Flexible OLED - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Flexible OLED Market size is estimated at USD 6.71 billion in 2025, and is expected to reach USD 21.92 billion by 2030, at a CAGR of 26.70% during the forecast period (2025-2030).

Key Highlights
- As smartphones increasingly adopt OLED display panels, the flexible OLED market is poised for growth. The smartphone sector, among the world's fastest-growing, constantly seeks technological innovations to outpace competitors. The introduction of flexible OLED displays has revolutionized device designs. Manufacturers, like Samsung and Apple, now craft devices with curved screens, achieving a sleek look without sacrificing display quality. Since past few years, foldable smartphones have surged in popularity, letting users enjoy large displays in a portable format.
- This innovation has also ushered in rollable displays akin to scrolls, further enhancing device compactness and versatility. With smartphone adoption hitting new peaks annually, the rising demand for OLED displays in this sector is propelling the flexible OLED market.
- Additionally, OLEDs have taken the lead in the wearable and smart technology sectors. While developers traditionally leaned on LCDs for wearables, OLEDs have emerged as the preferred choice. Their slim profile, brightness, and energy efficiency make OLED displays exceptionally suited for wearable applications.
- OLED is an emerging display technology that enables beautiful and efficient displays and lighting panels. OLEDs are the latest generation technology in the display industry and provide superior performance and enhanced optical characteristics compared to older LEDs and LCDs.
- OLEDs are used today in various electronics including mobile phones, digital cameras, VR headsets, tablets, laptops and TVs, with external factors such as user acceptability, protection, and cost-effectiveness being some of the major challenges to be met by the companies, but it can find its wide usage in other industries such as automobiles and transportation.

- Furthermore, with industries venturing into areas like health monitoring devices and smart home technologies, the flexible OLED market stands on the brink of significant growth. Additionally, as manufacturers increasingly prioritize sustainability, the shift towards organic materials is amplifying the allure of flexible OLEDs in the marketplace.
- Despite their promise, flexible OLEDs grapple with challenges: high costs, durability concerns, and limitations in blue OLED lifespan. These displays are prone to stress and degradation when bent or folded, and their manufacturing remains costly. Additionally, encapsulation poses a hurdle; OLED materials, sensitive to air and moisture, risk degradation and quenching of their excited states. On the contrary, FOLEDs, though nascent, promise to revolutionize design paradigms in both the display and lighting sectors. Picture a mobile phone, resembling a pen, yet boasting a vibrant, full-color display that elegantly rolls in and out for activation.

Flexible OLED Market Trends

Mobiles and Televisions to Witness Significant Growth

- With increased smartphone adoption globally, the demand for high-definition ultra-high displays is growing quickly. With many companies, such as Apple and Samsung employing AMOLED displays in their flagship models, other companies are following the trend.
- But still, a flexible OLED provides several advantages, especially in mobile devices, such as lighter, thinner, and more durable than glass-based displays. These proved an important asset for mobile phone manufacturers, providing better performance, durability, and weight reduction.
- In recent years, foldable phones have revolutionized the smartphone landscape. These cutting-edge devices, blending style with functionality, have captivated both tech enthusiasts and everyday consumers. As per Daishin Securities, the sales volume of foldable phones is expected to increase by 2.5% by 2027. As a result, the demand for flexible OLEDs has surged, given that these advanced OLED screens can bend and fold without compromising on quality or durability.
- Driven by its surging popularity, ongoing research is increasingly steering its application in consumer electronics. For example, in January 2025, a collaborative team from Korea's SNU, KAIST, and KIMM unveiled a novel lift-off technique for flexible OLED displays, harnessing the properties of graphene. Dubbed GLLO, short for Graphene Laser Lift Off, the method involves positioning a single-layer CVD graphene film between a polyimide film and a glass carrier. Thanks to graphene's unique ability to absorb ultraviolet light and laterally distribute heat, the process achieves a pristine lift-off, free from wrinkles or residues. Such a breakthrough holds significant promise for the realms of stretchable electronics and wearable devices.
- In October 2024, BOE Technology Group, in collaboration with Canada-based Omniply Technologies, inked a co-development agreement. Their goal: to pioneer new materials and process technologies tailored for display manufacturing. BOE envisions that Omniply's innovations could not only reduce the production costs of OLED displays but also pave the way for more environmentally-friendly displays. Furthermore, there's potential for these advancements to extend into the realms of flexible sensors and microLED products down the line.

Asia-Pacific to Witness the Fastest Growth Rate

- The economies of major countries like India and China are growing, leading to an increase in the disposable incomes of consumers. Hence, moving toward adopting high-end electronic products, such as curved televisions and premium smartphones. Thus, driving the flexible OLED market in the region.
- Samsung and LG Display are developing OLED panels that use a low-refractive CPL (Capping Layer). The capping layer that is currently being used has high refraction, and adding a low-refractive capping layer to it can reduce light loss in an even better

way, thereby improving light efficiency, power efficiency, and product life. Such developments will further expand the market growth over the forecast period.
- Moreover, Chinese companies are moving quickly to set up large-scale production bases to churn out OLEDs. BOE is constructing a production plant for smaller OLEDs in the southwestern Chinese city of Chongqing. The OLED production line is the largest for a single factory in China, producing 115 million panels annually.
- Also, recently, Samsung Display announced its plans to invest 4.1 trillion won (USD 3.14 billion) until 2026 in Asan, South Korea to make advanced organic light-emitting diode (OLED) display panels used in tablets and computers.

Flexible OLED Industry Overview

The Global Flexible OLED Market is very competitive. The market is concentrated due to the presence of various small and large players. All the major players account for a large share of the market and are focusing on expanding their consumer base worldwide. Some of the significant players in the market are LG Display Co. Ltd, Samsung Electronics Co., Ltd., AU Optronics Corp., BOE Technology Group Co Ltd, RiTdisplay Corp, Universal Display Corporation, Visionox Company, and many more. The companies are increasing the market share by forming multiple partnerships and investing in introducing new products to earn a competitive edge during the forecast period.

OLED technology is poised to revolutionize the landscape of displays and lighting, offering products that are large-area, transparent, flexible, and energy-efficient. Thanks to their inherent flexibility, manufacturers can employ roll-to-roll processes, paving the way for a new generation of flexible displays and lighting solutions. While OLEDs have predominantly been produced on rigid glass substrates, the market has recently witnessed the debut of flexible OLED applications, such as watches and curved displays.

To achieve the desired durability and flexibility in OLEDs, there's a pressing need for enhanced materials and advancements in manufacturing tools and processes. Protecting OLEDs from moisture and oxygen necessitates improved barrier layers on flexible plastic substrates. Additionally, thin-film encapsulation is crucial for developing both thin and flexible OLEDs, whether metal- or glass-based. These technological strides could pave the way for highly flexible OLED panels, adaptable for any surface □ be it flat or curved □ ensuring they can serve as effective light sources.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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