

# **LED Materials Market by Material Type (Substrate, Wafer, Epitaxy, Phosphor), Application (General Lighting (Residential, Industrial, Outdoor), Automotive Lighting (Interior, Exterior), Backlighting), and Region - Global Forecast to 2021**

<https://marketpublishers.com/r/L0070D17D8CEN.html>

Date: April 2017

Pages: 123

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

ID: L0070D17D8CEN

## **Abstracts**

“Growing use of LED materials in general lighting is a prime factor driving the growth of the LED materials market.”

The global LED materials market is projected to reach USD 12.55 billion by 2021, at a CAGR of 9.9% from 2016 to 2021. The growth is fueled by the rising demand for LED materials for LED for residential LED applications under the general lighting application segment.

Volatility in raw material prices resulting in lower demand for LED materials and high initial cost of LEDs can curtail the growth of the LED materials market.

“Wafers is the fastest-growing material type segment during the forecast period”

Wafers segment is the fastest-growing LED material segment, in terms of value, in the LED materials market. Typically, gallium arsenide and gallium nitride are used to develop wafers. Gallium nitride LEDs are based on thin layers of gallium nitride grown on other materials such as silicon or sapphire. Many manufacturing companies are moving towards the production of 6-inch and 8-inch wafer production as it is more cost-effective compared to the production of 4-inch wafer production.

“Rising demand in Asia-Pacific is the major driver of the LED materials market“

Asia-Pacific is the fastest-growing market for LED materials, in terms of value. Growing manufacturing industries, high economic growth rate, cheap labor, and increasing foreign investments make it a manufacturing hub of the world. The growth of various industries such as automotive and building & construction in Asia-Pacific will boost the demand for LEDs.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews were conducted.

The breakdown of primary interviews is given below.

By Company Type: Tier 1 - 57%, Tier 2 – 28%, and Others - 15%

By Designation: C level - 42%, Director level - 21%, and Others - 37%

By Region: North America - 28%, Europe - 22%, Asia-Pacific - 20%, Middle East & Africa - 13%, and South America - 17%

The key companies profiled in this market research report are Sumitomo electric (Japan), Hitachi Metals (Japan), Cree, Inc. (U.S.), Seoul Semiconductors (South Korea), Nichia Corporation (Japan), Epistar Corporation (Taiwan), Koninklijke Philips N.V. (Netherlands), OSRAM Licht AG (Germany), II-VI incorporated (U.S.), and AkzoNobel (Netherlands).

## Research Coverage

The market is segment based on type, application, end-use industry, and region. This report covers the LED materials market, in terms of value, and forecasts its market size till 2021. The report also provides company profiles and competitive strategies adopted by the key players in the global LED materials market.

The report will help the market leaders/new entrants in this market in the following ways:

1. This report segments the LED materials market comprehensively and provides the closest approximations of the revenue numbers for the overall market and the subsegments across different verticals and regions.
2. It will help stakeholders to understand the pulse of the market and provide them

information on key market drivers, restraints, challenges, and opportunities.

3. It will help stakeholders to understand the competitors and gain more insights to improve their position in the business. The competitive landscape section includes new product developments, partnerships, and mergers & acquisitions.

## Contents

### **1 INTRODUCTION**

- 1.1 OBJECTIVES OF THE STUDY
- 1.2 MARKET DEFINITION
- 1.3 MARKET SCOPE
  - 1.3.1 MARKETS COVERED
  - 1.3.2 YEARS CONSIDERED FOR THE STUDY
- 1.4 CURRENCY
- 1.5 STAKEHOLDERS

### **2 RESEARCH METHODOLOGY**

- 2.1 RESEARCH DATA
  - 2.1.1 SECONDARY DATA
    - 2.1.1.1 Key data from secondary sources
  - 2.1.2 PRIMARY DATA
    - 2.1.2.1 Key data from primary sources
    - 2.1.2.2 Breakdown of primary interviews
    - 2.1.2.3 Key Industry Insights
- 2.2 MARKET SIZE ESTIMATION
  - 2.2.1 BOTTOM-UP APPROACH
  - 2.2.2 TOP-DOWN APPROACH
- 2.3 DATA TRIANGULATION
- 2.4 RESEARCH ASSUMPTION
- 2.5 LIMITATION

