

Graphene Nanocomposites Market Size & Share Analysis - Growth Trends & Forecasts (2025 - 2030)

> ****Industry:**** Advanced Materials & Composites (Chemicals & Materials)
> ****Source:**** https://www.mordorintelligence.com/industry-reports/graphene-nanocomposites-market(https://www.mordorintelligence.com/industry-reports/graphene-nanocomposites-market)
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Executive Market Summary

Market Metric	Details
Base Market Size	USD 555.89 billion
Projected Forecast (2031)	USD 555.89 billion
Growth Rate (CAGR)	30.00%
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

! [Major players in Graphene Nanocomposites industry] (images/chart_2.png)

! [Graphene Nanocomposites Market Size] (images/chart_3.png)

! [Graphene Nanocomposites Market Share] (images/chart_4.png)

! [Graphene Nanocomposites Market Growth] (images/chart_5.png)

! [Haydale Graphene Industries plc., GrapheneTech, S.L., NanoXplore Inc., XG Sciences, Aztrong.] (images/chart_6.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Study Period | 2019 - 2030 |
Forecast Data Period | 2025 - 2030 |
Historical Data Period | 2019 - 2023 |
CAGR | 30.00% |
Fastest Growing Market | Asia-Pacific |
Largest Market | Asia-Pacific |
Market Concentration | Medium |
Major Players*Disclaimer: Major Players sorted in no particular order

Market Overview Section

Graphene Nanocomposites Market Analysis by Mordor IntelligenceThe Graphene Nanocomposites Market is expected to register a CAGR of greater than 30% during the forecast period.

The market was negatively impacted by COVID-19 in 2020. Due to the COVID-19 outbreak in the first half of 2020, the electronics and semiconductor industry was significantly affected. This, in turn, has unfavorably impacted the consumption of graphene nanocomposites. The market is projected to grow steadily, owing to increased demand for electronics and semiconductors in 2021.

Over the short term, rising applications of graphene nanocomposites from the electronic sector and growing demand for graphene nanocomposites in the production of biomedical devices in developed and emerging economies worldwide are some of the driving factors augmenting the growth of the market studied.

However, the high cost associated with its synthesis is a key factor anticipated to restrain the growth of the target industry over the forecast period.

Nevertheless, emerging applications for graphene nanocomposites and the development of bio-based graphene nanocomposites will likely create lucrative growth opportunities for the global market soon.

The Asia-Pacific region is expected to dominate the market and is also likely to witness the highest CAGR during the forecast period. This growth is attributed to a rise in the consumption of graphene nanocomposites from the electronics, medical, packaging, automotive, and construction sectors in the countries of this region, including China, Japan, and India.

Market Trends Section Component 4

Global Graphene Nanocomposites Market Trends and InsightsRising Demand from Electrical and Electronics End-user IndustriesThe electrical and electronics segment accounted for a significant revenue share in the graphene nanocomposites market in 2021.

Graphene offers thermal and conductivity abilities, making it suitable for interconnections in electronic circuits and parts of the circuits. Graphene nanocomposites are lightweight materials capable of conducting thermal, electrical, and robust traits, which are widely used in manufacturing various electronics and semiconductor components.

Graphene nanocomposites find applications in flexible radio frequency identification tags, thin film transistors, various types of sensors, supercapacitors, photovoltaic and transparent conductors, touch screen points, optical limiters, optical frequency converters, and terahertz devices. The product is also used for smartphones, ultra-thin flexible displays, conductive coatings, and printable electronics applications.

Augmenting electronics and semiconductor industries and the rising adoption of graphene nanocomposites in respective applications are among the key factors driving the growth of the target industry. For instance,

- o According to the stats released by the National Bureau of Statistics of China, the annual growth rate of value added in the electronics manufacturing industry in China accounted for 15.7% in 2021, compared to 7.7% in 2020.

- o As per the Consumer Technology Association, the growth rate of the consumer electronics industry in the United States was registered at 4.3% in 2021, 2.2% more than in 2020, thereby enhancing the demand for graphene nanocomposites and augmenting the growth of the market studied.

o Moreover, according to the Semiconductor Industry Association, the global semiconductor market size accounted for USD 555.89 billion in 2021, compared to the USD 440.39 billion in 2020, and it is expected to register a market size of USD 613.52 billion by 2022, which will propel the growth of the target industry over the forecast period.

o Thus, the demand for graphene nanocomposites will also significantly increase with the growing electronics and semiconductor industries.

Therefore, considering the aforementioned factors, the demand for graphene nanocomposites is expected to rise significantly in the electrical and electronics end-user industry segment in the near future.

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Market Trends Section

Asia-Pacific Region to Dominate the MarketThe Asia-Pacific region dominated the worldwide market in 2021, with a significant market share in terms of revenue, and is projected to maintain its dominance during the forecast period of 2022-2027.

Growing demand for graphene nanocomposites in packaging, building and construction, automotive, and electronics applications across the Asian countries is the primary factor driving the growth of the target industry in Asia-Pacific.

Besides electronics and semiconductors, graphene nanocomposites also find applications in the food and beverage packaging and electronics packaging sectors due to their good thermal response, gas permeability, mechanical strength, electrical conductivity, etc.

