Silicon Carbide (SiC) Market Overview 2024-2032 - Share, Size, Insights, Forecast

Global Silicon Carbide (SiC) Market Outlook 2024-2032: Rising Demand and Key Trends:


Silicon Carbide Market

CALIFORNIA, CA, UNITED STATES, October 16, 2024 /EINPresswire.com/ -- The latest research study by Exactitude Consultancy, titled 'Global Silicon Carbide (SiC) Market,' offers 130+ pages of in-depth analysis on business strategies adopted by key and emerging industry players. It provides insights into current market developments, trends, technologies, drivers, opportunities, and overall market outlook. Understanding various segments is crucial for identifying the factors that drive market growth. Some of the major companies featured in this report include COI Ceramics, Washington Mills, SGL Group, Specialty Material, Advanced Ceramic Fibers, Toyo Tanso, GE Aviation, Haydale, Saint Gobain, American Elements, Kyocera SGS, Sandvik and others. and others.

> The Silicon Carbide market is rapidly expanding, fueled by demand for high-efficiency power solutions in a sustainable future."
>
> *Exactitude Consultancy*

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The global silicon carbide (SiC) market is expected to grow at 7% CAGR from 2024 to 2032. It is expected to reach above USD 787.44 million by 2032 from USD 428.31 million in 2024.

The product's growing application in the production of refractory materials for the steel sector is anticipated to support market expansion over the projected timeframe. Because silicon carbide is resistant to high temperatures, it is utilized as a raw material for refractory materials. Refractory goods have extensive application in the linings of kilns, furnaces, and reactors across a range of industries, including metal, steel, aluminum, and cast iron. The market for refractory materials is anticipated to be driven by the previously stated ferrous and non-ferrous sectors' increased production.

Silicon Carbide (SiC) Market: Segmental Analysis
Global Silicon Carbide Market By Type, 2024-2032, (USD Million), (Kilotons)
SIC Fiber
SIC Cutting Tools

Global Silicon Carbide Market By Application, 2024-2032, (USD Million), (Kilotons)
Ceramic Composite Material
Polymer Matrix Composites
Metal Composites Material
Non-Composite Material

Global Silicon Carbide Market By End User, 2024-2032, (USD Million), (Kilotons)
Aerospace
Energy & Power
Automotive Healthcare
Electrical & Electronics
Others

This Report lets you identify the opportunities in Silicon Carbide (SiC) Market by means of a region:

North America (the United States, Canada, and Mexico)
Europe (Germany, UK, France, Italy, Russia, Turkey, etc.)
Asia-Pacific (China, Japan, Korea, India, Australia, and Southeast Asia (Indonesia, Thailand, Philippines, Malaysia, and Vietnam)) South America (Brazil etc.)
The Middle East and Africa (North Africa and GCC Countries)

Silicon Carbide Market Trends & Dynamics

Driver: Accelerating demand for power electronics
Power electronics are essential to the worldwide electrical grid because they require electronic devices with higher efficiency, which is crucial for reducing switching losses. A variety of power devices in the power electronics sector are in charge of changing alternating current into direct current or vice versa in systems designed to reduce energy loss and increase system effectiveness. SiC power semiconductors provide higher power conversion efficiency, higher voltage and current tolerances, and better resistance to high operating temperatures than conventional silicon-based devices. Devices like converters, wind or solar modules, and data center power sources greatly benefit from these characteristics. Consequently, the market for silicon carbide is expanding due to the rising need for power electronics.

Restraint: High cost of SiC devices
The pricey SiC substrate, which greatly exceeds the cost of silicon wafers, is the main cause of

the high cost of SiC devices. The sublimation process needed to create SiC uses a lot of energy to attain high temperatures, resulting in finished boules that are only 25 mm long and take a long time to grow. Compared to silicon wafers, this results in an increase in cost. Epitaxy and device manufacture, which requires high temperatures and expensive consumables, are additional cost considerations. The yield at each stage, which includes the quantity of unusable wafers from boules as well as the post-epitaxy and manufacturing write-offs, is the ultimate cost driver. As a result, the high price of SiC devices prevents the SiC market from expanding.

