

Spin on Carbon Market by Type (Hot-Temperature Spin on Carbon, Normal-temperature Spin on Carbon), Application (Logic Devices, Memory Devices, Power Devices, Photonics, Advanced Packaging), End User and Region - Global Forecast to 2028

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Abstracts

The spin on carbon market is projected to grow from USD 199 million in 2023 to USD 747 million by 2028, registering a CAGR of 30.2% during the forecast period. Some of the major factors driving the growth of the spin on carbon market include the rapid technological advancements in semiconductor manufacturing and increasing complexity of integrated circuits. However, technical challenges associated with the SOC materials act as a challenge for the market in the future. The major growth opportunity for the market players is advanced memory development for next generation memory devices.

'Market for integrated device manufacturers (IDMs) & outsourced semiconductor assembly and test (OSAT) will have the highest CAGR during the forecast period.'

The integrated device manufacturers (IDMs) & outsourced semiconductor assembly and test (OSAT) segment of the spin on carbon market is expected to witness the highest CAGR during the forecast period. The increasing development of semiconductor devices by using lithography process is acting as driver for the spin on carbon material as it is crucial for various stages of the semiconductor manufacturing process. Further, the increasing strategic initiatives such as partnership, product development from semiconductor assembly and testing providers such as ASE Group, Amkor, Micron Technology, Inc., among others acting as a driver for the market.

'Advanced Packaging expected to register the highest CAGR during the forecast period.'



The spin on carbon market's advanced packaging segment is expected to account for the highest CAGR in the forecast period. These advanced packaging techniques are designed to enhance the performance, functionality, and form factor of semiconductor devices, allowing for increased integration, improved electrical performance, and higher reliability. Some key advanced packaging applications include: System-in-Package (SiP), 3D Packaging, Wafer-Level Packaging (WLP), and others. Spin-on carbon materials provide effective dielectric insulation and passivation layers within advanced packaging solutions, enabling the reliable isolation and protection of semiconductor components. With the rapid growth in the advanced packaging technologies, specifically fan out wafer level packaging, along with increase in demand for smartphones and devices and Internet of Things (IoT) the demand for spin on carbon material is also increasing, which in turn drives the market growth.

'Asia Pacific to account for the highest market share among other regions during the forecast period.'

Aisa Pacific is expected to dominate the spin on carbon market during the forecast period. China, Taiwan, South Korea, and Japan are the major contributors to the spin on carbon market in this region. Moreover, governments and industry stakeholders in the Asia-Pacific region are making substantial investments in semiconductor infrastructure and manufacturing facilities to strengthen the region's position in the global semiconductor market. These investments create opportunities for the adoption of advanced semiconductor materials such as spin on carbon, contributing to the growth and expansion of the market in the region.

In determining and verifying the market size for several segments and subsegments gathered through extensive secondary research, primary interviews have been conducted with key industry experts in the spin on carbon market.

The break-up of primary participants for the report has been shown below:

By company type: Tier 1 - 38%, Tier 2 - 28%, and Tier 3 - 34%

By designation: C-Level Executives - 40%, Managers - 30%, and Others - 30%

By region: North America - 35%, Europe - 20%, Asia Pacific - 35%, and RoW - 10%



The report profiles key players in the spin on carbon market with their respective market ranking analyses. Prominent players profiled in this report include Samsung SDI Co., Ltd. (South Korea), Merck KGaA (Germany), Shin-Etsu Chemical Co., Ltd. (Japan), YCCHEM Co., Ltd. (South Korea), Brewer Science, Inc. (US), JSR Micro, Inc. (US), KOYJ Co., Ltd. (South Korea), Irresistible Materials Ltd (UK), Nano-C (US), and DNF Co., Ltd. (South Korea)among others.

Research Coverage

This research report categorizes the spin on carbon market based on type, application, end user, and region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the spin on carbon market and forecasts the same till 2028. The report also consists of leadership mapping and analysis of companies in the spin on carbon ecosystem.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall spin on carbon market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (rapid technological advancements in semiconductor manufacturing and increasing complexity of integrated circuits, increasing demand for advanced packaging solutions, and expansion of EUV (extreme ultraviolet) lithography in memory manufacturing), restraints (competitive substitution materials), opportunities (continued miniaturization of electronic devices and continued miniaturization of electronic devices), and challenges (technical challenges associated with the SOC materials) influencing the growth of the spin on carbon market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the spin on carbon market



Market Development: Comprehensive information about lucrative markets – the report analyses the spin on carbon market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the spin on carbon market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product/service offerings of leading players like Samsung SDI Co., Ltd. (South Korea), Merck KGaA (Germany), Shin-Etsu Chemical Co., Ltd. (Japan), and YCCHEM Co., Ltd. (South Korea), among others in the spin on carbon market.



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*Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats, Recent Developments might not be captured in case of unlisted companies.



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