

Graphene Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> ****Industry:**** Advanced Materials & Composites (Chemicals & Materials)
> ****Source:**** https://www.mordorintelligence.com/industry-reports/graphene-market
> ****Scraped Date:**** 2026-09-17

Executive Market Summary

Market Metric	Details
Base Market Size	USD 15.20 billion
Projected Forecast (2031)	USD 15.20 billion
Growth Rate (CAGR)	39.18 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

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

! [Graphene Market (2026 - 2031)] (images/chart_3.png)

! [Graphene Market: Market Share by Product Type] (images/chart_4.png)

! [Graphene Market: Market Share by End-user Industry] (images/chart_5.png)

! [Graphene Market CAGR (%), Growth Rate by Region] (images/chart_6.png)

! [Graphene Market - Market Concentration] (images/chart_7.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market OverviewStudy Period | 2021 - 2031 |
Market Size (2026) | USD 2.91 Billion |
Market Size (2031) | USD 15.20 Billion |
Growth Rate (2026 - 2031) | 39.18 % |
Fastest Growing Market | Asia Pacific |
Largest Market | Asia Pacific |
Market Concentration | Medium |
Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Graphene Market Analysis by Mordor Intelligence The Graphene Market size was valued at USD 2.09 billion in 2025 and is estimated to grow from USD 2.91 billion in 2026 to reach USD 15.20 billion by 2031, at a CAGR of 39.18% during the forecast period (2026-2031). Demand momentum is strongest where weight, thermal, or electrochemical limits constrain incumbent materials, particularly in aerospace composites, grid-scale batteries, and sub-3 nm semiconductors. Sovereign funding amplifies this pull: the United States earmarked USD 140 million in 2025 for graphene-enhanced anode manufacturing, while the European Commission continues to subsidize pilot lines that compress scale-up risk for small and mid-sized producers. Cost parity against carbon nanotubes remains distant, yet China's vertically integrated clusters narrow the gap by 40% against Western equivalents, accelerating commoditization in polymer masterbatches and anti-corrosion coatings. Patent filings rose 34% year-over-year in 2025, concentrated in 5G electromagnetic-interference foams and flexible electronics, signaling that intellectual-property intensity rather than raw tonnage will differentiate winners through 2031.

Key Report Takeaways* By product type, graphene nanoplatelets held 56.14% of the graphene market share in 2025; graphene nanoplatelets are projected to expand at a 44.63% CAGR through 2031.

* By application, energy storage and harvesting are forecast to post a 46.20% CAGR to 2031, while composites led with 35.14% of the graphene market size in 2025

* By end-user industry, electronics and telecommunications commanded 53.21% revenue in 2025; biomedical and healthcare are advancing at a 46.07% CAGR through 2031.

* By geography, Asia-Pacific generated 45.23% of 2025 revenue and is expected to grow at a 45.69% CAGR to 2031, sustaining the largest regional graphene market share.

Key Market Trends

Market Trends and Insights Drivers Impact Analysis of Graphene Market* Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

Aerospace adoption of graphene composites | +6.2% | North America & Europe, emerging in APAC | Medium term (2-4 years) |

Graphene anti-corrosion coatings in desalination | +4.8% | Middle East, North Africa, APAC coastal regions | Long term (≥ 4 years) |

Energy-storage retrofits using graphene anodes | +9.1% | Global, highest in APAC and North America | Short term (≤ 2 years) |

Electronics and semiconductor integration | +10.3% | Taiwan, South Korea, China; spill-over to North America | Short term (≤ 2 years) |

EMI-shielding foams for 5G infrastructure | +5.4% | China, South Korea, United States | Medium term (2-4 years) |

Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The Graphene market is fragmented. Late-stage funding gravitates to capacity expansion that marries cost reduction with functional differentiation. Talga's EUR 150 million EIB loan finances a 19,500 tpa Swedish anode plant feeding Northvolt, illustrating ESG-aligned capital's pull toward battery supply chains. First Graphene's 60% capacity bump in Australia, coupled with automated dispersion that trims labor by 25%, pursues parity with Chinese cost curves. HydroGraph's Texas detonation-synthesis plant, enabled by a North American industrial-gas partnership, exemplifies feedstock-security plays in an era of onshoring. Collectively, these moves sketch a sector that is simultaneously racing to tonnage and jockeying for IP-driven pricing moats.

Graphene Industry Leaders* First Graphene Ltd

- * Haydale Graphene Industries plc
- * NanoXplore Inc.
- * The Sixth Element (Changzhou) Materials Technology Co.,Ltd
- * Global Graphene Group

* *Disclaimer: Major Players sorted in no particular order

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Scope Methodology P Space

Our study defines the graphene market as the annual revenue generated from the sale of pristine or functionalized single- to few-layer carbon sheets supplied in powder, film, dispersion, or masterbatch form for commercial use across all end-user sectors. Conductive inks, battery anodes, polymer composites, and thermal spreaders made with graphene additives are counted at their material value; downstream device revenues are excluded.

Scope exclusion: Research-grade samples sold in gram quantities for academic labs are outside the baseline.

Segmentation Container

- * By Product Type* Graphene Sheets and Films
- * Graphene Nanoplatelets (GNP)
- * Graphene Oxide (GO)
- * Nanoplatelets
- * Others
- * By Application* Composites
- * Energy Storage and Harvesting
- * Printed and Flexible Electronics
- * Biomedical and Healthcare
- * Coatings and Paints
- * Others
- * By End-user Industry* Electronics and Telecommunications
- * Aerospace and Defense
- * Energy and Power
- * Biomedical and Healthcare
- * Others(automotive, Chemical and Coatings)
- * By Geography* Asia-Pacific* China
- * Japan
- * South Korea
- * India
- * ASEAN Countries
- * Rest of Asia-Pacific
- * North America* United States
- * Canada
- * Mexico
- * Europe* Germany
- * United Kingdom
- * France
- * Italy
- * Spain

- * NORDIC Countries
- * Rest of Europe
- * South America* Brazil
- * Argentina
- * Colombia
- * Rest of South America
- * Middle-East and Africa* Saudi Arabia
- * United Arab Emirates
- * South Africa
- * Egypt
- * Rest of Middle-East and Africa

Frequently Asked Questions

How fast will Asia-Pacific demand for graphene grow to 2031?

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What is the main bottleneck preventing lower graphene prices?

High energy consumption in liquid-phase exfoliation and limited economies of scale keep production costs USD 200-500/kg for CVD sheets and USD 60-120/kg for nanoplatelets.

Which graphene application shows the highest growth through 2031?

Energy storage and harvesting, propelled by battery retrofits and fast-charge EV cells, is forecast to grow at a 46.20% CAGR.

Why do aerospace customers pay premium prices for graphene?

AS9100 certification cycles span up to two years, restricting qualified supply and enabling prices near USD 1,800/kg for flight-critical nanoplatelets.

What share of capacity do the five largest graphene producers hold?

The combined capacity of the top five producers is below 25%, signaling a fragmented supply base with room for consolidation.