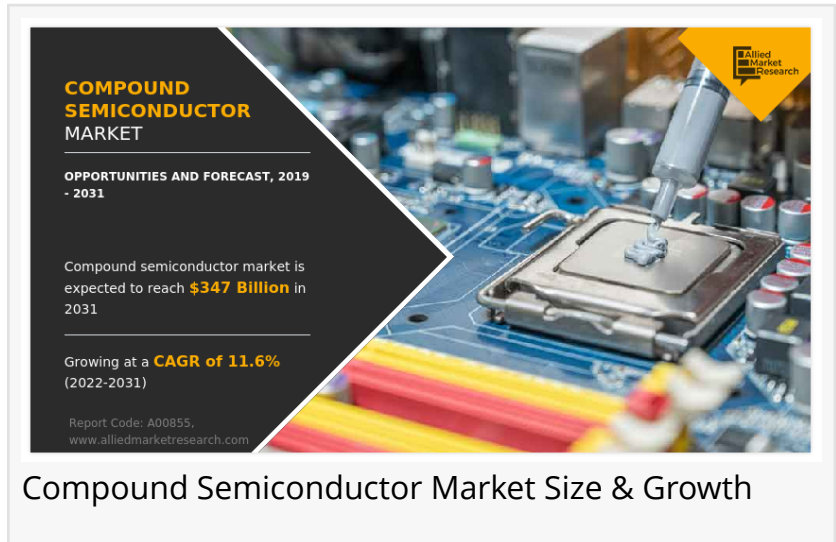


Compound Semiconductor Market Insights: Trends and Revenue Projections for 2019 - 2031

Compound Semiconductor Market Expected to Reach \$347 Billion by 2031—Allied Market Research

WILMINGTON, DE, UNITED STATES, November 7, 2024 /EINPresswire.com/ -- Allied Market Research, titled, "[Compound Semiconductor Market](#) by Type, Product, Deposition Technology, and Application: Global Opportunity Analysis and Industry Forecast," The compound semiconductor market was valued at \$90.7 billion in 2019, and is estimated to reach \$347 billion by 2031, growing at a CAGR of 11.6% from 2022 to 2031.



Compound Semiconductor Market Size & Growth

□□□□□□□ □□□ □□□□□□ □□□: <https://www.alliedmarketresearch.com/request-sample/1006>

“

Key growth drivers in the global compound semiconductor market: superior wafers, rising demand in consumer electronics, and automotive adoption trends.”

Allied Market Research

Compound semiconductors are single-crystal semiconductor materials that comprise two or more elements. Some qualities change as two or more elements come together to create a single semiconductor crystal, while other properties are added. Rather than using silicon, which lacks this feature, in light-emitting diodes, compound semiconductor technology is preferred.

Key factors that drive the growth of the compound semiconductor market include an increase in demand for compound semiconductor epitaxial wafers in LED

technology, emerging trends toward compound semiconductor wafers in the automotive industry, and the advantage of compound semiconductors over silicon-based technology. Compound semiconductor devices have three times the thermal conductivity and a breakdown electric field strength that is 10 times higher than those made of silicon. This characteristic

reduces the complexity and expense of the device, enhancing reliability and enabling it to be used in a variety of high-voltage applications, including solar inverters, power supplies, and wind turbines. The market for compound semiconductor power devices is expanding due to the rising need for power electronics. Electrical power is effectively and efficiently controlled and converted due to power electronics. Compound semiconductor power devices are increasingly being used as a result of the expanding need for power electronics in sectors such as aircraft, medicine, and defense.

The compound semiconductor industry offers growth opportunities to the key players in the market. The technology used in 5G wireless base stations must combine efficiency, performance, and value. GaN solutions play a crucial role in providing these qualities. GaN-on-SiC delivers considerable gains in 5G base station performance and efficiency over Laterally Diffused Metal-Oxide Semiconductors (LDMOS). Greater thermal conductivity, strong robustness & reliability, improved efficiency at higher frequencies, and comparable performance in a lower-size MIMO array are further advantages of GaN-on-SiC. GaN is anticipated to enhance power amplifiers for all network transmission cells (micro, macro, pico, and femto/home routers), which might substantially impact the rollout of next-generation 5G technology.

