

Micro LED - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The Micro LED Market size is estimated at USD 0.74 billion in 2024, and is expected to reach USD 1.48 billion by 2029, growing at a CAGR of 81.80% during the forecast period (2024-2029).

Micro LED is a display technology that uses microscopic LEDs (light-emitting diodes) to create individual pixels. It offers high brightness, contrast, and energy efficiency. Micro LED displays are known for their potential to deliver superior picture quality and can be used in various applications, including TVs, monitors, and wearable devices.

Key Highlights

The micro LED market has grown significantly over the years. This is primarily due to the advancement of technologies such as AR/VR and the expansion of end-user industries across various regions. For instance, the transition toward 5G accelerates the demand for advanced mobile devices.

Micro LED technology provides advantages over LCDs and OLEDs in brightness, resolution, contrast ratio, energy consumption, lifetime, and thermal stability, opening new possibilities in the display industry.

In May of 2023, the world's leading provider of long-distance wireless power solutions, Wi-Charge, introduced the industry's most energy-efficient and high-performance wirelessly charged video display solutions for retailers, brands, and marketers to deliver directly to consumers at the point-of-sale (POS) on store shelves, in queue lines, and at restaurant tables. Wi-Charge developed the larger Wi-Spot 7", its new generation of video displays, which is available immediately in response to growing worldwide

customer demand.

Micro LED technology has been making waves in the consumer electronics industry, promising significant advancements in display technology. With its unique features and advantages, micro LED can potentially disrupt how users experience visual content on various devices.

Micro LED technology has gained significant attention in recent years due to its potential for superior performance compared to other display technologies. Micro LEDs offer higher pixel density, lower power consumption, faster response time, higher luminance in direct sunlight, and wider viewing angles. These attributes make them suitable for various applications, including handheld devices and near-eye displays.

The COVID-19 pandemic delayed production, and some new projects in the industry were delayed as many companies temporarily closed their facilities and the supply chain was interrupted. New technological developments might be affected during the challenging time as well. LEDinside shares its insights toward Micro LED technology development in such global uncertainty. It points out that next-generation display technology might be a chance to move a step forward.

Micro LED Market Trends

Consumer Electronics to be the Largest End-user Industry

The increasing usage of digital twin technology in the transportation industry is expected to drive the demand for virtual sensors. Digital twins have emerged as the most recent technological phenomenon in the transportation sector. Implementing digital twins in supply chains is enhancing the efficiency of supply chain networks on both local and global scales. By utilizing the data, transportation companies are able to predict their operations with exceptional precision. Significantly, this innovative technology also aids in generating valuable insights to enhance corporate strategies.

Virtual sensors are increasingly becoming crucial for the automotive industry due to their wide variety of applications. The growing adoption of virtual sensors in the industry will enable the market to gain traction over the forecast period. Amidst this costly sensory inflation, the adoption of virtual sensors has become prevalent. Virtual sensors entail replacing a physical sensor with software embedded in the vehicle's electronic control unit. The objective is to acquire essential information without the need for a physical component. Numerous vehicle parts, including tires, engines, and cabins, are

embedded with these virtual sensors. Virtual sensing is widely employed in automotive applications, such as passenger thermal comfort, tire pressure monitoring systems, powertrain applications, estimation of sprung mass state, and others.

The automotive sector depends significantly on sensing technology for various functions such as safety, entertainment, traffic management, navigation, and guidance. With the advancement toward autonomous vehicles, sensing device usage is expected to grow. Despite the high cost and occasional unreliability of physical sensors in vehicles, virtual sensors are emerging as a cost-effective solution for car makers. These virtual sensors serve as a secondary safety measure to physical sensors and play a crucial role in enhancing driver assistance systems (ADAS) and ultimately achieving autonomous driving capabilities.

The growing demand for ADAS features in the automotive industry is expected to drive the segment's growth. Several governments worldwide are implementing various measures to boost the adoption of ADAS technology to ensure vehicle safety. Furthermore, the increasing trend of autonomous or self-driving vehicles is also playing a role in the expansion of the market. As an illustration, Intel predicts that worldwide car sales will exceed 101.4 million units by 2030, with autonomous vehicles projected to make up approximately 12% of car registrations by the same year.

Furthermore, Artificial Intelligence (AI) has become vital in various industries, including the automotive sector. A significant innovation in this field is the creation of advanced driver assistance systems (ADAS), designed to enhance vehicle safety and assist drivers in different driving situations. The adoption of ADAS technology is increasing in countries such as Germany, China, and India, as it has the potential to reduce accidents and promote road safety. Such factors in boosting ASAD technology may present significant opportunities for the market.

North America to Hold Significant Market Share

The increasing demand for digital signage creates a need for high-quality displays. Digital signage is becoming popular in the United States with technological advancements in display, connectivity, and monitoring space. Furthermore, the increasing adoption has decreased the prices of display panels significantly.

