

USD 3.18+ Billion Silicon on Insulator Market Value Cross by 2027

The silicon on insulator market was valued at \$1.11 billion in 2019, and is to reach \$3.18 billion by 2027, growing at a CAGR of 14.1% from 2020 to 2027.

WILMINGTON, DE, UNITED STATES, September 30, 2025 /EINPresswire.com/ -- According to a



In 2019, the Asia pacific region accounted for over a 55.0% share globally, and is expected to dominate the silicon on insulator market.

Allied Market Research

new report published by Allied Market Research, titled, "Silicon on Insulator Market By Wafer Size, Wafer Type, Technology, Product, and Application: Opportunity Analysis and Industry Forecast, 2020–2027", the global silicon on insulator market size was valued at \$1.11 billion in 2019, and is projected to reach \$3.18 billion by 2027, growing at a CAGR of 14.1% from 2020 to 2027. Asia pacific is expected to be the leading contributor to the global silicon on insulator industry, followed by North America and Europe.

Silicon on insulator technology states the usage of layered silicon-insulator-silicon substrate in position of traditional silicon in semiconductor manufacturing work. This technology is compatible with presently used fabrication process in the industry without retooling or extra equipment of existing factory. There are several benefits of silicon on insulator technology such as high performance, power saving, reduced leakage, absence of latchup, compatibility, and ease in scaling.

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Silicon on insulator (SoI) is an integral part of consumer electronics products such as tablets, smartphones, wearable devices, electric cars, etc. Basically, silicon on insulator (SoI) technology is fabrication of silicon semiconductor products in a layered silicon insulator silicon substrate, to diminish parasitic capacitance inside the device, consequently improving overall performance. Due to COVID-19 pandemic, rise in usage of electronics products in the educational sector creates an opportunity for SoI market. Thus, an increase in demand for these products is driving the growth of the global SOI market during the COVID-19 pandemic.

The factors such as surge in usage of SoI wafers in consumer electronics, enhances operational performance with low operating voltage, and increasing investments by wafer manufacturers

and foundry players in emerging economies are expected to drive the silicon on insulator market growth. However, higher time consumption associated with manufacturing process and self-heating effects in SOI-based devices are expected to hinder the growth of the market. Conversely, increasing use of SOI technology in IoT devices & applications, and implementing automation solutions across the retail industry to avoid human intervention are projected to offer remunerative silicon on insulator market opportunities.

The silicon on insulator market is segmented on the basis of wafer size, wafer type, technology, product, application, and region. The wafer size segment includes 200 mm and 300 mm wafers. Based on wafer type, the market is divided into RF-SOI, FD_SOI, PD-SOI, and others. By technology, the market is segmented into BESOI, SiMOX, Smart Cut, ELTRAN, and SoS. By product, the market bifurcated into optical communication, image sensing, MEMS, power, and RF FEM. By application, the market is segmented into datacom & telecom, automotive, consumer electronics, industrial, photonics, and others.

COVID-19 Impact Analysis

The emergence of COVID-19 has created significant opportunities for the silicon on insulator market growth. The pandemic generated considerably high demand for SoI in consumer electronics such as smartphones, tablets, and others. Furthermore, partial or complete lockdown created huge demand for remote monitoring devices, which in turn increased the demand supply gap because of disrupted supply chain.

Based on region, the silicon on insulator market trends have been analyzed across North America, Europe, Asia-Pacific, and LAMEA. Asia-Pacific region accounted for a major share of the global market in 2019, and is expected to dominate the market in terms of revenue during the forecast period, owing to increasing investments by wafer manufacturers and foundry players in emerging economies.

Key Findings of the Study

In terms of revenue, the RF SOI segment contributed the maximum silicon on insulator market share in 2019, and is expected to maintain its lead throughout the forecast period. In 2019, the 300 mm wafers segment secured nearly 52.0% of market share, which was the highest among all industry verticals.

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The key players profiled in the report include GlobalWafers

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