

Global UV LED Market Size study & Forecast, by Technology (UV-A, UV-B, UV-C), by Power Output (Less than 1W, 1W-5W, More than 5W), by Application (UV Curing, Medical & Scientific, Disinfection, Security, Agriculture, Lithography, Others), by End Use (Industrial, Commercial, Residential) and Regional Analysis, 2023-2030

https://marketpublishers.com/r/GE1D04624133EN.html

Date: April 2024 Pages: 200 Price: US\$ 4,950.00 (Single User License) ID: GE1D04624133EN

# **Abstracts**

Global UV LED Market is valued at approximately USD 1.00 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 19.7% during the forecast period 2023-2030. UV Light Emitting Diodes (LEDs) are semiconductor devices that emit light upon the passage of an electric current from the positive (p-type or anode) terminal to the negative (n-type or cathode) terminal, a phenomenon known as the 'p-n junction'. Each LED is engineered to emit light within a precise and limited range of UV wavelengths. The UV curing process offers numerous advantages, including faster production speeds, reduced energy consumption, and enhanced product quality. As industries seek more sustainable and efficient manufacturing processes, the demand for UV curing systems continues to rise, driving innovation and growth in the market. LEDs are highly energy-efficient and produce significantly less heat compared to traditional lighting sources, leading to reduced energy consumption and lower carbon emissions. With growing sustainability awareness, demand for eco-friendly LEDs rises, leading to widespread adoption of UV LED in residential, commercial, and industrial sectors.

The increasing pollution due to energy consumption and carbon emission is increasing day by day which can be controlled by using energy efficient and less heat emitting systems where UV LED plays a crucial role. According to the International Energy Agency (IEA), In 2022, energy-related CO2 emissions increased by 0.9%, surpassing



36.8 gigatons (Gt). Global carbon dioxide (CO2) emissions from energy combustion and industrial processes expanded by 0.9%, equating to 321 million metric tons (Mt), reaching a new record peak of 36.8 Gt. Increasing awareness of UV LED benefits drives their application across industries such as healthcare, agriculture, manufacturing, and sanitation. These LEDs offer energy efficiency, environmental friendliness, and precise UV light control, leading to adoption in disinfection, curing, and sensing applications, thus integrating into various industrial processes and products. Furthermore, Government initiatives aimed at promoting energy-efficient products are expected to drive the growth of UV LEDs in the forecast period. These initiatives include incentives, regulations, and policies that encourage the adoption of environmentally friendly lighting solutions. However, Thermal Complications in UV LED where only half of the total electricity is converted into UV Light. At the same time, the rest is dissipated as Heat which makes the consumers switch to better substitutes hindering the growth of the market. Moreover, UV lights, while more costly, demonstrate superior efficacy compared to alternative disinfectants in the medical industry. This tradeoff between quality and cost presents a significant challenge for UV LED technology in penetrating targeted markets.

The key regions considered for the Global UV LED Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. Asia Pacific dominated the market in 2022 owing to the region's rapid industrialization, The primary factor contributing to the largest share in this region is the growing awareness of the advantages associated with UV LEDs among both industrial and individual consumers. North America is expected to grow significantly over the forecast period, Due to the extensive utilization of UV LED technology, particularly in skin treatments and printing industries within North America, the United States is witnessing substantial market expansion. Moreover, heightened demand for air and water purifiers within the country further augments this growth trajectory.

Major market player included in this report are:

Signify Holding

Nordson Corporation

Seoul Viosys

Honle Group



Ams-OSRAM AG

SemiLEDs

Crystal IS, Inc.

Dowa Holdings Co, Ltd.

Nichia Corporation

Nikkiso Co, Ltd.

Recent Developments in the Market:

In October 2021, Signify introduced the Philips UV-C disinfection box, equipped with Philips' UV-C light sources, designed to deactivate viruses on personal objects. This device can effectively inactivate SARS-CoV-2 on surfaces by over 99%, offering a simple and efficient method for disinfecting items such as keys, cell phones, toys, and household items marking a milestone in the UV LED industry.

In February 2024, Seoul Viosys is pleased to unveil its latest UV High Power COB module featuring an innovative modular design. This module provides scalable solutions for various applications and is distinguished by its exceptional flexibility conquering the niches in the market.

In October 2023, H?nle introduced the LED Powerline LC HV, representing toptier LED curing technology. This device meets critical needs for rapid and efficient drying processes in the printing and coating industries. It offers versatility and high performance, ensuring optimal results as a competitive advantage in the UV LED industry.

