Indium Gallium Zinc Oxide Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 108 pages | Mordor Intelligence

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Report description:

The Indium Gallium Zinc Oxide Market was valued at USD 1.80 billion in 2021, and it is projected to be worth USD 3.69 billion by 2027, registering a CAGR of 12.31% during the forecast period, 2022-2027. Ever since its incorporation in LCDs back in 2012, Indium Gallium Zinc Oxide (IGZO) has become a driving force in various new developments not just specific to liquid crystals but in other display technologies. Thin-film transistors consisting of IGZO are among the products gaining the most traction owing to their enhanced performance compared to TFTs made with low-temperature-poly-silicon (LTPS), as well as their ability to be made ultra-thin and flexible for integration into a wide variety of devices.

Key Highlights
A shift toward the trend of miniaturization across the industries, particularly aiming to reduce the weight and size while achieving performance, has made the IGZO a popular choice.
Post the initial incorporation phase, IGZO's application has extended to a wide range of consumer electronics, such as smartphones and laptops, featuring the same innovative technology display. Established consumer electronics players have launched a few products, such as Dell XPS 13 laptop from Dell Inc., Razer Blade 14 gaming laptop from Razer Inc., and iPad mini 2 & iPad Air from Apple, featuring the IGZO display.
The market for displays was predominantly dominated by Amorphous Silicon (a-Si) and LTPS LCD, combining to form the largest percentage of the smartphone displays market, but steady, the market for indium gallium zinc oxide technology is gaining traction. As the demand for enhanced touch sensitivity, higher resolution, and power-efficient display devices, such as tablets, smartphones, laptops, and televisions, are on the rise, demand for IGZO displays is gaining momentum.
Continuous developments from the vendors and increasing research in the IGZO space would augment the market's growth in the coming times. In June 2019, Samsung Electronics Co. Ltd announced the global launch of the Wall Luxury at InfoComm 2019 in Orlando, Florida. The latest version of Samsung's modular MicroLED screen with IGZO can be custom-tailored to any size and

aspect ratio, enhancing the interior of the living space, ensuring customers can experience superior picture quality in the comfort of their own homes.
The gaming market is an attractive opportunity for the IGZO market, owing to the demand for higher-quality HMDs cost and functionality improvements to support the ongoing rollout of high-quality content. According to Intel, the revenue opportunity of the AR/VR market remains strong, and it is estimated to exceed USD 45 billion in headset hardware sales by the year 2021.
The electronics devices are expected to be impacted significantly by the COVID-19 outbreak, as China is one of the major suppliers of raw materials and finished products. The industry is facing a reduction in production, disruption in the supply chain, and price fluctuations. The sales of prominent electronic companies are expected to be affected in the near future.

Indium Gallium Zinc Oxide Market Trends

Wearable Devices to Gain Significant Market Share

Wearable devices have gained significant traction, owing to the boom in the fitness trend across consumers. According to Cisco Systems, the number of connected wearable devices is expected to increase from 593 million in 2018 to 1,105 million in 2022. With the advent of the internet of things, wearable sensing devices are gaining importance in the daily lives of applications like vital signal monitoring during sports and health diagnostics, enterprises, etc.
Amorphous indium gallium zinc oxide (a-IGZO) thin-film transistors (TFTs) fabricated on flexible large-area substrates are an exciting platform to build wearable sensing devices due to their flexibility conformability to the human body, and low cost. This provides material properties of superb mechanical stability, good electrical conductivity, and optical transparency. Thin film transistors (TFTs) and gas sensors are fabricated on a 1.9 □m thick PMMA, where the substrate exhibits excellent transistor performances.
Low-temperature solution-processed amorphous IGZO film can serve as a good candidate for room-temperature VOCs (volatile organic compounds) sensors for emerging wearable electronics. These are used in flexible electronic applications such as wearable electronic tags used in perishable food, etc.
The rising number of chronic patients increases the conventionally available healthcare resources burden. This, in turn, promotes the popularity of wearable medical devices that could assist patients with more convenient and accessible care services. These initiatives further drive the studied segment.
Due to inactive lifestyles, unhealthy diets, and obesity, some of the emerging and developed regions are witnessing a rising number of diabetic patients, encouraging the market players to develop smart wearable medical devices.

Asia Pacific to Witness Fastest Growth

Asia-Pacific is witnessing the fastest growth due to the high amount of penetration of consumer electronic devices such as smartphones, televisions, laptops, wearables, etc. IGZO-TFT and its applications are patented by JST (Japan Science and Technology Agency) and have been licensed to Sharp. Sharp, a Japanese firm, was the first to start production of LCD panels incorporating IGZO-TFT. Sharp uses IGZO-TFT for smartphones, tablets, and 32" LCDs, which drives the market efficiently.
In November 2019, Sharp Corporation and Japan Broadcasting Corporation (NHK) co-developed a 30-inch 4K flexible organic LED (OLED) display. The OLED display, with light-emitting elements formed onto each of the RGB subpixels (RGB light emission method) of a 30-inch-diagonal (approx. 76 cm) flexible film substrate, is one of the largest displays of its kind in the world. This display employs IGZO thin-film transistors (TFTs) to drive the OLED elements.
China is one of the lucrative markets and computes high revenue rotation because of the availability of low-cost IGZO in the segment of smartphones and televisions, which drives the demand in the market.

Reportedly, several Chinese companies, including Chongqing HKC, BOE Technology, AVIC International Holding, and TCL, show a keen interest in taking control of CEC-Panda LCD Technology to consolidate their position in China's liquid-crystal display industry. Though BOE stated that it would stop expanding its LCD production capacity, it is probably eyeing CEC-Panda's IGZO technology that can drive OLED.
Asia-Pacific was the prominent market for smartphones in 2021, and the region is expected to continue to offer maximum growth opportunities over the forecast period. Factors such as growing disposable income, development of telecom infrastructure, the emergence of budget-centric smartphones, and the rising number of product launches contribute to the growth of the smartphone market.
Developing nations, such as India, witnessed a fall in data costs by 95% since 2013, resulting in an increase in smartphone users. According to the Associated Chambers of Commerce and Industry of India, a non-governmental trade association and advocacy group (ASSOCHAM), the number of smartphone users in the country is expected to almost double to 859 million by 2022, growing at a CAGR of 12.9%.

Indium Gallium Zinc Oxide Market Competitor Analysis

The indium gallium zinc oxide market is moderately fragmented as the players are innovating with new technologies using indium gallium zinc oxide, which is making the market competitive. Some of the recent developments in the market are -

April 2022 - Tianma Microelectronics Co. Ltd announced collaborating with Xiamen International Trade Holding Group Co. Ltd, investing CNY 33 billion to build a product line categorizing the 8.6 generation a-Si IGZO LCD panel.
January 2022 - Sharp Visual Solutions Europe unveiled its first professional display based on an innovative IGZO panel. The PN-K321H is the slimmest model in its class and achieves quad full-HD 3840x2160 resolution for stunning realistic image production.

Additional Benefits:

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

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