### **3 EXECUTIVE SUMMARY**

### **4 PREMIUM INSIGHTS**

- 4.1 ATTRACTIVE OPPORTUNITIES IN THE LED MATERIALS MARKET
- 4.2 LED MATERIALS MARKET GROWTH, BY APPLICATION
- 4.3 LED MATERIALS MARKET, BY TYPE
- 4.4 LED MATERIALS MARKET, BY REGION

### **5 MARKET OVERVIEW**

## 5.1 INTRODUCTION

## 5.2 MARKET DYNAMICS

### 5.2.1 DRIVERS

5.2.1.1 Ban on the use of incandescent bulbs in many countries

5.2.1.2 Government subsidies in emerging economies can increase LED consumption

### 5.2.2 RESTRAINTS

5.2.2.1 Lifespan

### 5.2.3 OPPORTUNITIES

5.2.3.1 Growing demand from horticulture markets

5.2.3.2 Development of Li-Fi

## 5.3 PORTER'S FIVE FORCES ANALYSIS

5.3.1 BARGAINING POWER OF SUPPLIERS

5.3.2 BARGAINING POWER OF BUYERS

5.3.3 THREAT OF SUBSTITUTES

5.3.4 THREAT OF NEW ENTRANTS

5.3.5 INTENSITY OF COMPETITIVE RIVALRY

## 6 LED MATERIALS MARKET, BY TYPE

### 6.1 INTRODUCTION

### 6.2 SUBSTRATE MATERIALS

6.2.1 SILICON CARBIDE

6.2.2 SILICON

6.2.3 SAPPHIRE

### 6.3 WAFER

6.3.1 GALLIUM ARSENIDE

6.3.2 GALLIUM NITRIDE

### 6.4 EPITAXY MATERIALS

6.4.1 TRIMETHYLGALLIUM

6.4.2 TRIMETHYLALUMINUM

### 6.5 PHOSPHOR

## 7 LED MATERIALS MARKET, BY APPLICATION

### 7.1 INTRODUCTION

### 7.2 GENERAL LIGHTING

7.2.1 RESIDENTIAL LIGHTING

7.2.2 INDUSTRIAL LIGHTING

- 7.2.3 OUTDOOR LIGHTING
- 7.2.4 OTHER GENERAL LIGHTING APPLICATIONS
- 7.3 AUTOMOTIVE LIGHTING
  - 7.3.1 INTERIOR LIGHTING
  - 7.3.2 EXTERIOR LIGHTING
  - 7.3.3 BACKLIGHTING
  - 7.3.4 TELEVISIONS
  - 7.3.5 MONITORS
  - 7.3.6 HANDHELD DEVICES
- 7.4 OTHER APPLICATIONS

## **8 LED MATERIALS MARKET, BY REGION**

- 8.1 INTRODUCTION
- 8.2 ASIA-PACIFIC
  - 8.2.1 CHINA
  - 8.2.2 JAPAN
  - 8.2.3 TAIWAN
  - 8.2.4 SOUTH KOREA
  - 8.2.5 INDIA
  - 8.2.6 VIETNAM
  - 8.2.7 MALAYSIA
  - 8.2.8 SINGAPORE
  - 8.2.9 PHILIPPINES
  - 8.2.10 REST OF ASIA-PACIFIC
- 8.3 EUROPE
  - 8.3.1 GERMANY
  - 8.3.2 FRANCE
  - 8.3.3 ITALY
  - 8.3.4 U.K.
  - 8.3.5 SPAIN
  - 8.3.6 REST OF EUROPE
- 8.4 NORTH AMERICA
  - 8.4.1 U.S.
  - 8.4.2 CANADA
  - 8.4.3 MEXICO
- 8.5 SOUTH AMERICA
  - 8.5.1 BRAZIL
  - 8.5.2 ARGENTINA