Global UV LED Market Report Scope:

Historical Data - 2020 - 2021

Base Year for Estimation – 2022



Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered – Technology, Power Output, Application, End Use, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope\*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Technology:

UV-A

UV-B

UV-C

By Power Output:

Less than 1W

1W-5W

Global UV LED Market Size study & Forecast, by Technology (UV-A, UV-B, UV-C), by Power Output (Less than 1W, 1...



More than 5W

By Application:

UV Curing

Medical & Scientific

Disinfection

Security

Agriculture

Lithography

Others

By End Use:

Industrial

Commercial

Residential

By Region:

North America

U.S.

Canada

Europe

UK



Germany
France
Spain
Italy
ROE
Asia Pacific
China
India
Japan
Australia
South Korea
RoAPAC
Latin America
Brazil
Mexico
Middle East & Africa
Saudi Arabia
South Africa

Rest of Middle East & Africa



# Contents

#### CHAPTER 1. EXECUTIVE SUMMARY

- 1.1. Market Snapshot
- 1.2. Global & Segmental Market Estimates & Forecasts, 2020-2030 (USD Billion)
- 1.2.1. UV LED Market, by Region, 2020-2030 (USD Billion)
- 1.2.2. UV LED Market, by Technology, 2020-2030 (USD Billion)
- 1.2.3. UV LED Market, by Power Output, 2020-2030 (USD Billion)
- 1.2.4. UV LED Market, by Application, 2020-2030 (USD Billion)
- 1.2.5. UV LED Market, by End Use, 2020-2030 (USD Billion)
- 1.3. Key Trends
- 1.4. Estimation Methodology
- 1.5. Research Assumption

# CHAPTER 2. GLOBAL UV LED MARKET DEFINITION AND SCOPE

- 2.1. Objective of the Study
- 2.2. Market Definition & Scope
  - 2.2.1. Industry Evolution
  - 2.2.2. Scope of the Study
- 2.3. Years Considered for the Study
- 2.4. Currency Conversion Rates

## CHAPTER 3. GLOBAL UV LED MARKET DYNAMICS

- 3.1. UV LED Market Impact Analysis (2020-2030)
  - 3.1.1. Market Drivers
    - 3.1.1.1. Rising Demand for UV Curing system
    - 3.1.1.2. Growing sustainable awareness supports eco-friendly UV LED products
  - 3.1.2. Market Challenges
    - 3.1.2.1. Thermal emission in UV LED
  - 3.1.2.2. UV LED Products are more expensive than Traditional LED products
  - 3.1.3. Market Opportunities
    - 3.1.3.1. Growing Awareness of the benefits of UV LED
    - 3.1.3.2. Increasing Government initiatives in promoting energy efficient products

## CHAPTER 4. GLOBAL UV LED MARKET INDUSTRY ANALYSIS

Global UV LED Market Size study & Forecast, by Technology (UV-A, UV-B, UV-C), by Power Output (Less than 1W, 1...





- 4.1. Porter's 5 Force Model
- 4.1.1. Bargaining Power of Suppliers
- 4.1.2. Bargaining Power of Buyers
- 4.1.3. Threat of New Entrants
- 4.1.4. Threat of Substitutes
- 4.1.5. Competitive Rivalry
- 4.2. Porter's 5 Force Impact Analysis
- 4.3. PEST Analysis
- 4.3.1. Political
- 4.3.2. Economical
- 4.3.3. Social
- 4.3.4. Technological
- 4.3.5. Environmental
- 4.3.6. Legal
- 4.4. Top investment opportunity
- 4.5. Top winning strategies
- 4.6. COVID-19 Impact Analysis
- 4.7. Disruptive Trends
- 4.8. Industry Expert Perspective
- 4.9. Analyst Recommendation & Conclusion

#### CHAPTER 5. GLOBAL UV LED MARKET, BY TECHNOLOGY

- 5.1. Market Snapshot
- 5.2. Global UV LED Market by Technology, Performance Potential Analysis

5.3. Global UV LED Market Estimates & Forecasts by Technology 2020-2030 (USD Billion)

5.4. UV LED Market, Sub Segment Analysis

- 5.4.1. UV-A
- 5.4.2. UV-B
- 5.4.3. UV-C

#### CHAPTER 6. GLOBAL UV LED MARKET, BY POWER OUTPUT

- 6.1. Market Snapshot
- 6.2. Global UV LED Market by Power Output, Performance Potential Analysis

6.3. Global UV LED Market Estimates & Forecasts by Power Output 2020-2030 (USD Billion)

6.4. UV LED Market, Sub Segment Analysis



6.4.1. Less than 1W 6.4.2. 1W-5W 6.4.3. More than 5W

#### CHAPTER 7. GLOBAL UV LED MARKET, BY APPLICATION

- 7.1. Market Snapshot
- 7.2. Global UV LED Market by Application, Performance Potential Analysis

