and obstacle detection, among others.

Data center held largest share of VCSEL market in 2017

Data center accounted for the largest share of the VCSEL market, by end user, in 2017. Data centers largely use 850nm-emitting VCSELs, especially for applications wherein the size of the data transmitted over a network is extremely large. In data centers, high data transfer rates are extremely important as they allow fast transmission of data for processing and obtaining results. As the adoption of data analytics is increasing in businesses across the world to improve decision-making capabilities, demand for VCSELs in data centers is further expected to rise during the forecast period.

Americas was the largest shareholder in 2017, whereas APAC would register highest CAGR during forecast period

The Americas accounted for a major share of the overall VCSEL market in 2017. The Americas is the largest market for VCSELs due to the demand for these devices from technology giants such as Facebook (US), Google (US), Apple (US), and Amazon (US). Moreover, the growing emphasis of businesses on the use of cloud infrastructure has contributed to the increasing demand for VCSEL-based optical transceivers in the Americas.

The VCSEL market is expected to grow at the highest CAGR in APAC from 2018 to 2023. This growth can be attributed to the rising number of data centers and increasing demand for consumer electronic devices and premium automobiles. APAC countries such as China, India, Singapore, and Indonesia are emerging as hubs for data centers owing to advancements in basic telecom infrastructure and encouragement from respective governments.

The breakup of primaries conducted during the study is depicted below:

By Company Type: Tier 1 = 55%, Tier 2 = 20%, and Tier 3 = 25%

By Designation: C-Level Executives = 75% and Directors = 25%

By Region: Americas = 10%, Europe = 20%, APAC = 40%, and RoW = 30%

Some major players in the VCSEL market include Finisar (US), Lumentum (US), Broadcom (US), Philips Photonics (Germany), II-VI (US), IQE (UK), AMS Technologies (Germany), Vixar (US), Santec (Japan), VERTILAS (Germany), Agiltron (US), Alight Technologies (Denmark), Ultra Communications (US), Laser Components (Germany), Litrax Technology (Taiwan), Coherent (US), TT Electronics (UK), Newport (US),

NeoPhotonics (US), and Necsel Intellectual Property (PD-LD) (US).

Factors such as technological advancements in the consumer electronics sector and the evolution of laser-based hard disc drive technology are expected to generate opportunities for players in the VCSEL market.

Research Coverage

Illustrative segmentation, analysis, and forecast for the market based on material, type, application, end user, and geography have been conducted to offer an overall view of the VCSEL market.

Major drivers, restraints, opportunities, and challenges pertaining to the VCSEL market have been detailed in the report.

Opportunities in the market have been defined for stakeholders, along with the details of the competitive landscape for market leaders.

Strategic profiling of key players in the VCSEL market has been done; players have been ranked; and core competencies have been comprehensively analyzed.

Reasons to Buy This Report

The report would help leaders/new entrants in the VCSEL market in the following ways:

1. This report segments the VCSEL market comprehensively and provides the closest market size estimations for segments across regions.
2. The report would help stakeholders understand the pulse of the market and provide them information on key drivers, restraints, challenges, and opportunities governing market growth.
3. This report would help stakeholders understand their competitors better and gain insights to improve their position in the business. The competitive landscape section includes the competitor ecosystem, and growth strategies such as product launches, acquisitions, expansions, partnerships, and collaborations.

Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 DEFINITION
- 1.3 STUDY SCOPE
 - 1.3.1 MARKETS COVERED
 - 1.3.2 GEOGRAPHIC SCOPE
- 1.4 YEARS CONSIDERED FOR THIS STUDY
- 1.5 CURRENCY
- 1.6 LIMITATIONS
- 1.7 STAKEHOLDERS

2 RESEARCH METHODOLOGY

- 2.1 RESEARCH DATA
 - 2.1.1 SECONDARY DATA
 - 2.1.1.1 Major secondary sources
 - 2.1.1.2 Key data from secondary sources
 - 2.1.2 PRIMARY DATA
 - 2.1.3 PRIMARY INTERVIEWS WITH EXPERTS
 - 2.1.3.1 Key data from primary sources
 - 2.1.3.2 Key industry insights
 - 2.1.4 BREAKDOWN OF PRIMARIES
 - 2.1.5 SECONDARY AND PRIMARY RESEARCH
- 2.2 MARKET SIZE ESTIMATION
 - 2.2.1 BOTTOM-UP APPROACH
 - 2.2.1.1 Approach for arriving at market size by bottom-up analysis (demand side)
 - 2.2.2 TOP-DOWN APPROACH
 - 2.2.2.1 Approach for arriving at market size by top-down analysis (supply side)
- 2.3 MARKET PLAYER SHARE ESTIMATION
- 2.4 MARKET BREAKDOWN AND DATA TRIANGULATION
- 2.5 RESEARCH ASSUMPTIONS