Educational institutions are adopting digital signages for huge displays in the building's

pre-function and lobby areas to broadcast building-wide event messaging, with directional navigation arrows to direct people to the appropriate conference rooms.

For instance, in April 2022, Visix Inc. expanded its portfolio of higher education projects by announcing that Wichita State University has chosen an AxisTV Signage Suite digital signage system for its Metroplex convention center. The entire solution includes a cloud-hosted CMS, three Nano digital signage players, and ten Electronic Paper Room (E-Paper) Signs, which dynamically display events and meetings as they happen.

As marketing and promotional strategies evolve, advertisers favor digitized promotion over traditional marketing, and the United States and Canada are popular destinations for market players. Other advantages of digitized signage, such as higher audience engagement, reduced paper consumption, increased sales due to improved consumer influence, and cost-effective advertising, drive their implementation in the region.

The region is witnessing various developments as vendors operating in the market are continuously innovating new solutions through partnerships.

Micro LED Industry Overview

The micro LED market is highly fragmented. Some major players are Innolux Corporation, Sony Corporation, LG Display Co. Ltd, Aledia SA, and Epistar Corporation. Companies are adopting strategies such as partnerships and acquisitions to improve their product offerings and gain sustainable competitive advantage.

January 2024 - Innolux Corp (Innolux) introduced the world's first 53-inch QD color conversion AM-Micro LED seamless tiling displays that can be used to assemble displays of any size using seamless tiling module technology. This technology can meet the growing market demand for high-quality, ultra-wide, and ultra-tall displays measuring 110-200 inches in size. The seamless tiling solution offers high color saturation and color uniformity, which is 1.07 times higher than OLED. It also has a higher ambient contrast ratio, which is eight times higher than OLED. This, among other benefits, can be achieved even under normal lighting conditions.

September 2023 - Sony launched the VERONA, a new Crystal LED display built to meet the needs of virtual production applications. The new displays are tailored for filmmakers, bringing higher levels of quality and efficiency to in-camera VFX

applications.

Additional Benefits:

The market estimate (ME) sheet in Excel format

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Contents

1 INTRODUCTION

- 1.1 Study Assumptions and Market Definition
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

- 4.1 Market Overview
- 4.2 Industry Value Chain Analysis
- 4.3 Industry Attractiveness - Porter's Five Forces Analysis
 - 4.3.1 Bargaining Power of Suppliers
 - 4.3.2 Bargaining Power of Buyers/Consumers
 - 4.3.3 Threat of New Entrants
 - 4.3.4 Threat of Substitutes
 - 4.3.5 Intensity of Competitive Rivalry
- 4.4 Impact of COVID-19 Aftereffects and Other Macroeconomic Factors on the Market

5 MARKET DYNAMICS

- 5.1 Market Drivers
 - 5.1.1 Increasing Demand For Brighter and More Power-efficient Displays
 - 5.1.2 Increasing Applications of Micro-LED In Consumer Electronics
- 5.2 Market Restraints
 - 5.2.1 Mass Transfer to be a Bottleneck for Commercialization of Micro LED
 - 5.2.2 High Cost of Manufacturing, Implementation and Limited Production Capacities

6 MARKET SEGMENTATION

- 6.1 By Application
 - 6.1.1 Smartwatch
 - 6.1.2 Near-to-eye Devices (AR and VR)
 - 6.1.3 Television
 - 6.1.4 Smartphone and Tablet

- 6.1.5 Monitor and Laptop
- 6.1.6 Head-up Display
- 6.1.7 Digital Signage
- 6.2 By End User
 - 6.2.1 Consumer Electronics
 - 6.2.2 Automotive
 - 6.2.3 Aerospace and Defense
 - 6.2.4 Other End Users
- 6.3 By Geography
 - 6.3.1 North America
 - 6.3.2 Europe
 - 6.3.3 Asia-Pacific
 - 6.3.4 Rest of the World

7 COMPETITIVE LANDSCAPE

- 7.1 Vendor Positioning Analysis
- 7.2 Company Profiles*
 - 7.2.1 Innolux Corporation
 - 7.2.2 Sony Corporation
 - 7.2.3 LG Display Co. Ltd
 - 7.2.4 Aledia SA
 - 7.2.5 Epistar Corporation
 - 7.2.6 Optovate Limited
 - 7.2.7 Rohinni LLC
 - 7.2.8 Samsung Electronics Co. Ltd
 - 7.2.9 JBD Inc.
 - 7.2.10 Plessey Semiconductors Limited
 - 7.2.11 Ostendo Technologies Inc.
 - 7.2.12 VueReal Inc.
 - 7.2.13 Allos Semiconductors

8 INVESTMENT ANALYSIS

9 FUTURE TRENDS

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