

Graphene Market By Type (Mono-layer & Bi-layer Graphene, Few Layer Graphene (FLG) , Graphene Oxide (GO) , Graphene Nano Platelets (GNP)) , By Application (Electronics, Composites, Energy storage, Paint, Coatings & Inks, Tires, Others) : Global Opportunity Analysis and Industry Forecast, 2024-2028

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Abstracts

The graphene market was valued at \$0.3 billion in 2023, and is projected to reach \$1.4 billion by 2028, growing at a CAGR of 34.6% from 2024 to 2028.

Graphene is a single layer of carbon atoms arranged in a two-dimensional honeycomb lattice. It's one of the thinnest, strongest, and most conductive materials discovered to date, with remarkable mechanical, thermal, and electrical properties. Its unique characteristics make it highly versatile, offering the potential to revolutionize materials science by enabling the development of lighter, stronger, and more efficient technologies.

The growth of the global graphene market is driven by surge in demand for lightweight and strong materials from industries such as aerospace, automotive, and construction, where lightweight yet strong materials are essential for improving fuel efficiency and durability. In addition, increase in penetration of electronics and energy storage significantly contributes toward the growth of the global market. According to a 2023 study, approximately 3,756 global consumer electronics manufacturing businesses are running across the world as of 2024. Furthermore, graphene's biocompatibility and antibacterial properties are driving interest in medical fields, including drug delivery systems, biosensors, and tissue engineering, thereby augmenting the market growth.

Moreover, increase in environmental and energy efficiency goals is fueling the demand for graphene. This is attributed to the fact that graphene exhibits the potential to reduce material usage and increase energy efficiency supports carbon reduction goals. However, high production cost of graphene significantly hampers the growth of the global market. In addition, the availability of established materials like carbon fibers, silicon, and traditional polymers acts as a key deterrent factor of the global market. On the contrary, continued R&D activities are lowering the costs and improving the scalability of graphene production, which are expected to offer lucrative opportunities for the expansion of the global market during the forecast period.

The global graphene market is segmented into type, application, and region. By type, the market is classified into mono-layer & bi-layer graphene, few layer graphene (FLG), graphene oxide (GO), and graphene nano platelets (GNP). On the basis of application, it is divided into electronics, composites, energy storage, paint, coatings and inks, tires, and others. Region wise, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

Key Findings

By type, the graphene nano platelets (GNP) segment held the highest market share in 2023, and is expected to maintain its leadership status from 2024 to 2028.

Depending on application, the energy storage segment garnered the largest share in 2023, and is anticipated to dominate during the forecast period.

Region wise, Asia-Pacific exhibited the highest growth, in terms of revenue, in 2023.

Competition Analysis

Competitive analysis and profiles of the major players in the global graphene market include ACS Material, Applied Graphene Materials, CVD Equipment Corporation, Directa Plus S.p.A., G6 Materials Corp, Graphenea, Grolltex Inc, NANOTEK INSTRUMENTS INC, NanoXplore Inc., and Vorbeck Materials Corp. These major players have adopted various key development strategies such as business expansion, new product launches, and partnerships to sustain the intense competition and gain a strong foothold in the global market.

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Supply Chain Analysis & Vendor Margins

Upcoming/New Entrant by Regions

Technology Trend Analysis

Go To Market Strategy

Market share analysis of players by products/segments

New Product Development/ Product Matrix of Key Players

Regulatory Guidelines

Additional company profiles with specific to client's interest

Additional country or region analysis- market size and forecast

Expanded list for Company Profiles

Import Export Analysis/Data

Key player details (including location, contact details, supplier/vendor network etc. in excel format)

List of customers/consumers/raw material suppliers- value chain analysis

SWOT Analysis

Volume Market Size and Forecast

Key Market Segments

By Type

Mono-layer Bi-layer Graphene

Few Layer Graphene (FLG)

Graphene Oxide (GO)

Graphene Nano Platelets (GNP)

By Application

Electronics

Composites

Energy storage

Paint, Coatings Inks

Tires

Others

By Region

North America

U.S.

