

Graphene Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 200 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

The global graphene market was estimated to be valued at USD 556 million by the end of this year and is projected to register a CAGR of over 38% during the forecast period.

COVID-19 negatively impacted the market in 2020 and 2021. With the resumption of operations in major end-user industries, it significantly recovered in 2022.

Key Highlights

Over the medium term, the rising demand for printed electronics is expected to drive the market.

However, the drawbacks associated with graphene hinder the market's growth.

The development of single-crystal graphene sheets as a substitute for copper foil and the increasing use of graphene in touch screens are likely to act as opportunities for the market studied.

The Asia-Pacific region accounts for the highest market share and is expected to dominate the market during the forecast period.

Graphene Market Trends

Electronics and Telecommunication Segment to Dominate the Market

Electronics and telecommunication is the largest end-user industry for graphene and its derivatives. This industry uses graphene for various applications, including unbreakable touchscreens, transistors, supercharged batteries (enhanced lithium-ion batteries), optical electronics, printed electronics, and conductive inks.

The electronics industry is making significant progress, and the demand for the market studied is growing rapidly. The production of cellular phones, portable computing devices, gaming systems, and other personal electronic devices may continue to spark the

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

demand for electronic components, which is expected to boost the demand for graphene.

In addition, graphene may modernize the smartphone industry by replacing the existing touchscreen technology. Graphene is considerably cheaper than the materials used in most modern smartphones and is much more agile. Graphene is used on a commercial scale in optoelectronics, specifically touchscreens (for smartphones, tablets, desktop computers, and televisions), liquid crystal displays (LCDs), and organic light-emitting diodes (OLEDs).

Germany has the largest electronic industry in Europe. According to the German Electrical and Electronic Manufacturers' Association, in December 2021, the electro and digital industry sales in Germany accounted for USD 21.03 billion, registering a growth rate of 8.5% compared to December 2020.

The electro and digital industry sales in Germany accounted for USD 231.89 billion in 2021, witnessing a growth rate of 9.7% compared to 2020. In production, the electro and digital industry registered a growth rate of 3.4% in December 2021 compared to December 2020. Industrial production grew by 8.8% compared to the 2020 production value.

The Asia-Pacific electronic industry has grown rapidly, owing to the high demand from countries like India and China. China is a strong, favorable market for electronics producers, owing to the country's low labor cost and flexible policies. ?

India is expected to have a digital economy of USD 1 trillion by 2025. Furthermore, the country's electronics system design and manufacturing (ESDM) sector is expected to generate over USD 100 billion in economic value by 2025. The production of electricals and electronics in India is expected to increase rapidly due to government initiatives such as Make in India and the National Policy of Electronics, as well as the government's moves to lower import dependence and boost exports and manufacturing.

Due to the factors mentioned above, the demand for electronic goods is set to increase in the forecast period, thereby increasing the demand for graphene.

Asia-Pacific Region to Dominate the Market

The Asia-Pacific region accounts for the largest share of the graphene market. Owing to rapid industrialization and rising graphene-based application patents in the region, graphene oxide is anticipated to register high growth.

China has one of the largest production bases for electronics. It offers tough competition to the existing upstream producers, such as South Korea, Singapore, and Taiwan. Electronic products such as smartphones, OLED TVs, and tablets have the highest growth rates in the consumer electronics segment of the market in terms of demand.

According to the International Air Transport Association (IATA), India is poised to become the third-largest aviation market in the world by the end of the forecast period. The country is projected to have a demand for 2,100 aircraft over the next two decades, amounting to over USD 290 billion in sales. ?Owing to these factors, the demand for graphene from the aerospace sector is expected to rise.

According to the Stockholm International Peace Research Institute (SIPRI), China allocated an estimated USD 293 billion to its military in 2021, an increase of 4.7% compared to 2020.

The Photovolt Ukushima Solar PV Park is a 480 MW solar PV power project planned in Nagasaki, Japan. The project is currently in the permitting stage. It may be developed in a single phase. After the completion of the construction, the project is expected to get commissioned in July 2023.

In Japan, according to Japan Electronics and Information Technology Industries Association (JEITA), as of December 2021, the global production of Japanese electronics and IT industry, including electronic equipment, components, devices, and others, was estimated to register a growth of 8% Y-o-Y in 2021 to USD 332.76 billion and the industrial production is expected to be valued at USD 338.96 billion in 2022, with an estimated growth of 2% Y-o-Y.