3 EXECUTIVE SUMMARY

4 PREMIUM INSIGHTS

- 4.1 ATTRACTIVE OPPORTUNITIES FOR VCSEL MARKET GROWTH
- 4.2 VCSEL MARKET, BY MATERIAL
- 4.3 VCSEL MARKET IN APAC, BY APPLICATION AND COUNTRY
- 4.4 VCSEL MARKET, BY END USER
- 4.5 VCSEL MARKET, BY REGION
- 4.6 COUNTRY-WISE ANALYSIS OF VCSEL MARKET

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

5.2.1 DRIVERS

- 5.2.1.1 Rising adoption in proximity sensing and medical applications
- 5.2.1.2 Increasing use of VCSELs for data communication
- 5.2.1.3 Growing usage of VCSELs in infrared illumination
- 5.2.1.4 Surge in demand for VCSELs with advancements in automotive electronics

5.2.2 RESTRAINTS

- 5.2.2.1 Limited data transmission range

5.2.3 OPPORTUNITIES

- 5.2.3.1 Technological advancements in consumer electronics sector
- 5.2.3.2 Evolution of laser-based hard disc drive technology

5.2.4 CHALLENGES

- 5.2.4.1 To overthrow the limitations of gallium nitride restricting the performance of VCSELs

5.3 VALUE CHAIN ANALYSIS

6 VCSEL MARKET, BY MATERIAL

6.1 INTRODUCTION

6.2 GALLIUM ARSENIDE (GAAS)

6.3 INDIUM PHOSPHIDE (INP)

6.4 GALLIUM NITRIDE (GAN)

6.5 OTHERS

7 VCSEL MARKET, BY TYPE

7.1 INTRODUCTION

7.2 SINGLE MODE

7.3 MULTIMODE

8 VCSEL MARKET, BY APPLICATION

8.1 INTRODUCTION

8.2 DATA COMMUNICATION

8.3 SENSING

8.3.1 OPTICAL SENSOR

8.3.1.1 Reflective sensor

8.3.1.2 Scattering sensor

8.3.2 INTERFERENCE SENSOR

8.4 INFRARED ILLUMINATION

8.4.1 CAMERA

8.4.1.1 3D camera

8.4.1.2 Security and surveillance camera

8.5 PUMPING

8.6 INDUSTRIAL HEATING

8.7 EMERGING APPLICATIONS

8.7.1 DISPLAY

8.7.2 HIGH-POWER APPLICATIONS

8.7.2.1 LiDAR

8.7.2.2 Night vision

8.7.3 ATOMIC CLOCK

8.7.4 GPS

8.7.5 MAGNETOMETER

9 VCSEL MARKET, BY END USER

9.1 INTRODUCTION

9.2 DATA CENTER

9.3 CONSUMER ELECTRONICS

9.4 AUTOMOTIVE

9.5 INDUSTRIAL

9.6 HEALTHCARE

9.7 MILITARY

10 VCSEL MARKET, BY REGION

10.1 INTRODUCTION

10.2 AMERICAS

- 10.2.1 US
- 10.2.2 CANADA
- 10.2.3 MEXICO
- 10.2.4 SOUTH AMERICA
- 10.3 EUROPE
 - 10.3.1 GERMANY
 - 10.3.2 UK
 - 10.3.3 FRANCE
 - 10.3.4 NETHERLANDS
 - 10.3.5 REST OF EUROPE
- 10.4 ASIA PACIFIC
 - 10.4.1 CHINA
 - 10.4.2 JAPAN
 - 10.4.3 INDIA
 - 10.4.4 REST OF APAC
- 10.5 REST OF THE WORLD
 - 10.5.1 MIDDLE EAST
 - 10.5.2 AFRICA