7.3. Global UV LED Market Estimates & Forecasts by Application 2020-2030 (USD Billion)

- 7.4. UV LED Market, Sub Segment Analysis
  - 7.4.1. UV Curing
  - 7.4.2. Medical & Scientific
  - 7.4.3. Disinfection
  - 7.4.4. Security
  - 7.4.5. Agriculture
  - 7.4.6. Lithography
  - 7.4.7. Others

#### CHAPTER 8. GLOBAL UV LED MARKET, BY END USE

- 8.1. Market Snapshot
- 8.2. Global UV LED Market by End Use, Performance Potential Analysis
- 8.3. Global UV LED Market Estimates & Forecasts by End Use 2020-2030 (USD Billion)
- 8.4. UV LED Market, Sub Segment Analysis
  - 8.4.1. Industrial
  - 8.4.2. Commercial
  - 8.4.3. Residential

#### CHAPTER 9. GLOBAL UV LED MARKET, REGIONAL ANALYSIS

- 9.1. Top Leading Countries
- 9.2. Top Emerging Countries
- 9.3. UV LED Market, Regional Market Snapshot
- 9.4. North America UV LED Market
- 9.4.1. U.S. UV LED Market
  - 9.4.1.1. Technology breakdown estimates & forecasts, 2020-2030
  - 9.4.1.2. Power Output breakdown estimates & forecasts, 2020-2030
  - 9.4.1.3. Application breakdown estimates & forecasts, 2020-2030



- 9.4.1.4. End Use breakdown estimates & forecasts, 2020-2030
- 9.4.2. Canada UV LED Market
- 9.5. Europe UV LED Market Snapshot
  - 9.5.1. U.K. UV LED Market
  - 9.5.2. Germany UV LED Market
  - 9.5.3. France UV LED Market
  - 9.5.4. Spain UV LED Market
  - 9.5.5. Italy UV LED Market
  - 9.5.6. Rest of Europe UV LED Market
- 9.6. Asia-Pacific UV LED Market Snapshot
- 9.6.1. China UV LED Market
- 9.6.2. India UV LED Market
- 9.6.3. Japan UV LED Market
- 9.6.4. Australia UV LED Market
- 9.6.5. South Korea UV LED Market
- 9.6.6. Rest of Asia Pacific UV LED Market
- 9.7. Latin America UV LED Market Snapshot
- 9.7.1. Brazil UV LED Market
- 9.7.2. Mexico UV LED Market
- 9.8. Middle East & Africa UV LED Market
  - 9.8.1. Saudi Arabia UV LED Market
  - 9.8.2. South Africa UV LED Market
  - 9.8.3. Rest of Middle East & Africa UV LED Market

## **CHAPTER 10. COMPETITIVE INTELLIGENCE**

- 10.1. Key Company SWOT Analysis
  - 10.1.1. Company
- 10.1.2. Company
- 10.1.3. Company
- 10.2. Top Market Strategies
- 10.3. Company Profiles
- 10.3.1. Signify Holding
  - 10.3.1.1. Key Information
  - 10.3.1.2. Overview
  - 10.3.1.3. Financial (Subject to Data Availability)
  - 10.3.1.4. Product Summary
- 10.3.1.5. Recent Developments
- 10.3.2. Nordson Corporation



- 10.3.3. Seoul Viosys
  10.3.4. Honle Group
  10.3.5. Ams-OSRAM AG
  10.3.6. SemiLEDs
  10.3.7. Crystal IS, Inc.
- 10.3.8. Dowa Holdings Co, Ltd.
- 10.3.9. Nichia Corporation
- 10.3.10. Nikkiso Co, Ltd.

# CHAPTER 11. RESEARCH PROCESS

- 11.1. Research Process
- 11.1.1. Data Mining
- 11.1.2. Analysis
- 11.1.3. Market Estimation
- 11.1.4. Validation
- 11.1.5. Publishing
- 11.2. Research Attributes
- 11.3. Research Assumption

# 12 .LIST OF TABLES

TABLE 1. Global UV LED Market, report scope

TABLE 2. Global UV LED Market estimates & forecasts by Region 2020-2030 (USD Billion)

TABLE 3. Global UV LED Market estimates & forecasts by Technology 2020-2030 (USD Billion)

TABLE 4. Global UV LED Market estimates & forecasts by Power Output 2020-2030 (USD Billion)

TABLE 5. Global UV LED Market estimates & forecasts by Application 2020-2030 (USD Billion)