- 8.5.3 REST OF SOUTH AMERICA
- 8.6 MIDDLE EAST & AFRICA
  - 8.6.1 UAE
  - 8.6.2 QATAR
  - 8.6.3 REST OF MIDDLE EAST & AFRICA

## **9 DIVE MATRIX**

- 9.1 INTRODUCTION
  - 9.1.1 DYNAMIC
  - 9.1.2 INNOVATORS
  - 9.1.3 VANGUARDS
  - 9.1.4 EMERGING
- 9.2 OVERVIEW
- 9.3 PRODUCT OFFERINGS (FOR ALL 25 PLAYERS)
- 9.4 BUSINESS STRATEGY

## **10 COMPANY PROFILES**

(Overview, Financial\*, Products & Services, Strategy, and Developments)

- 10.1 AKZONOBEL N.V
- 10.2 CREE, INC.
- 10.3 EPISTAR CORPORATION
- 10.4 HITACHI METALS, LTD.
- 10.5 II-VI INCORPORATED
- 10.6 KONINKLIJKE PHILIPS N.V.
- 10.7 NICHIA CORPORATION
- 10.8 OSRAM LICHT AG
- 10.9 SUMITOMO ELECTRIC INDUSTRIES
- 10.10 UBE INDUSTRIES, LTD.
- 10.11 OTHER PLAYERS
  - 10.11.1 ADDISON ENGINEERING, INC.
  - 10.11.2 CHINA CRYSTAL TECHNOLOGIES CO., LTD
  - 10.11.3 DOWA ELECTRONIC MATERIALS CO LTD
  - 10.11.4 EPIGAN NV
  - 10.11.5 EVERLIGHT ELECTRONICS CO., LTD
  - 10.11.6 FREIBERGER COMPOUND MATERIALS GMBH
  - 10.11.7 LAKE LED MATERIALS CO., LTD

- 10.11.8 LG INNOTEK
- 10.11.9 MACOM TECHNOLOGY SOLUTIONS
- 10.11.10 MTI CORPORATION
- 10.11.11 SEOUL SEMICONDUCTORS CO, LTD
- 10.11.12 SINO NITRIDE SEMICONDUCTOR CO, LTD
- 10.11.13 SIX POINT MATERIALS, INC.
- 10.11.14 SORAA
- 10.11.15 XINXIANG SHENZHOU CRYSTAL TECHNOLOGY CO., LTD

\*Details might not be captured in case of unlisted companies.

## **11 APPENDIX**

- 11.1 INSIGHTS FROM INDUSTRY EXPERTS
- 11.2 DISCUSSION GUIDE
- 11.3 KNOWLEDGE STORE: MARKETSandMARKETS SUBSCRIPTION PORTAL
- 11.4 INTRODUCING RT: REAL-TIME MARKET INTELLIGENCE
- 11.5 RELATED REPORTS
- 11.6 AUTHOR DETAILS



## List Of Tables

### LIST OF TABLES

TABLE 1 LED MATERIALS MARKET SIZE, BY TYPE, 2014–2021 (USD MILLION)

TABLE 2 LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 3 LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 4 LED MATERIALS MARKET SIZE IN RESIDENTIAL LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 5 LED MATERIALS MARKET SIZE IN RESIDENTIAL LIGHTING, BY COUNTRY, 2014–2021 (USD MILLION)

TABLE 6 LED MATERIALS MARKET SIZE IN INDUSTRIAL LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 7 LED MATERIALS MARKET SIZE IN INDUSTRIAL LIGHTING, BY COUNTRY, 2014–2021 (USD MILLION)

TABLE 8 LED MATERIALS MARKET SIZE IN OUTDOOR LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 9 LED MATERIALS MARKET SIZE IN OUTDOOR LIGHTING, BY COUNTRY, 2014–2021 (USD MILLION)

TABLE 10 LED MATERIALS MARKET SIZE IN OTHER LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 11 LED MATERIALS MARKET SIZE IN OTHERS, BY COUNTRY, 2014–2021 (USD MILLION)