11 COMPETITIVE LANDSCAPE

- 11.1 OVERVIEW
- 11.2 MARKET SHARE ANALYSIS
- 11.3 COMPETITIVE SCENARIO
 - 11.3.1 PRODUCT LAUNCHES
 - 11.3.2 ACQUISITIONS AND EXPANSIONS
 - 11.3.3 COLLABORATIONS AND PARTNERSHIPS

12 COMPANY PROFILES

12.1 INTRODUCTION

(Business Overview, Products Offered, Recent Developments, SWOT Analysis, and MnM View)*

12.2 KEY PLAYERS

- 12.2.1 FINISAR
- 12.2.2 LUMENTUM
- 12.2.3 BROADCOM

- 12.2.4 PHILIPS PHOTONICS
- 12.2.5 II-VI
- 12.2.6 IQE
- 12.2.7 AMS TECHNOLOGIES
- 12.2.8 VIXAR
- 12.2.9 SANTEC
- 12.2.10 VERTILAS
- 12.3 OTHER KEY PLAYERS
 - 12.3.1 COHERENT
 - 12.3.2 TT ELECTRONICS
 - 12.3.3 NEWPORT
 - 12.3.4 NEOPHOTONICS
 - 12.3.5 NECSEL INTELLECTUAL PROPERTY
- 12.4 KEY INNOVATORS
 - 12.4.1 AGILTRON
 - 12.4.2 ALIGHT TECHNOLOGIES
 - 12.4.3 ULTRA COMMUNICATIONS
 - 12.4.4 LASER COMPONENTS
 - 12.4.5 LITRAX TECHNOLOGY CO.

*Details on Business Overview, Products Offered, Recent Developments, SWOT Analysis, and MnM View might not be captured in case of unlisted companies.

13 APPENDIX

- 13.1 DISCUSSION GUIDE
- 13.2 KNOWLEDGE STORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL
- 13.3 AVAILABLE CUSTOMIZATIONS
- 13.4 RELATED REPORTS
- 13.5 AUTHOR DETAILS

List Of Tables

LIST OF TABLES

Table 1 VCSEL MARKET, BY MATERIAL, 2015–2023 (USD MILLION)

Table 2 VCSEL MARKET, BY TYPE, 2015–2023 (USD MILLION)

Table 3 VCSEL MARKET, BY TYPE, 2015–2023 (MILLION UNITS)

Table 4 SINGLE-MODE VCSEL MARKET, BY APPLICATION, 2015–2023 (USD MILLION)

Table 5 MULTIMODE VCSEL MARKET, BY APPLICATION, 2015–2023 (USD MILLION)

Table 6 VCSEL MARKET, BY APPLICATION, 2015–2023 (USD MILLION)

Table 7 VCSEL MARKET, BY APPLICATION, 2015–2023 (MILLION UNITS)

Table 8 VCSEL MARKET FOR DATA COMMUNICATION, BY TYPE, 2015–2023 (USD MILLION)

Table 9 VCSEL MARKET FOR DATA COMMUNICATION, BY REGION, 2015–2023 (USD MILLION)

Table 10 VCSEL MARKET FOR DATA COMMUNICATION, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 11 VCSEL MARKET FOR SENSING, BY TYPE, 2015–2023 (USD MILLION)

Table 12 VCSEL MARKET FOR SENSING, BY REGION, 2015–2023 (USD MILLION)

Table 13 VCSEL MARKET FOR SENSING, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 14 VCSEL MARKET FOR INFRARED ILLUMINATION, BY TYPE, 2015–2023 (USD MILLION)

Table 15 VCSEL MARKET FOR INFRARED ILLUMINATION, BY REGION, 2015–2023 (USD MILLION)

Table 16 VCSEL MARKET FOR INFRARED ILLUMINATION, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 17 VCSEL MARKET FOR PUMPING, BY TYPE, 2015–2023 (USD MILLION)

Table 18 VCSEL MARKET FOR PUMPING, BY REGION, 2015–2023 (USD MILLION)

Table 19 VCSEL MARKET FOR PUMPING, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 20 VCSEL MARKET FOR INDUSTRIAL HEATING, BY TYPE, 2015–2023 (USD MILLION)

Table 21 VCSEL MARKET FOR INDUSTRIAL HEATING, BY REGION, 2015–2023 (USD MILLION)

Table 22 VCSEL MARKET FOR INDUSTRIAL HEATING, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 23 VCSEL MARKET FOR EMERGING APPLICATIONS, BY TYPE, 2015–2023 (USD MILLION)