Canada

Mexico

Europe

France

Germany

Italy

Spain

UK

Rest of Europe

Asia-Pacific

China

Japan

India

South Korea

Australia

Rest of Asia-Pacific

LAMEA

Brazil

South Africa

Saudi Arabia

Rest of LAMEA

Key Market Players

ACS Material

Applied Graphene Materials

CVD Equipment Corporation

Directa Plus S.p.A.

G6 Materials Corp

Graphenea

Grolltex Inc

NANOTEK INSTRUMENTS INC

NanoXplore Inc.

Vorbeck Materials Corp.

Contents

CHAPTER 1: INTRODUCTION

- 1.1. Report Description
- 1.2. Key Market Segments
- 1.3. Key Benefits
- 1.4. Research Methodology
 - 1.4.1. Primary Research
 - 1.4.2. Secondary Research
 - 1.4.3. Analyst Tools and Models

CHAPTER 2: EXECUTIVE SUMMARY

- 2.1. CXO Perspective

CHAPTER 3: MARKET LANDSCAPE

- 3.1. Market Definition and Scope
- 3.2. Key Findings
 - 3.2.1. Top Investment Pockets
 - 3.2.2. Top Winning Strategies
- 3.3. Porter's Five Forces Analysis
 - 3.3.1. Bargaining Power of Suppliers
 - 3.3.2. Threat of New Entrants
 - 3.3.3. Threat of Substitutes
 - 3.3.4. Competitive Rivalry
 - 3.3.5. Bargaining Power among Buyers
- 3.4. Market Dynamics
 - 3.4.1. Drivers
 - 3.4.2. Restraints
 - 3.4.3. Opportunities

CHAPTER 4: GRAPHENE MARKET, BY TYPE

- 4.1. Market Overview
 - 4.1.1 Market Size and Forecast, By Type
- 4.2. Mono-layer Bi-layer Graphene
 - 4.2.1. Key Market Trends, Growth Factors and Opportunities

- 4.2.2. Market Size and Forecast, By Region
- 4.2.3. Market Share Analysis, By Country
- 4.3. Few Layer Graphene (FLG)
 - 4.3.1. Key Market Trends, Growth Factors and Opportunities
 - 4.3.2. Market Size and Forecast, By Region
 - 4.3.3. Market Share Analysis, By Country
- 4.4. Graphene Oxide (GO)
 - 4.4.1. Key Market Trends, Growth Factors and Opportunities
 - 4.4.2. Market Size and Forecast, By Region
 - 4.4.3. Market Share Analysis, By Country
- 4.5. Graphene Nano Platelets (GNP)
 - 4.5.1. Key Market Trends, Growth Factors and Opportunities
 - 4.5.2. Market Size and Forecast, By Region
 - 4.5.3. Market Share Analysis, By Country

CHAPTER 5: GRAPHENE MARKET, BY APPLICATION

- 5.1. Market Overview
 - 5.1.1 Market Size and Forecast, By Application
- 5.2. Electronics
 - 5.2.1. Key Market Trends, Growth Factors and Opportunities
 - 5.2.2. Market Size and Forecast, By Region
 - 5.2.3. Market Share Analysis, By Country
- 5.3. Composites
 - 5.3.1. Key Market Trends, Growth Factors and Opportunities
 - 5.3.2. Market Size and Forecast, By Region
 - 5.3.3. Market Share Analysis, By Country
- 5.4. Energy Storage
 - 5.4.1. Key Market Trends, Growth Factors and Opportunities
 - 5.4.2. Market Size and Forecast, By Region
 - 5.4.3. Market Share Analysis, By Country
- 5.5. Paint, Coatings Inks
 - 5.5.1. Key Market Trends, Growth Factors and Opportunities
 - 5.5.2. Market Size and Forecast, By Region
 - 5.5.3. Market Share Analysis, By Country
- 5.6. Tires
 - 5.6.1. Key Market Trends, Growth Factors and Opportunities
 - 5.6.2. Market Size and Forecast, By Region
 - 5.6.3. Market Share Analysis, By Country

