

Global Graphene Market

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Abstracts

Summary:

The global market for graphene is estimated to grow from \$694.4 million in 2025 to reach \$2.3 billion by the end of 2030, at a compound annual growth rate (CAGR) of 27.5% from 2025 through 2030.

Graphene, a single layer of sp²-bonded carbon atoms arranged in a two-dimensional honeycomb lattice, has emerged as one of the most transformative nanomaterials due to its exceptional mechanical, electrical, thermal and optical properties. With superior electron mobility of over 200,000 cm²/V-s, a tensile strength more than 100 times that of steel, and optical transparency of almost 97% (Graphenea, NanoEmi, ACS Material), graphene has enormous potential in the fields of energy, transportation, electronics, healthcare, construction, chemistry and materials. In the electronics sector, graphene is gaining momentum due to its high conductivity and flexibility, enabling the development of flexible displays, high-speed transistors and energy-efficient sensors. In addition, graphene's biocompatibility and surface functionalization potential create lucrative opportunities in biomedicine, including areas such as drug delivery systems, biosensors and antimicrobial coatings.

Energy storage is another critical field, where graphene enhances lithium-ion battery and supercapacitors' performance through increased charge capacities and faster charge/discharge cycles. For instance, Sweden-based Granode Materials develops "silicon-graphene anode material" to fabricate lighter and compact lithium-ion batteries, exhibiting faster charging durability. In addition, it can hold more charge per unit of weight than other kinds of battery anodes, thus enhancing the performance of electric vehicles. In October 2024, Be Dimensional SpA, an Italian materials firm, was offered financial backing of around €20 million in venture debt finance from the European Investment Bank to increase its production of advanced graphene, strengthen Europe's

industrial base and boost its international competitiveness.

Other sectors also leverage graphene's high surface area and adsorption capacity for water purification and gas separation technologies. For instance, Directa Plus, an Italian supplier of graphene nanoplatelets, supplies graphene-enhanced solutions for textiles and water treatment solutions. The industrialization of graphene is being accelerated by ongoing developments in scalable synthesis techniques, including liquid-phase exfoliation and chemical vapor deposition, as well as growing funding and regulatory frameworks. Graphene is, therefore, strategically important for businesses or nations aiming to lead in advanced manufacturing, clean energy and next-generation electronics.

Report Scope

The graphene market report is segmented into product type, grade, form, production method, application, and end-use. The report covers market analysis for the U.S., Canada, Mexico, Brazil, China, Japan, India, South Korea, Germany, the U.K., Italy, France, Spain and Argentina, where the opportunity for graphene is gaining momentum in the global market. The regional analysis covers North America, Europe, Asia-Pacific, South America, and the Middle East and Africa (MEA).

The report is prepared in an easy-to-understand format. The tables and figures illustrate historical, current and future market scenarios. The report considers 2024 as the base year and 2025 as the estimated year, and market values are forecasted for five years until 2030. All market values are in US \$ thousands.

Report Includes

Industry insights and a brief overview of the global market data for graphene

In-depth analysis of global market trends, featuring revenue data for 2024, estimated figures for 2025, including projections of CAGRs through 2030

Evaluation of the current market size and revenue growth prospects specific to graphene, accompanied by a market share analysis by country, product type, grade, form, production method, application, end use, and region

Country specific sales data and analysis for the U.S., Canada, Mexico, U.K., France, Germany, Italy, Spain, China, Japan, India, South Korea, Brazil,

Argentina, Saudi Arabia, UAE, and South Africa

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