

# **Graphene Composites Market Report by Product Type (Polymer Based, Metal Based, Ceramic Based, and Others), Application (Sport and Wearable Goods, Aerospace and Defense, Automotive, Building and Construction, Energy Storage and Generation, and Others), and Region 2024-2032**

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## **Abstracts**

The global graphene composites market size reached US\$ 27.4 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 250.6 Billion by 2032, exhibiting a growth rate (CAGR) of 27.3% during 2024-2032.

Graphene includes a two-dimensional matrix of carbon atoms that are arranged in a honeycomb lattice. Graphene composites are manufactured by combining two or more components, including graphene, to create a substance with specific properties. These composites are primarily incorporated into a wide range of polymers, including epoxy, polystyrene, polyethylene terephthalate, polypropylene, polyaniline, etc. Graphene composites offer numerous benefits such as dimensional stability at high temperature, improved thermal and electrical conductivity, lightweight nature, enhanced UV and fire resistance, etc. As a result, these composites are widely adopted across various sectors, including aerospace, defense, building and construction, automotive, energy storage and generation, etc.

Graphene Composites Market Trends:

The escalating utilization of graphene composites in the aviation and aeronautical sectors to develop fuel-efficient and lightweight aircraft structures is primarily driving the global market. In line with this, the growing consumer awareness towards the high electrical conductivity of graphene composites that helps in producing de-icing systems

in aircraft is further propelling the market growth. Graphene composites are also used to manufacture smart aero structures which absorb less moisture and are damage resistant. Apart from this, the rising applications of graphene composites in energy storage systems, electrochemical sensors, and semiconductors based on enhanced thermal conductivity, improved durability, and strong mechanical stiffness are further augmenting the product demand. Additionally, the increasing popularity of electric vehicles is also catalyzing the use of graphene composites to improve energy capacity and reduce overall weight of the rechargeable batteries. Moreover, the significant growth in the consumer electronics sector coupled with the rising penetration of wearable devices is positively influencing the demand for graphene composites. In the coming years, the expanding usage of graphene composites in the biotechnology sector for cellular imaging, drug delivery, and cancer treatment will continue to bolster the global market in the coming years.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global graphene composites market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on product type and application.

#### Breakup by Product Type:

- Polymer Based
- Metal Based
- Ceramic Based
- Others

#### Breakup by Application:

- Sport and Wearable Goods
- Aerospace and Defense
- Automotive
- Building and Construction
- Energy Storage and Generation
- Others

#### Breakup by Region:

- North America

United States  
Canada  
Asia-Pacific  
China  
Japan  
India  
South Korea  
Australia  
Indonesia  
Others  
Europe  
Germany  
France  
United Kingdom  
Italy  
Spain  
Russia  
Others  
Latin America  
Brazil  
Mexico  
Others  
Middle East and Africa

#### Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being AdNano Technologies Pvt Ltd., Applied Graphene Materials plc, BGT Materials Limited, First Graphene Limited, G6 Materials Corp., GC Technologies Ltd., Graphene One LLC, Graphmatech AB, Haydale Graphene Industries plc, NanoXplore Inc., The Sixth Element (Changzhou) Materials Technology Co. Ltd and XG Sciences Inc.

#### Key Questions Answered in This Report

1. What was the size of the global graphene composites market in 2023?
2. What is the expected growth rate of the global graphene composites market during 2024-2032?
3. What are the key factors driving the global graphene composites market?
4. What has been the impact of COVID-19 on the global graphene composites market?

5. What is the breakup of the global graphene composites market based on the product type?
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7. What are the key regions in the global graphene composites market?
8. Who are the key players/companies in the global graphene composites market?

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