TABLE 6. Global UV LED Market estimates & forecasts by End Use 2020-2030 (USD Billion)

TABLE 7. Global UV LED Market by segment, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 8. Global UV LED Market by region, estimates & forecasts, 2020-2030 (USD Billion)

TABLE 9. Global UV LED Market by segment, estimates & forecasts, 2020-2030 (USD Billion)



TABLE 10. Global UV LED Market by region, estimates & forecasts, 2020-2030 (USD Billion) TABLE 11. Global UV LED Market by segment, estimates & forecasts, 2020-2030 (USD Billion) TABLE 12. Global UV LED Market by region, estimates & forecasts, 2020-2030 (USD Billion) TABLE 13. Global UV LED Market by segment, estimates & forecasts, 2020-2030 (USD Billion) TABLE 14. Global UV LED Market by region, estimates & forecasts, 2020-2030 (USD Billion) TABLE 15. Global UV LED Market by segment, estimates & forecasts, 2020-2030 (USD Billion) TABLE 16. Global UV LED Market by region, estimates & forecasts, 2020-2030 (USD Billion) TABLE 17. U.S. UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 18. U.S. UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 19. U.S. UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 20. Canada UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 21. Canada UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 22. Canada UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 23. UK UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 24. UK UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 25. UK UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 26. Germany UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 27. Germany UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 28. Germany UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 29. France UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 30. France UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 31. France UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)



TABLE 32. Italy UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 33. Italy UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 34. Italy UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 35. Spain UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 36. Spain UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 37. Spain UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 38. RoE UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 39. RoE UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 40. RoE UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 41. China UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 42. China UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 43. China UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 44. India UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 45. India UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 46. India UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 47. Japan UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 48. Japan UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 49. Japan UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 50. South Korea UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 51. South Korea UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 52. South Korea UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 53. Australia UV LED Market estimates & forecasts, 2020-2030 (USD Billion) TABLE 54. Australia UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)



TABLE 55. Australia UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion) TABLE 56. RoAPAC UV LED Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 57. RoAPAC UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 58. RoAPAC UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 59. Brazil UV LED Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 60. Brazil UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 61. Brazil UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 62. Mexico UV LED Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 63. Mexico UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 64. Mexico UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 65. RoLA UV LED Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 66. RoLA UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 67. RoLA UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 68. Saudi Arabia UV LED Market estimates & forecasts, 2020-2030 (USD Billion)

TABLE 69. South Africa UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 70. RoMEA UV LED Market estimates & forecasts by segment 2020-2030 (USD Billion)

TABLE 71. List of secondary sources, used in the study of global UV LED Market

TABLE 72. List of primary sources, used in the study of global UV LED Market

TABLE 73. Years considered for the study

TABLE 74. Exchange rates considered

List of tables and figures are dummy in nature, final lists may vary in the final deliverable





# **List Of Figures**

#### LIST OF FIGURES

FIG 1. Global UV LED Market, research methodology FIG 2. Global UV LED Market, Market estimation techniques FIG 3. Global Market size estimates & forecast methods FIG 4. Global UV LED Market, key trends 2022 FIG 5. Global UV LED Market, growth prospects 2023-2030 FIG 6. Global UV LED Market, porters 5 force model FIG 7. Global UV LED Market, pest analysis FIG 8. Global UV LED Market, value chain analysis FIG 9. Global UV LED Market by segment, 2020 & 2030 (USD Billion) FIG 10. Global UV LED Market by segment, 2020 & 2030 (USD Billion) FIG 11. Global UV LED Market by segment, 2020 & 2030 (USD Billion) FIG 12. Global UV LED Market by segment, 2020 & 2030 (USD Billion) FIG 13. Global UV LED Market by segment, 2020 & 2030 (USD Billion) FIG 14. Global UV LED Market, regional snapshot 2020 & 2030 FIG 15. North America UV LED Market 2020 & 2030 (USD Billion) FIG 16. Europe UV LED Market 2020 & 2030 (USD Billion) FIG 17. Asia pacific UV LED Market 2020 & 2030 (USD Billion) FIG 18. Latin America UV LED Market 2020 & 2030 (USD Billion) FIG 19. Middle East & Africa UV LED Market 2020 & 2030 (USD Billion) List of tables and figures are dummy in nature, final lists may vary in the final deliverable



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Product name: Global UV LED Market Size study & Forecast, by Technology (UV-A, UV-B, UV-C), by Power Output (Less than 1W, 1W-5W, More than 5W), by Application (UV Curing, Medical & Scientific, Disinfection, Security, Agriculture, Lithography, Others), by End Use (Industrial, Commercial, Residential) and Regional Analysis, 2023-2030

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