

UV LED Market by Technology (UV-A, UV-B, UV-C), Power Output (Below 1 W, 1 W-5 W, above 5 W), Application (UV Curing, Medical Scientific, Disinfection, Agriculture), End Use (Residential, Commercial, Industrial) and Region - Global Forecast to 2028

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Abstracts

The global UV LED market is projected to grow from USD 1.2 billion in 2023 to USD 2.8 billion by 2028, registering a CAGR of 19.7% during the forecast period. The UV LED market has witnessed significant growth due to several drivers. UV LEDs are highly energy-efficient compared to traditional UV light sources, resulting in reduced energy costs and maintenance requirements. UV LEDs offer energy efficiency, environmental friendliness, and compactness, making them appealing for various industries. The increasing range of applications has also contributed to the market's expansion. Industries such as healthcare, pharmaceuticals, electronics, automotive, and printing have adopted UV LED technology for curing, disinfection, sterilization, printing, counterfeit detection, and water purification. As a result, the demand for UV LEDs has surged across these sectors. Additionally, increased awareness of the benefits of UV technology has boosted demand. Overall, these factors have propelled the UV LED market's expansion, making it a promising industry for the future.

“The UV-A technology segment is expected to hold the second-highest market share in the overall UV LED market”

UV-A technology has wider range of applications in industrial and commercial sector. These LEDs have gained popularity due to their various applications across different industries. UV-A LEDs are commonly used in UV curing processes, where they play a

vital role in the rapid curing or hardening of materials such as adhesives, inks, and coatings. The UV-A light initiates a photochemical reaction in these materials, leading to faster curing times and improved efficiency in industries like printing, electronics, and automotive manufacturing. Another significant application of UV-A LEDs is in fluorescence and blacklight applications. UV-A light causes certain materials to fluoresce, emitting visible light of various colours. This property is utilized in a range of fields including forensics, counterfeit detection, and art restoration. UV-A LEDs help identify hidden substances, detect counterfeit materials, and reveal hidden details on documents or artworks. UV-A LEDs also find application in horticulture and plant growth. While plants primarily require visible light for photosynthesis, UV-A light plays a role in stimulating growth and influencing certain plant characteristics. There are emerging possibilities, although not yet well-defined, to utilize UV radiation, particularly UV-A, in greenhouses and indoor vertical farms.

“The agriculture application is expected to grow at a second higher CAGR during the forecast period”

The agriculture application is experiencing significant growth within the UV LED market. UV LEDs offer several advantages for agricultural practices, leading to their increasing adoption in the industry. One of the key drivers for the growth of UV LED technology in agriculture is its ability to provide specific wavelengths of UV light that are beneficial for plant growth, disease control, and pest management. UV-B and UV-C wavelengths can stimulate plant growth, enhance crop yield, and improve overall plant health. Additionally, UV-C LEDs are effective in disinfecting seeds, surfaces, and water, reducing the risk of disease transmission and improving crop quality. Furthermore, UV LEDs offer energy efficiency, longer lifespan, and reduced heat generation compared to traditional lighting sources. This makes them a more sustainable and cost-effective choice for agricultural operations. The increasing focus on sustainable farming practices and the growing demand for pesticide-free and organic produce are also driving the adoption of UV LED technology in agriculture. UV LEDs provide a chemical-free alternative to pesticides, reducing environmental impact and ensuring food safety.

“South Korea is projected to have the second-highest CAGR during the forecast period”

South Korea is a major player in the global UV LED market, with the country's focus on technology and innovation driving advancements in UV LED products and solutions. The market for UV LED in South Korea is primarily driven by the growing demand for UV LED-based disinfection equipment. South Korean companies have been actively

involved in the development and production of UV LED products, including leading companies such as Seoul Viosys. It offers a wide range of UV LED products, including deep UV LEDs, which have high market potential for various disinfection and sterilization applications. The South Korean government is currently involved in implementing a plan to clean its four major river basins—the Han River, the Keum River, the Youngsan River, and the Nakdong River—for which UV technology is used as the primary disinfection technology. The need for clean and safe water, along with a constant effort to provide clean drinking water from government utilities, will drive the UV disinfection equipment market in South Korea. Apart from water disinfection, companies such as Seoul Viosys and SMT Corporation, located in South Korea, focus on UV-based surface and air disinfection technology offerings to the end users in the country.

Breakdown of profiles of primary participants:

By Company Type: Tier 1 = 48%, Tier 2 = 28%, and Tier 3 = 24%

By Designation: C-level Executives = 53%, Directors = 26%, and Others = 21%

By Region: North America = 35%, Europe = 20%, APAC = 37%, and Rest of the World = 8%

The major companies in the UV LED market are Signify (Netherlands), Nordson Corporation (US), Seoul Viosys (South Korea), H?nle Group (Germany), ams-OSRAM AG (Austria), SemiLEDs (Taiwan), Crystal IS (US), Dowa Holdings Co., Ltd. (Japan), Nichia Corporation (Japan), and Nikkiso Co., Ltd. (Japan).

Research Coverage:

This report segments the UV LED market, by technology (UV-A, UV-B, UV-C), power output (less than 1 W, 1 W-5 W, more than 5 W), application (UV curing, medical and scientific, disinfection), end use (industrial, commercial, residential), and region – forecast to 2028.

Reasons to Buy the Report:

This report includes statistics pertaining to the UV LED market based on technology, power output, application, end use, and region.

Major drivers, restraints, opportunities, and challenges for the UV LED market have been provided in detail in this report

The report includes illustrative segmentation, analysis, and forecast for UV LED market based on its segments.

The report also include the impact of recession on the UV LED market.

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