Table 24 VCSEL MARKET FOR EMERGING APPLICATIONS, BY REGION, 2015–2023 (USD MILLION)

Table 25 VCSEL MARKET FOR EMERGING APPLICATIONS, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 26 VCSEL MARKET, BY END USER, 2015–2023 (USD MILLION)

Table 27 VCSEL MARKET, BY END USER, 2015–2023 (MILLION UNITS)

Table 28 VCSEL MARKET FOR DATA CENTER, BY REGION, 2015–2023 (USD MILLION)

Table 29 VCSEL MARKET FOR DATA CENTER, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 30 VCSEL MARKET FOR CONSUMER ELECTRONICS, BY REGION, 2015–2023 (USD MILLION)

Table 31 VCSEL MARKET FOR CONSUMER ELECTRONICS, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 32 VCSEL MARKET FOR AUTOMOTIVE, BY REGION, 2015–2023 (USD MILLION)

Table 33 VCSEL MARKET FOR AUTOMOTIVE, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 34 VCSEL MARKET FOR INDUSTRIAL, BY REGION, 2015–2023 (USD MILLION)

Table 35 VCSEL MARKET FOR INDUSTRIAL, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 36 VCSEL MARKET FOR HEALTHCARE, BY REGION, 2015–2023 (USD MILLION)

Table 37 VCSEL MARKET FOR HEALTHCARE, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 38 VCSEL MARKET FOR MILITARY, BY REGION, 2015–2023 (USD MILLION)

Table 39 VCSEL MARKET FOR MILITARY, BY REGION, 2015–2023 (THOUSAND UNITS)

Table 40 VCSEL MARKET, BY REGION, 2015–2023 (USD MILLION)

Table 41 VCSEL MARKET, BY REGION, 2015–2023 (MILLION UNITS)

Table 42 VCSEL MARKET IN AMERICAS, BY APPLICATION, 2015–2023 (USD MILLION)

Table 43 VCSEL MARKET IN AMERICAS, BY APPLICATION, 2015–2023 (THOUSAND UNITS)

Table 44 VCSEL MARKET IN AMERICAS, BY END USER, 2015–2023 (USD MILLION)

Table 45 VCSEL MARKET IN AMERICAS, BY END USER, 2015–2023 (THOUSAND

UNITS)

Table 46 VCSEL MARKET IN AMERICAS, BY COUNTRY/REGION, 2015–2023 (USD MILLION)

Table 47 VCSEL MARKET IN AMERICAS, BY COUNTRY/REGION, 2015–2023 (MILLION UNITS)

Table 48 VCSEL MARKET IN EUROPE, BY APPLICATION, 2015–2023 (USD MILLION)

Table 49 VCSEL MARKET IN EUROPE, BY APPLICATION, 2015–2023 (THOUSAND UNITS)

Table 50 VCSEL MARKET IN EUROPE, BY END USER, 2015–2023 (USD MILLION)

Table 51 VCSEL MARKET IN EUROPE, BY END USER, 2015–2023 (THOUSAND UNITS)

Table 52 VCSEL MARKET IN EUROPE, BY COUNTRY, 2015–2023 (USD MILLION)

Table 53 VCSEL MARKET IN EUROPE, BY COUNTRY, 2015–2023 (MILLION UNITS)

Table 54 VCSEL MARKET IN APAC, BY APPLICATION, 2015–2023 (USD MILLION)

Table 55 VCSEL MARKET IN APAC, BY APPLICATION, 2015–2023 (THOUSAND UNITS)

Table 56 VCSEL MARKET IN APAC, BY END USER, 2015–2023 (USD MILLION)

Table 57 VCSEL MARKET IN APAC, BY END USER, 2015–2023 (THOUSAND UNITS)

Table 58 VCSEL MARKET IN APAC, BY COUNTRY, 2015–2023 (USD MILLION)

Table 59 VCSEL MARKET IN APAC, BY COUNTRY, 2015–2023 (MILLION UNITS)

Table 60 VCSEL MARKET IN ROW, BY APPLICATION, 2015–2023 (USD MILLION)

Table 61 VCSEL MARKET IN ROW, BY APPLICATION, 2015–2023 (THOUSAND UNITS)

Table 62 VCSEL MARKET IN ROW, BY END USER, 2015–2023 (USD MILLION)