5.7. Others

5.7.1. Key Market Trends, Growth Factors and Opportunities

5.7.2. Market Size and Forecast, By Region

5.7.3. Market Share Analysis, By Country

CHAPTER 6: GRAPHENE MARKET, BY REGION

6.1. Market Overview

6.1.1 Market Size and Forecast, By Region

6.2. North America

6.2.1. Key Market Trends and Opportunities

6.2.2. Market Size and Forecast, By Type

6.2.3. Market Size and Forecast, By Application

6.2.4. Market Size and Forecast, By Country

6.2.5. U.S. Graphene Market

6.2.5.1. Market Size and Forecast, By Type

6.2.5.2. Market Size and Forecast, By Application

6.2.6. Canada Graphene Market

6.2.6.1. Market Size and Forecast, By Type

6.2.6.2. Market Size and Forecast, By Application

6.2.7. Mexico Graphene Market

6.2.7.1. Market Size and Forecast, By Type

6.2.7.2. Market Size and Forecast, By Application

6.3. Europe

6.3.1. Key Market Trends and Opportunities

6.3.2. Market Size and Forecast, By Type

6.3.3. Market Size and Forecast, By Application

6.3.4. Market Size and Forecast, By Country

6.3.5. France Graphene Market

6.3.5.1. Market Size and Forecast, By Type

6.3.5.2. Market Size and Forecast, By Application

6.3.6. Germany Graphene Market

6.3.6.1. Market Size and Forecast, By Type

6.3.6.2. Market Size and Forecast, By Application

6.3.7. Italy Graphene Market

6.3.7.1. Market Size and Forecast, By Type

6.3.7.2. Market Size and Forecast, By Application

6.3.8. Spain Graphene Market

6.3.8.1. Market Size and Forecast, By Type

- 6.3.8.2. Market Size and Forecast, By Application
- 6.3.9. UK Graphene Market
 - 6.3.9.1. Market Size and Forecast, By Type
 - 6.3.9.2. Market Size and Forecast, By Application
- 6.3.10. Rest Of Europe Graphene Market
 - 6.3.10.1. Market Size and Forecast, By Type
 - 6.3.10.2. Market Size and Forecast, By Application
- 6.4. Asia-Pacific
 - 6.4.1. Key Market Trends and Opportunities
 - 6.4.2. Market Size and Forecast, By Type
 - 6.4.3. Market Size and Forecast, By Application
 - 6.4.4. Market Size and Forecast, By Country
 - 6.4.5. China Graphene Market
 - 6.4.5.1. Market Size and Forecast, By Type
 - 6.4.5.2. Market Size and Forecast, By Application
 - 6.4.6. Japan Graphene Market
 - 6.4.6.1. Market Size and Forecast, By Type
 - 6.4.6.2. Market Size and Forecast, By Application
 - 6.4.7. India Graphene Market
 - 6.4.7.1. Market Size and Forecast, By Type
 - 6.4.7.2. Market Size and Forecast, By Application
 - 6.4.8. South Korea Graphene Market
 - 6.4.8.1. Market Size and Forecast, By Type
 - 6.4.8.2. Market Size and Forecast, By Application
 - 6.4.9. Australia Graphene Market
 - 6.4.9.1. Market Size and Forecast, By Type
 - 6.4.9.2. Market Size and Forecast, By Application
 - 6.4.10. Rest of Asia-Pacific Graphene Market
 - 6.4.10.1. Market Size and Forecast, By Type
 - 6.4.10.2. Market Size and Forecast, By Application
- 6.5. LAMEA
 - 6.5.1. Key Market Trends and Opportunities
 - 6.5.2. Market Size and Forecast, By Type
 - 6.5.3. Market Size and Forecast, By Application
 - 6.5.4. Market Size and Forecast, By Country
 - 6.5.5. Brazil Graphene Market
 - 6.5.5.1. Market Size and Forecast, By Type
 - 6.5.5.2. Market Size and Forecast, By Application
 - 6.5.6. South Africa Graphene Market