Graphene nanomaterials are also used in the development of graphene-reinforced cement composites. Further, the product is also used in various automotive and aerospace applications, such as the light-weighting of automotive structures, automotive panels, aircraft fuel systems, sensors, and graphene conductors.

Rapidly growing packaging, construction, automotive, and electronics sectors in India, China, and Japan are propelling demand for graphene nanocomposites which will further enhance the growth of the market studied.

o As per the Japan Packaging Institute (JPI), the Japanese packaging industry was valued at JPY 6,147.7 billion in 2021, and over JPY 6,010.9 billion in 2020, which is likely to enhance the demand for graphene nanocomposites in respective applications.

o According to India Brand Equity Foundation, the Indian e-commerce industry is likely to increase by 21.5%, reaching USD 74.8 billion, in 2022. Furthermore, the country's e-commerce industry is expected to reach USD 350 billion by 2030. A rising trend in the e-commerce sector is likely to enhance the demand for packaging, which will augment the demand for the studied market in the country.

o As per the National Bureau of Statistics of China, the output value of the construction works in China accounted for CNY 25.92 trillion in 2021 compared to CNY 23.27 trillion in 2020; this enhanced the demand for graphene nanocomposites in respective construction applications.

o As per the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT), the value of orders received for construction works in Japan was valued at JPY 15.1 trillion in 2021 compared to JPY 14.88 trillion in 2020, thereby fuelling demand for graphene nanocomposites market.

o According to OICA, China produced 26.08 million unit's vehicles in 2021, registering an increase of 3% compared to 25.23 million units produced in 2020. As per India Energy Storage Alliance (IESA), the Indian EV industry is expected to expand at a CAGR of 36%, stimulating the demand for graphene nanocomposites.

o Moreover, as per the India Brand Equity Foundation, the domestic production of electronics in India has grown from USD 29 billion in 2014-15 to USD 67 billion in 2020-21, which has propelled the demand for graphene nanocomposites in respective applications in the electronics segment.

All aforementioned factors are likely to fuel the growth of the Asia-Pacific graphene nanocomposites market over the forecast time frame.

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Industry Overview Section Component 6

Competitive LandscapeThe graphene nanocomposites market is partially consolidated in nature. Some of the major players in the market include Haydale Graphene Industries plc., GrapheneTech, S.L., NanoXplore Inc., XG Sciences, and Aztronic, among others. (not in any particular order)

Segmentation Toc Component 10

Global Graphene Nanocomposites Market Report ScopeGraphene nanocomposites offer superior electrical, mechanical, optical, chemical, and thermal properties. These nanocomposites possess a high aspect ratio, which makes them ideal for reinforcement. Graphene nanocomposites are widely used to develop new materials for alternative energy sources. Some key applications of graphene nanocomposites include chemical and biosensors, energy storage devices, nanoelectromechanical systems, smartphones, ultra-thin flexible displays, transparent touchscreens, super-fast transistors, conductive coatings, fuel cells batteries, ultracapacitors, and bone tissue engineering applications, among others. The graphene nanocomposites market is segmented by type, end-user industry, and geography. By type, the market is segmented into graphene oxide (GO), graphene nanoplatelets (GNP), and other types. By end-user industry, the market is segmented into electrical and electronics, medical, automotive, and aerospace, building and construction, packaging, and other end-user industries. The report also covers the market size and forecasts for the graphene nanocomposites market in 15 countries across major regions. For each segment, the market sizing and forecasts have been done based on value (USD million).

TypeGraphene Oxide (GO) |
Graphene Nano Platelets (GNP) |
Other Types |

Segmentation Accordion Item

GeographyAsia-Pacific | China |
| India |
| Japan |
| South Korea |
| Rest of Asia-Pacific |
North America | United States |
| Canada |
| Mexico |
Europe | Germany |
| United Kingdom |
| Italy |
| France |
| Rest of Europe |
South America | Brazil |

- | Argentina |
- | Rest of South America |
- Middle-East and Africa | Saudi Arabia |
- | South Africa |
- | Rest of Middle-East and Africa |

Frequently Asked Questions

What is the current Graphene Nanocomposites Market size?

The Graphene Nanocomposites Market is projected to register a CAGR of greater than 30% during the forecast period (2025-2030)

Who are the key players in Graphene Nanocomposites Market?

Haydale Graphene Industries plc, GrapheneTech, S.L., NanoXplore Inc., XG Sciences and Aztronic are the major companies operating in the Graphene Nanocomposites Market.

Which is the fastest growing region in Graphene Nanocomposites Market?

Asia-Pacific is estimated to grow at the highest CAGR over the forecast period (2025-2030).

Which region has the biggest share in Graphene Nanocomposites Market?

In 2025, the Asia-Pacific accounts for the largest market share in Graphene Nanocomposites Market.

What years does this Graphene Nanocomposites Market cover?

The report covers the Graphene Nanocomposites Market historical market size for years: 2019, 2020, 2021, 2022, 2023 and 2024. The report also forecasts the Graphene Nanocomposites Market size for years: 2025, 2026, 2027, 2028, 2029 and 2030.