TABLE 12 LED MATERIALS MARKET SIZE IN AUTOMOTIVE LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 13 LED MATERIALS MARKET SIZE IN AUTOMOTIVE LIGHTING, BY APPLICATION 2014–2021 (USD MILLION)

TABLE 14 LED MATERIALS MARKET SIZE IN INTERIOR AUTOMOTIVE LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 15 LED MATERIALS MARKET SIZE IN EXTERIOR AUTOMOTIVE LIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 16 LED MATERIALS MARKET SIZE IN BACKLIGHTING, BY REGION, 2014–2021 (USD MILLION)

TABLE 17 LED MATERIALS MARKET SIZE IN OTHER APPLICATIONS, BY REGION, 2014–2021 (USD MILLION)

TABLE 18 LED MATERIALS MARKET SIZE, BY REGION, 2014–2021 (USD MILLION)

TABLE 19 ASIA-PACIFIC: LED MATERIALS MARKET SIZE, BY COUNTRY,

2014–2021 (USD MILLION)

TABLE 20 ASIA-PACIFIC: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 21 ASIA-PACIFIC: LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 22 CHINA: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 23 CHINA: LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 24 JAPAN: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 25 TAIWAN: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 26 SOUTH KOREA: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 27 INDIA: LED MATERIALS MARKET, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 28 INDIA: LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 29 VIETNAM: LED MATERIAL MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 30 MALAYSIA: LED MATERIAL MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 31 SINGAPORE: LED MATERIAL MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 32 PHILIPPINES: LED MATERIAL MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 33 REST OF ASIA-PACIFIC: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 34 EUROPE: LED MATERIALS MARKET SIZE, BY COUNTRY, 2014–2021 (USD MILLION)

TABLE 35 EUROPE: LED MATERIALS MARKET SIZE, APPLICATION, 2014–2021 (USD MILLION)

TABLE 36 EUROPE: LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 37 GERMANY: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 38 FRANCE: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021 (USD MILLION)

TABLE 39 ITALY: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 40 U.K.: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 41 SPAIN: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 42 REST OF EUROPE: LED MATERIALS MARKET SIZE, BY APPLICATION,  
2014–2021 (USD MILLION)

TABLE 43 NORTH AMERICA: LED MATERIALS MARKET SIZE, BY COUNTRY,  
2014–2021 (USD MILLION)

TABLE 44 NORTH AMERICA: LED MATERIALS MARKET SIZE, BY APPLICATION,  
2014–2021 (USD MILLION)

TABLE 45 NORTH AMERICA: LED MATERIALS MARKET SIZE IN GENERAL  
LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 46 U.S.: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 47 CANADA: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 48 MEXICO: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 49 SOUTH AMERICA: LED MATERIALS MARKET SIZE, BY COUNTRY,  
2014–2021 (USD MILLION)

TABLE 50 SOUTH AMERICA: LED MATERIALS MARKET SIZE, APPLICATION,  
2014–2021 (USD MILLION)

TABLE 51 SOUTH AMERICA: LED MATERIALS MARKET SIZE IN GENERAL  
LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 52 BRAZIL: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014–2021  
(USD MILLION)

TABLE 53 BRAZIL: LED MATERIALS MARKET SIZE IN GENERAL LIGHTING, BY  
SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 54 ARGENTINA: LED MATERIALS MARKET SIZE, BY APPLICATION,  
2014–2021 (USD MILLION)

TABLE 55 REST OF SOUTH AMERICA: LED MATERIALS MARKET SIZE, BY  
APPLICATION, 2014–2021 (USD MILLION)

TABLE 56 MIDDLE EAST & AFRICA: LED MATERIALS MARKET SIZE, BY  
COUNTRY, 2014–2021 (USD MILLION)

TABLE 57 MIDDLE EAST & AFRICA: LED MATERIALS MARKET SIZE, BY  
APPLICATION, 2014–2021 (USD MILLIONS)

TABLE 58 MIDDLE EAST & AFRICA: LED MATERIALS MARKET SIZE IN GENERAL

LIGHTING, BY SUB-APPLICATION, 2014–2021 (USD MILLION)

TABLE 59 UAE: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014-2021  
(USD MILLIONS)

