

## Sapphire Substrate Market Size Worth US\$ 884.26 million By 2028 | CAGR 5.6%: The Insight Partners

The growing trend of using large LEDs is one of the major trends anticipated to propel the Sapphire Substrate market growth during the forecast period.

NEW YORK, UNITED STATES, March 2, 2023 /EINPresswire.com/ -- The <u>Sapphire Substrate Market</u> is forecast to reach \$884.26 million by 2028, registering a CAGR of 5.6% from 2022 to 2028,



according to the new research report titled "Sapphire Substrate Market Forecast to 2028 – COVID-19 Impact and Global Analysis" published by The Insight Partners.

Sapphire Substrate Market - Strategic Insights

Report Coverage Details

Market Size Value in US\$ 638.83 million in 2022 Market Size Value by US\$ 884.26 million by 2028 Growth rate CAGR of 5.6% from 2022 to 2028. Forecast Period 2022-2028 Base Year 2022 No. of Pages 161 No. of Tables 56 No. of Charts & Figures 75 Historical data available Yes Segments Covered Wafer Diameter and Application Regional scope North America, Europe, Asia Pacific, Middle East & Africa, South & Central America Country scope US, Canada, Mexico, UK, Germany, Italy, France, India, China, Japan, South Korea, Australia, UAE, Saudi Arabia, South Africa, Brazil, Argentina Report Coverage Revenue forecast, company ranking, competitive landscape, growth factors, and trends

In the sapphire substrate market, Sapphire Epi wafers are thin-film substrates available in various sizes and orientations. They are used in LED, microelectronics, and ultra-high-speed integrated circuits (ICs). Their electrical properties make them a preferred substrate material for semiconductor fabrication. As LED lighting becomes the US\$ 80 billion industry, the epitaxial wafers LEDs market will grow to US\$ 4 billion in 2020 indirectly growing the sapphire substrate market size. Today, the majority of these epi-wafers are GaN-on-sapphire. Also, in the sapphire substrate market growth depends on, the sapphire wafer carriers which offer a stable carrier for processing GaAs and other semiconductors. Sapphire wafer carriers are durable and chemical and scratch resistant and can be used repeatedly. Owing to the sapphire's extreme hardness, it provides a stronger and more durable carrier than quartz and other materials. In the sapphire substrate market, the average price of sapphire wafer carriers ranges from US\$ 500 to US\$ 900.

The growing demand for silicon-on-sapphire microelectronic circuits has been propelling the sapphire substrate market share significantly. It is the way of developing a monocrystal Si film on sapphire wafers crystal face (1-102), known as the heterogeneous extension method. It then develops semiconductor devices on monocrystal Si film. It has the same thermal expansion coefficient as the monocrystalline Si. Sapphire usage for wafers has also helped in reducing the overall cost of larger wafers at a relatively low rate. Currently, in sapphire substrate market analysis, high-quality GaN crystals can overgrow on the sapphire wafers with the significant rise of advancement in technology. The (0001) sapphire surface has become the most ideal application of the substrate.

The sapphire substrate is increasingly used in LEDs, laser diodes, and RFIC applications, with LED accounting for over ~90%. The sapphire substrate is suitable for LED applications due to its high strength, high-temperature resistance, low dielectric loss, and good electrical insulation. It helps prevent LED lighting from stray currents, which are caused due to radiation from spreading to close circuit elements. The patterned sapphire substrate technology has become an effective way to improve efficiency and reduce the cost of LEDs in the sapphire substrate market growth. Therefore, it is widely used in mid-power LEDs.

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Gavish, San'an Optoelectronics, Monocrystal, Silian, Crystals Technology, and Rubicon Technology are among the prominent producers of LED sapphire substrates. As sapphire substrates are a key component for LEDs, general lightings continue to require substrate materials in the LED market. Thus, the increasing demand for sapphire substrates in LED applications boosts the sapphire substrate market.

The sapphire substrate market analysis is segmented on the basis of wafer diameter, application, and geography. Based on wafer diameter, the market is segmented into 2 inches, 4 inches, 6 inches, and others. By application, the sapphire substrate market is segmented into LED, RFIC application, laser diode, silicon on sapphire (SOS) IC, and others. On the basis of geography, the sapphire substrate market size is segmented into North America, Europe, Asia Pacific (APAC), the Middle East & Africa (MEA), and South America.

Key Findings of Study:

The global sapphire substrate market is divided into five regions—North America, Europe, Asia Pacific, the Middle East & Africa, and South America. The semiconductor sector in the US has maintained its leading global position in key future technologies, including artificial intelligence (AI) and quantum computing and sophisticated wireless networks, such as 5G. The semiconductor industry in the US, on the other hand, is confronted with several difficulties, especially during the COVID-19 pandemic, which threw the US economy into disarray and disrupted global supply systems, creating major market instability in the short term.

Sapphire Substrate Market: Competitive Landscape and Key Developments

Iljin Display Co. Ltd., Kyocera Corporation, Meller Optics, Inc., Monocrystal, Rubicon Technology Inc., Cryscore Optoelectronic Limited, Precision Micro-Optics Inc., Saint Gobain S.A, Semiconductor Wafer Inc., and Crystalwise Technology Inc. are a few key sapphire substrate market players. In addition, several other important sapphire substrate market players were studied and analyzed during the course of this study to get a holistic view of the global market size and its ecosystem.

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