Hence, owing to the trends mentioned above, Asia-Pacific is likely to dominate the market studied during the forecast period.

Graphene Market Competitor Analysis

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

The global graphene market is consolidated, where top players hold the majority share of the market studied. Some of the major players in the market include NanoXplore Inc., Morsh, Sixth Element (Changzhou) Materials Technology Co. Ltd, XG Sciences Inc., and Global Graphene Group, among other companies.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

Table of Contents:

1 INTRODUCTION

- 1.1 Study Assumptions
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET DYNAMICS

- 4.1 Drivers
 - 4.1.1 Rising Demand for Printed Electronics
- 4.2 Restraints
 - 4.2.1 Drawbacks Associated with Graphene
- 4.3 Industry Value Chain Analysis
- 4.4 Porter's Five Forces Analysis
 - 4.4.1 Bargaining Power of Suppliers
 - 4.4.2 Bargaining Power of Buyers
 - 4.4.3 Threat of New Entrants
 - 4.4.4 Threat of Substitute Products and Services
 - 4.4.5 Degree of Competition
- 4.5 Price Trends
- 4.6 Technological Landscape - Quick Snapshot
- 4.7 Production Analysis

5 MARKET SEGMENTATION (Market Size in Value)

- 5.1 Product Type
 - 5.1.1 Graphene Sheets and Films
 - 5.1.2 Nanoribbons
 - 5.1.3 Nanoplatelets
 - 5.1.4 Graphene Oxide
 - 5.1.5 Other Product Types
- 5.2 End-user Industry
 - 5.2.1 Electronics and Telecommunication
 - 5.2.2 Bio-medical and Healthcare
 - 5.2.3 Energy
 - 5.2.4 Aerospace and Defense

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

5.2.5 Other End-user Industries

5.3 Geography

5.3.1 Asia-Pacific

5.3.1.1 China

5.3.1.2 India

5.3.1.3 Japan

5.3.1.4 South Korea

5.3.1.5 ASEAN Countries

5.3.1.6 Rest of Asia-Pacific

5.3.2 North America

5.3.2.1 United States

5.3.2.2 Canada

5.3.2.3 Mexico

5.3.3 Europe

5.3.3.1 Germany

5.3.3.2 United Kingdom

5.3.3.3 Italy

5.3.3.4 France

5.3.3.5 Spain

5.3.3.6 Rest of Europe

5.3.4 South America

5.3.4.1 Brazil

5.3.4.2 Argentina

5.3.4.3 Rest of South America

5.3.5 Middle East

5.3.5.1 Saudi Arabia

5.3.5.2 South Africa

5.3.5.3 Rest of Middle East

6 COMPETITIVE LANDSCAPE

6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements

6.2 Market Ranking Analysis

6.3 Strategies Adopted by Leading Players

6.4 Company Profiles

6.4.1 2D Carbon Graphene Materials Co. Ltd

6.4.2 ACS Material

6.4.3 Applied Graphene Materials PLC

6.4.4 China Carbon Graphite Inc. (Royal Elite New Energy Science & Technology (Shanghai) Co. Ltd)

6.4.5 Elcora Advanced Materials Corp.

6.4.6 Global Graphene Group

6.4.7 Graphene Manufacturing Group Ltd

6.4.8 Grafoid Inc.

6.4.9 Grupo Graphenano

6.4.10 G6 Materials Corp.

6.4.11 Graphenea

6.4.12 Haydale Graphene Industries PLC

6.4.13 Morsh (Ningbo Moxi Technology Co. Ltd)

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 6.4.14 NanoXplore Inc.
- 6.4.15 Perpetuus Advanced Material PLC
- 6.4.16 The Sixth Element (Changzhou) Materials Technology Co. Ltd
- 6.4.17 Thomas Swan & Co. Ltd
- 6.4.18 Versarien PLC
- 6.4.19 Vorbeck Materials Corp.
- 6.4.20 XGSciences
- 6.4.21 Xiamen Knano Graphene Technology Corporation Limited

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

- 7.1 Development of Single-crystal Graphene Sheets as Substitute for Copper Foil
- 7.2 Increasing Use of Graphene in Touchscreens

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Graphene Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 200 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-03"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