The [compound semiconductor market share](#) is segmented based on type, product, deposition technology, application, and region. By type, the market is categorized into III-V compound semiconductors, II-VI compound semiconductors, sapphire, IV-IV compound semiconductors, and others. The III-V compound semiconductors segment is further divided into gallium nitride (GAN), gallium phosphide (GAP), gallium arsenide (GAAS), indium phosphide (INP), and indium antimonide (INSB). The II-VI compound semiconductors segment is classified into cadmium selenide (CDSE), cadmium telluride (CDTE), and zinc selenide (ZNSE). The IV-IV compound semiconductors segment is bifurcated into silicon carbide (SIC) and silicon germanium (SIGE). The others segment includes aluminum gallium arsenide (ALGAAS), aluminum indium arsenide (ALINAS), aluminum gallium nitride (ALGAN), aluminum gallium phosphide (ALGAP), indium gallium nitride (INGAN), cadmium zinc telluride (CDZNTE), and mercury cadmium telluride (HGCDTE).

□□□ □ □□□□□□□□□□ □□□□□□□□ □□□□□□ @ <https://www.alliedmarketresearch.com/request-for-customization/1006>

Based on product, the compound semiconductor market size is categorized into power semiconductors, transistors, integrated circuits (ICs), diodes & rectifiers, and others. The transistors segment is further classified into high electron mobility transistors (HEMTs), metal oxide semiconductor field effect transistors (MOSFETs), and metal-semiconductor field effect transistors (MESFETs). The integrated circuit is bifurcated into monolithic microwave integrated circuits (MMICs) and radio frequency integrated circuits (RFICs). The diode & rectifiers segment is further segmented into PIN diode, Zener diode, Schottky diode, and light emitting diode. By deposition technology, the market is segmented into chemical vapor deposition (CVD), molecular beam epitaxy (MBE), hydride vapor phase epitaxy (HVPE), ammonothermal, liquid phase epitaxy

(LPE), atomic layer deposition (ALD), and others.

Based on applications, the compound semiconductor market analysis is segregated into IT & telecom, industrial and energy & power, aerospace & defense, automotive, consumer electronics, and healthcare. IT & telecom is further segmented into signal amplifiers & switching systems, satellite communication applications, radar applications, and RF. Aerospace & defense is classified into combat vehicles, ships & vessels, and microwave radiation. Industrial and energy & power are further segmented into wind turbines and wind power systems. Consumer electronics is further segmented into inverters, LED lighting, and switch-mode consumer power supply systems. The automotive segment is further divided into electric vehicles & hybrid electric vehicles, automotive braking systems, rail traction, and automobile motor drives. The healthcare segment is further bifurcated into implantable medical devices and biomedical electronics.

Region-wise, the compound semiconductor market trends are analyzed across North America (the U.S., Canada, and Mexico), Europe (UK, Germany, France, and the rest of Europe), Asia-Pacific (China, Japan, India, Australia, and the rest of the Asia-Pacific), and LAMEA (Latin America, the Middle East, and Africa).

□□□ □□□□□□□□ □□ □□□ □□□□□□

- The IV-IV compound semiconductor segment dominated the [compound semiconductor market growth](#), in terms of revenue, and is expected to follow the same trend during the forecast period.□
- The power semiconductor segment was the highest revenue contributor to the market in 2021, and it is anticipated to grow at a significant CAGR during the forecast period.
- The chemical vapor deposition and molecular beam epitaxy segments collectively accounted for around 42.7% market share in 2019, with the former constituting around 23.5% share
- The IT and telecom segment was the highest revenue contributor to the market in 2021.
- Asia-Pacific and North America collectively accounted for around 74.2% share in 2019, with the former constituting around 51.37% share.

The key players profiled in the report include Cree Inc., Infineon Technologies AG, Nichia Corporation, NXP Semiconductor N.V., Qorvo, Renesas Electronics Corporation, Samsung Electronics, STMicroelectronics NV, Taiwan Semiconductor Manufacturing Company Ltd., and Texas Instruments Inc. These players have adopted various strategies such as product launches, acquisitions, partnerships, and expansion to expand their foothold in the industry.

□□□□□□□ □□□□□□ □□□□□□: <https://www.alliedmarketresearch.com/purchase-enquiry/1006>

□□□□□ □□:

Allied Market Research is a top provider of market intelligence that offers reports from leading technology publishers. Our in-depth market assessments in our research reports take into

account significant technological advancements in the sector. In addition to other areas of expertise, AMR focuses on the analysis of high-tech systems and advanced production systems. We have a team of experts who compile thorough research reports and actively advise leading businesses to enhance their current procedures. Our experts have a wealth of knowledge on the topics they cover. Also, they use a variety of tools and techniques when gathering and analyzing data, including patented data sources.

David Correa

Allied Market Research

+1 800-792-5285

[email us here](#)

Visit us on social media:

[Facebook](#)

[X](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/758477176>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.