Opportunity: Continuous developments to improve the quality of SiC substrate and epitaxy
The continued development of SiC device manufacturing is significantly influenced by the ongoing enhancement of SiC substrate quality and epitaxy procedures. Defects that impair the performance of the SiC device, including as scratches, micropipes, crystalline stacking faults, stains, and surface particles, are being carefully addressed by researchers. The greater density of faults is resisted by efforts to maintain constant substrate quality even with larger wafers. These developments have the potential to improve the quality, dependability, and affordability of SiC devices, which will open up new growth prospects for the SiC market. In addition to improvements in substrate and epitaxy, other noteworthy technological developments in SiC devices include the move to larger wafers, which promotes the use of SiC devices in power electronics, and the growing need for SiC MOSFETs in EV/HEV powertrains. As a result, future growth prospects in the SiC market will be facilitated by continuous improvements to improve the quality of SiC substrates and epitaxy.

Key questions for stakeholders and business professionals looking to grow their position in the Global Silicon Carbide (SiC) Market:

-Which region is expected to offer the most opportunities for market growth after 2023?
-What business risks and impacts are affecting market growth in the current scenario?
-What are the most promising high-growth opportunities in the Global Silicon Carbide (SiC) Market by application, type, and region?
-Which segments are expected to attract the most attention in the Global Silicon Carbide (SiC) Market in 2023 and beyond?
-Who are the major players in the Silicon Carbide (SiC) Market, and how are they evolving?

Key poles of the TOC:

Chapter 10 Business / Industry Chain (Value & Supply Chain Analysis)
Chapter 11 Conclusions & Appendix

Thanks for reading this article; you can also get individual chapter-wise sections or region-wise report versions like APAC, North America, LATAM, Europe, or Southeast Asia.

Customization of the Report: The report can be customized as per your needs for added data from up to 3 businesses or countries.

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Top Trending Report:
Power Semiconductor Market
The power semiconductor market is expected to grow at 6.30% CAGR from 2022 to 2029. It is expected to reach above USD 97.33 billion by 2029 from USD 59.7 billion in 2020.
https://exactitudeconsultancy.com/reports/22072/power-semiconductor-market/

Semiconductor CVD Equipment Market
The semiconductor CVD equipment market is expected to grow at 8.6% CAGR from 2022 to 2029. It is expected to reach above USD 23 billion by 2029 from USD 10.95 billion in 2020.
https://exactitudeconsultancy.com/reports/21279/semiconductor-cvd-equipment-market/

Plastic Decking Market
The plastic decking market is expected to grow at 11% CAGR from 2022 to 2029. It is expected to reach above USD 10.85 Billion by 2029 from USD 4.24 Billion in 2020.
https://exactitudeconsultancy.com/reports/18825/plastic-decking-market/

Photomask Market
The global photomask market size was valued at USD 4.37 billion in 2020, and projected to reach USD 6.36 billion by 2029, with a CAGR of 4.26% from 2022 to 2029.
https://exactitudeconsultancy.com/reports/22499/photomask-market/

Automotive ASIC Market
The global automotive ASIC market size was valued at USD 9.01 billion in 2020, and projected to reach USD 26.43 billion by 2029, with a CAGR of 12.7% from 2022 to 2029
https://exactitudeconsultancy.com/reports/22498/automotive-asic-market/

Flexible Electronics & Circuit Market
The global Flexible Electronics & Circuit market is expected to grow at a 7.5% CAGR from 2022 to 2029, from USD 28.84 billion in 2020.
https://exactitudeconsultancy.com/reports/21703/flexible-electronics-and-circuit-market-

growth/

Back Grinding Tapes Market
The Global Back Grinding Tapes Market is expected to grow at more than 7.6% CAGR from 2019 to 2028. It is expected to reach above USD 303 million by 2028 from a little above USD 166 million in 2019.
https://exactitudeconsultancy.com/reports/1053/back-grinding-tapes-market/

Massive MIMO Market
The massive MIMO market is expected to grow at 40.8 % CAGR from 2022 to 2029. It is expected to reach above USD 54.53 Billion by 2029 from USD 3.53 Billion in 2021.
https://exactitudeconsultancy.com/reports/19539/massive-mimo-market/

IGBT Module Packages Market
The IGBT Module Packages Market is expected to grow at 8.1% CAGR from 2022 to 2029. It is expected to reach above USD 10.48 billion by 2029 from USD 5.2 billion in 2020.
https://exactitudeconsultancy.com/reports/22776/igbt-module-packages-market/

Omega-3 Market
The omega-3 market is expected to grow at 8.5% CAGR from 2020 to 2029. It is expected to reach above USD 4.19 billion by 2029 from USD 1.99 billion in 2020.
https://exactitudeconsultancy.com/reports/22611/omega-3-market/

Irfan T
Exactitude Consultancy
+1 704-266-3234
email us here
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X
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