- 6.5.6.1. Market Size and Forecast, By Type
- 6.5.6.2. Market Size and Forecast, By Application
- 6.5.7. Saudi Arabia Graphene Market
 - 6.5.7.1. Market Size and Forecast, By Type
 - 6.5.7.2. Market Size and Forecast, By Application
- 6.5.8. Rest of LAMEA Graphene Market
 - 6.5.8.1. Market Size and Forecast, By Type
 - 6.5.8.2. Market Size and Forecast, By Application

CHAPTER 7: COMPETITIVE LANDSCAPE

- 7.1. Introduction
- 7.2. Top Winning Strategies
- 7.3. Product Mapping Of Top 10 Player
- 7.4. Competitive Dashboard
- 7.5. Competitive Heatmap
- 7.6. Top Player Positioning, 2023

CHAPTER 8: COMPANY PROFILES

- 8.1. ACS Material
 - 8.1.1. Company Overview
 - 8.1.2. Key Executives
 - 8.1.3. Company Snapshot
 - 8.1.4. Operating Business Segments
 - 8.1.5. Product Portfolio
 - 8.1.6. Business Performance
 - 8.1.7. Key Strategic Moves and Developments
- 8.2. Applied Graphene Materials
 - 8.2.1. Company Overview
 - 8.2.2. Key Executives
 - 8.2.3. Company Snapshot
 - 8.2.4. Operating Business Segments
 - 8.2.5. Product Portfolio
 - 8.2.6. Business Performance
 - 8.2.7. Key Strategic Moves and Developments
- 8.3. CVD Equipment Corporation
 - 8.3.1. Company Overview
 - 8.3.2. Key Executives

- 8.3.3. Company Snapshot
- 8.3.4. Operating Business Segments
- 8.3.5. Product Portfolio
- 8.3.6. Business Performance
- 8.3.7. Key Strategic Moves and Developments
- 8.4. Directa Plus S.p.A.
 - 8.4.1. Company Overview
 - 8.4.2. Key Executives
 - 8.4.3. Company Snapshot
 - 8.4.4. Operating Business Segments
 - 8.4.5. Product Portfolio
 - 8.4.6. Business Performance
 - 8.4.7. Key Strategic Moves and Developments
- 8.5. G6 Materials Corp
 - 8.5.1. Company Overview
 - 8.5.2. Key Executives
 - 8.5.3. Company Snapshot
 - 8.5.4. Operating Business Segments
 - 8.5.5. Product Portfolio
 - 8.5.6. Business Performance
 - 8.5.7. Key Strategic Moves and Developments
- 8.6. Graphenea
 - 8.6.1. Company Overview
 - 8.6.2. Key Executives
 - 8.6.3. Company Snapshot
 - 8.6.4. Operating Business Segments
 - 8.6.5. Product Portfolio
 - 8.6.6. Business Performance
 - 8.6.7. Key Strategic Moves and Developments
- 8.7. Grolltex Inc
 - 8.7.1. Company Overview
 - 8.7.2. Key Executives
 - 8.7.3. Company Snapshot
 - 8.7.4. Operating Business Segments
 - 8.7.5. Product Portfolio
 - 8.7.6. Business Performance
 - 8.7.7. Key Strategic Moves and Developments
- 8.8. NANOTEK INSTRUMENTS INC
 - 8.8.1. Company Overview

- 8.8.2. Key Executives
- 8.8.3. Company Snapshot
- 8.8.4. Operating Business Segments
- 8.8.5. Product Portfolio
- 8.8.6. Business Performance
- 8.8.7. Key Strategic Moves and Developments
- 8.9. NanoXplore Inc.
 - 8.9.1. Company Overview
 - 8.9.2. Key Executives
 - 8.9.3. Company Snapshot
 - 8.9.4. Operating Business Segments
 - 8.9.5. Product Portfolio
 - 8.9.6. Business Performance
 - 8.9.7. Key Strategic Moves and Developments
- 8.10. Vorbeck Materials Corp.
 - 8.10.1. Company Overview
 - 8.10.2. Key Executives
 - 8.10.3. Company Snapshot
 - 8.10.4. Operating Business Segments
 - 8.10.5. Product Portfolio
 - 8.10.6. Business Performance
 - 8.10.7. Key Strategic Moves and Developments

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