

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

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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### **Report description:**

The Flexible Electronics Market is expected to register a CAGR of 18.5% during the forecast period.

#### Key Highlights

- Moreover, in March 2021, Toppan Printing developed a flexible thin-film transistor (TFT) that can withstand million bending cycles to a 1 mm radius of curvature and demonstrates advantages for practical application, such as an on/off current ratio of at least 107 with carrier mobility of 10cm<sup>2</sup>/Vs. This is expected to gain demand for use in foldable smartphones, wearables sensors, smart packaging, medical devices, and more.
- In addition, foldable smartphones are gaining popularity in the market. For instance, in July 2022, Samsung Electronics announced its latest foldable smartphone series. The latest next-generation foldable smartphones, the Galaxy Z Flip 4 and the Galaxy Z Fold 4, were unveiled during the Galaxy Unpacked online event titled "Unfold Your World."
- Furthermore, according to BNP Media, by 2030, electronic components will account for 50% of an automobile's total production cost. Earlier this decade, it was only 30%. Progress in thin, light, and flexible electronics is behind a range of innovative technologies, from curved TVs to glucose-monitoring contact lenses. This can lead to the growth of printable solar cells and flexible screens using organic light-emitting diodes (OLEDs).
- In addition, the advancement of in-mold electronics (IME) and flexible sensors is further expanding the scope of flexible and printed electronics in smart wearable technologies. The growth of wearable devices, especially smart wearable devices, may further expand the market scope over the forecast period. Cisco estimated the number of connected wearables worldwide to surpass 900 million by 2021.
- The COVID-19 outbreak caused major delays for electronic manufacturers, as suppliers based in China struggled to keep factories running at full capacity. Many electronic manufacturers based in the United States or Europe depend on certain components built by suppliers in China. IPC, an electronic equipment trade organization, ran a survey in February 2020, in which

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65% of the 150 electronic manufacturers and suppliers who participated reported delays from suppliers due to the spread of COVID-19.

## Flexible Electronics Market Trends

### 3D Integration in Healthcare is Expected to Drive the Market

- 3D printing is advancing, and it has a wide range of applications, including 3D-printed flexible electronic devices in the healthcare sector. 3D printers can be used for the direct printing of biomedical devices onto the human skin and can help build flexible electronic sensors to measure body pressure. These printers are expected to improve sensation in prosthetic hands and surgical robotic arms.
- Additionally, a 3D-printed flexible electrical glove can be used to provide comfortable thermotherapy for patients, as the heat formed by these flexible electronic devices can treat injury points by enhancing blood flow and reducing pain.
- Research is being done to use 3D printed, flexible wearable Bioelectronic Tactile Sensors for continuous monitoring for early detection of disease-induced physiological irregularities. As such, efforts are made to develop novel, multi-material, and multilayer all-3D-printed nanocomposite-based (M2A3DNC) micro-engineered, hybrid, flexible, and soft wearable pressure sensors to record sensitive and multiple physiological signals for real-time human health monitoring.
- Moreover, these 3D-printed flexible electronic devices have various applications in the fields of prosthetic organs for the disabled. Furthermore, in November 2021, Graftys SA, a company specializing in designing and manufacturing bone graft substitutes for orthopedic surgery, announced the acquisition of Biologics4Life, a French company working on developing a new generation of injectable synthetic bone graft materials. The acquisition will increase the company's expertise in bone grafts and advanced treatment for patients suffering from fractures or bone loss.

### North America to Experience Significant Market Growth

- North America is expected to register significant growth in the flexible electronics market. The increasing demand for smart wearables, combined with consumer electronics, is driving the demand for flexible electronics in the region. For example, according to Ericsson, the number of smartphone subscriptions in North America is estimated to reach 358 million by 2027, based on the steady growth seen in earlier years. Americans owned approximately 328 million smartphones as of 2021.
- Furthermore, according to Cisco Systems, the wearable market is promising in the United States, as the number of connected wearable devices in North America is expected to grow to over 439 million in 2022. North America is forecast to be the region with the most 5G connections made using wearable devices in 2022.
- Further, the U.S. defense establishment, which has promoted many successful high-technology industries, has been interested in flexible electronics technologies for military usage, and that will support the growth of the necessary research infrastructure. Several U.S. states that are at the front of U.S. innovation have recognized research centers for flexible and printed electronics.
- In addition, the U.S. Armed Services have been in front of support the development of flexible electronics in the United States. The Army Research Laboratory and other U.S. Army organizations, the Air Force Research Laboratory (AFRL), the Office of Naval Research (ONR), and the U.S. Special Operations Command (SOCOM) presently support many research efforts in the field with a weight on defense applications, chiefly displays.

## Flexible Electronics Industry Overview

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The flexible electronics market is fragmented. Manufacturers primarily focused on developing efficiency are offering technologically innovative products that provide various benefits related to power efficiency and product design. Enterprise players are investing in R&D to strengthen their market positions. Key market participants include E Ink Holdings Inc., Blue Spark Technologies, Samsung Electronics Co. Ltd, and others.

- January 2022 - LG Display has revealed its flexible OLED solutions in concept form, including the Virtual Ride indoor stationary bicycle and the Media Chair integrated entertainment center, ahead of CES 2022.
- June 2021 - Samsung announced the development of a fully flexible OLED display that can adhere to and conform to the skin's surface. To create a flexible display, Samsung developed individual OLED pixels that are ridged but sit on a flexible elastomer surface. The connections between the OLEDs and the traces that connect the display to the driver system are made with a flexible material.

Additional Benefits:

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

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