TABLE 60 QATAR: LED MATERIALS MARKET SIZE, BY APPLICATION, 2014-2021  
(USD MILLIONS)

TABLE 61 REST OF MIDDLE EAST & AFRICA: LED MATERIALS MARKET SIZE, BY  
APPLICATION, 2014–2021 (USD MILLION)

## List Of Figures

### LIST OF FIGURES

FIGURE 1 LED MATERIALS: MARKET SEGMENTATION

FIGURE 2 LED MATERIALS MARKET: RESEARCH DESIGN

FIGURE 3 MARKET SIZE ESTIMATION: BOTTOM-UP APPROACH

FIGURE 4 MARKET SIZE ESTIMATION: TOP-DOWN APPROACH

FIGURE 5 LED MATERIALS MARKET: DATA TRIANGULATION

FIGURE 6 ASSUMPTIONS

FIGURE 7 WAFER MATERIAL TYPE DOMINATES THE LED MATERIALS MARKET

FIGURE 8 GENERAL LIGHTING TO GAIN THE LARGEST DEMAND DURING THE PROJECTION PERIOD

FIGURE 9 ASIA-PACIFIC TO BE THE MOST PROMISING REGION FOR LED MATERIALS

FIGURE 10 EMERGING ECONOMIES OFFER ATTRACTIVE OPPORTUNITIES IN THE LED MATERIALS MARKET

FIGURE 11 GENERAL LIGHTING IS PROJECTED TO BE THE MOST PROMISING APPLICATION THROUGH 2021

FIGURE 12 WAFER IS PROJECTED TO BE THE LARGEST SEGMENT THROUGH 2021

FIGURE 13 ASIA-PACIFIC ACCOUNTED FOR THE LARGEST SHARE IN 2015

FIGURE 14 IMPACT ANALYSIS OF SHORT, MEDIUM, AND LONG-TERM DRIVERS & RESTRAINTS

FIGURE 15 PORTER'S FIVE FORCES ANALYSIS

FIGURE 16 WAFER SEGMENT TO DOMINATE THE LED MATERIALS MARKET THROUGH 2021

FIGURE 17 REGIONAL SNAPSHOT: RAPID GROWTH MARKETS ARE EMERGING AS NEW HOT SPOTS

FIGURE 18 ASIA-PACIFIC LED MATERIALS MARKET SNAPSHOT: VIETNAM, MALAYSIA, AND INDIA ARE THE MOST LUCRATIVE MARKETS

FIGURE 19 U.S. IS THE KEY MARKET FOR GENERAL LIGHTING APPLICATION FOR LED MATERIALS IN NORTH AMERICA

FIGURE 20 RISING ECONOMY TO DRIVE THE LED MATERIALS MARKET

FIGURE 21 DIVE CHART

FIGURE 22 AKZONOBEL: COMPANY SNAPSHOT (2016)

FIGURE 23 CREE, INC.: COMPANY SNAPSHOT (2016)

FIGURE 24 EPISTAR CORPORATION: COMPANY SNAPSHOT (2016)

FIGURE 25 HITACHI METALS, LTD.: COMPANY SNAPSHOT (2015)

FIGURE 26 II-VI INCORPORATED: COMPANY SNAPSHOT (2016)  
FIGURE 27 KONINKLIJKE PHILIPS N.V.: COMPANY SNAPSHOT (2016)  
FIGURE 28 OSRAM LICHT AG: COMPANY SNAPSHOT (2016)  
FIGURE 29 SUMITOMO ELECTRIC: COMPANY SNAPSHOT (2016)  
FIGURE 30 UBE INDUSTRIES, LTD.: COMPANY SNAPSHOT (2016)

## I would like to order

Product name: LED Materials Market by Material Type (Substrate, Wafer, Epitaxy, Phosphor), Application (General Lighting (Residential, Industrial, Outdoor), Automotive Lighting (Interior, Exterior), Backlighting), and Region - Global Forecast to 2021

Product link: <https://marketpublishers.com/r/L0070D17D8CEN.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](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/L0070D17D8CEN.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