Table 63 VCSEL MARKET IN ROW, BY END USER, 2015–2023 (THOUSAND UNITS)

Table 64 VCSEL MARKET IN ROW, BY REGION, 2015–2023 (USD MILLION)

Table 65 VCSEL MARKET IN ROW, BY REGION, 2015–2023 (MILLION UNITS)

Table 66 5 MOST RECENT PRODUCT LAUNCHES IN VCSEL MARKET

Table 67 5 MOST RECENT ACQUISITIONS AND EXPANSIONS IN VCSEL MARKET

Table 68 3 MOST RECENT COLLABORATIONS AND PARTNERSHIPS IN VCSEL MARKET

List Of Figures

LIST OF FIGURES

Figure 1 VCSEL MARKET: RESEARCH DESIGN

Figure 2 PROCESS FLOW

Figure 3 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

Figure 4 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

Figure 5 GALLIUM ARSENIDE AND MULTIMODE VCSELS TO HOLD MAJOR MARKET SHARE THROUGHOUT FORECAST PERIOD

Figure 6 DATA CENTER TO HOLD LARGEST MARKET SIZE IN 2023

Figure 7 VCSEL MARKET FOR SENSING TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

Figure 8 VCSEL MARKET TO GROW AT HIGHEST CAGR IN APAC DURING FORECAST PERIOD

Figure 9 RISING ADOPTION IN PROXIMITY SENSING AND MEDICAL APPLICATIONS DRIVING VCSEL MARKET GROWTH

Figure 10 GALLIUM ARSENIDE TO HOLD LARGEST SIZE OF VCSEL MARKET THROUGHOUT FORECAST PERIOD

Figure 11 SENSING AND CHINA TO ACCOUNT FOR LARGEST MARKET SHARE IN APAC IN 2018

Figure 12 DATA CENTER TO HOLD LARGEST SHARE OF VCSEL MARKET THROUGHOUT FORECAST PERIOD

Figure 13 VCSEL MARKET TO GROW AT HIGHEST CAGR IN APAC DURING FORECAST PERIOD

Figure 14 US TO ACCOUNT FOR LARGEST SHARE OF VCSEL MARKET IN 2018

Figure 15 GROWING ADOPTION IN PROXIMITY SENSING AND MEDICAL APPLICATIONS DRIVING VCSEL MARKET GROWTH

Figure 16 VCSEL VALUE CHAIN: MAJOR VALUE ADDED DURING OEM PHASE

Figure 17 INDIUM PHOSPHIDE TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

Figure 18 SINGLE MODE TO GROW AT HIGHER CAGR DURING FORECAST PERIOD

Figure 19 EMERGING APPLICATIONS TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

Figure 20 CONSUMER ELECTRONICS TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

Figure 21 VCSEL MARKET: GEOGRAPHIC ANALYSIS

Figure 22 VCSEL MARKET SNAPSHOT: AMERICAS

Figure 23 VCSEL MARKET SNAPSHOT: EUROPE

Figure 24 VCSEL MARKET SNAPSHOT: APAC

Figure 25 VCSEL MARKET SNAPSHOT: ROW

Figure 26 COMPANIES ADOPTED EXPANSIONS AND ACQUISITIONS AS KEY GROWTH STRATEGIES BETWEEN JANUARY 2016 AND MARCH 2018

Figure 27 MARKET SHARE OF TOP 5 PLAYERS (2017)

Figure 28 VCSEL MARKET EVALUATION FRAMEWORK

Figure 29 FINISAR: COMPANY SNAPSHOT

Figure 30 LUMENTUM: COMPANY SNAPSHOT

Figure 31 BROADCOM: COMPANY SNAPSHOT

Figure 32 PHILIPS PHOTONICS: COMPANY SNAPSHOT

Figure 33 II-VI: COMPANY SNAPSHOT

Figure 34 IQE: COMPANY SNAPSHOT

Figure 35 SANTEC: COMPANY SNAPSHOT

I would like to order

Product name: VCSEL Market by Material (GaAs, InP, GaN), Type (Single Mode and Multimode), Application (Data Communication, Sensing, IR Illumination, Pumping, Industrial Heating, and Emerging Applications), End User, and Geography - Global Forecast to 2023

Product link: <https://marketpublishers.com/r/VD73FAF0ACBEN.html>

Price: US\$ 5,650.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/VD73FAF0ACBEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below

and fax the completed form to +44 20 7900 3970