

Graphene Coating Market by Product Type (Solvent-based and Water-based), Application (Corrosion-resistant Coating, Scratch-resistant Coating, Antifouling Coating, Flame-retardant Coating), Enduse industry, and Region - Global Forecast to 2028

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Abstracts

Graphene coating's estimated global market size is USD 137 million in 2023, and it is anticipated to reach USD 496 million by 2028. Between 2023 and 2028, this growth is anticipated to occur at a Compound Annual Growth Rate (CAGR) of 29.4 %. The demand for graphene coatings is attributed to several factors, driving growth and expansion in various industries. Firstly, the unique properties of Graphene coating render it a prime candidate for an extensive array of applications. Increased demand from industries such as automotive, aerospace, marine, electronics, and medical is driving the growth of the graphene coatings market. Graphene coatings consist of a thin layer of graphene applied to material surfaces. Graphene, a two-dimensional lattice of carbon atoms, exhibits extraordinary properties, including exceptional mechanical strength, high conductivity, and remarkable barrier effects. At the molecular level, it is six times lighter and more flexible than steel while being 200 times stronger. The application of graphene coatings offers a protective surface layer with customizable characteristics such as thickness and conductivity. These coatings prove highly effective in impeding the diffusion of oxygen atoms, thereby preventing oxidation on the coated surface. Consequently, the demand for Graphene coating continues to grow across a wide number of industries, propelled by its adaptability, endurance, and ecoconscious innovations.

"Corrosion-resistant Coating is the largest application segment in terms volume and value."



In 2022, the market for Graphene coating was dominated by the Corrosion-resistant Coating application. It will be the leading the application segment in the global graphene coating market and it is expected to keep growing in the near future.

Graphene coatings present an innovative solution for corrosion resistance, leveraging the exceptional properties of graphene to provide a robust protective layer. The two-dimensional lattice structure of graphene acts as an impermeable barrier, hindering the penetration of corrosive agents like moisture and oxygen. This, coupled with graphene's chemical inertness, makes the coatings highly effective in preventing corrosion. These coatings are compatible with various substrates, offering corrosion protection without compromising material integrity in various end use industries. In the automotive sector, graphene coatings can be applied to various metal components, such as car bodies, chassis, exhaust systems, and engine parts. The barrier properties of graphene prevent the penetration of corrosive elements, extending the lifespan of automotive, aerospace and marine parts and reducing maintenance costs.

Graphene coating is impeccably positioned to meet this surge in demand, owing to its cost-effectiveness, ease of maintenance, and adaptability.

"Automotive end use industry segment of Graphene coating is to witness the highest growth rate during the forecast period."

Throughout the forecast period, the Automotive end use industry segment of the graphene coating segment is anticipated to grow most significantly. Graphene coating is preferred across many applications such as scratch-resistant and corrosion-resistant in automotive due to its versatility and unique properties. The automotive industry is experiencing significant growth, driven by advancements in technology, increased consumer demand for innovative features, and a focus on sustainability. Graphene coatings have emerged as a transformative technology within the automotive sector, offering numerous benefits. Graphene coatings provide an effective barrier against corrosion, a critical concern in the automotive industry. Graphene's exceptional mechanical strength makes it highly resistant to wear and abrasion. As technology advances, the demand for Graphene coating is expected to keep growing, making it a fundamental component of the global automotive industry.

"Solvent-based product type of graphene coating is to be the leading segment during the forecast period."

Solvent-based graphene coating will be the largest segment of the global Graphene coating market in 2022. This is primarily due to its remarkable adaptability and



exceptional qualities. Solvent-based graphene coatings often offer a user-friendly application process. The use of solvents facilitates even and consistent coating on diverse surfaces, allowing for efficient and reliable application methods such as spraying. This ease of application contributes to the widespread adoption of solvent-based graphene coatings in different end use industries.

"Asia Pacific is the leading market for Graphene coating."

An extensive analysis of the Asia Pacific Graphene coating market has been conducted, taking into account South Korea, China, Japan, India, and the rest of the region. Due to demographic changes, increasing economic conditions in emerging economies, and the continued trend of modernization, this region presents a very promising market for graphene coating. The Asia-Pacific region's ever-evolving consumer landscape, combined with government support for the automotive, aerospace and marine industries, firmly establishes the region as a significant contributor to the global demand for Graphene coating.

Breakdown of Profiles of Primary Interviews:

By Company Type- Tier 1- 60%, Tier 2- 20%, and Tier 3- 20%

By Designation- C Level- 33%, Director Level- 33%, and Managers- 34%

By Region- North America- 20%, Europe- 25%, Asia Pacific (APAC) - 25%, Latin America-10%, Middle East & Africa (MEA)-20%,

The report provides a comprehensive analysis of company profiles listed below:

NanoXplore Inc. (Canada)

Vorbeck Materials Corp (US)

Universal Matter (Canada)

Xiamen Knano Graphene Technology Co., Ltd (China)

Graphenea Inc. (Spain)



Grafoid Inc.(Canada)

KISHO Corporation Co., Ltd. (Japan)

Haydale Graphene Industries PLC (UK)

Directa Plus S.p.A. (UK)

Petroliam Nasional Berhad (PETRONAS) (Malaysia)

Global Graphene Group (US)

Deyang Encarbon Technology Co., Ltd. (China).

Research Coverage

This report covers the Graphene coating market by product type, application, end use industry and region. It aims at estimating the size and future growth potential of the market across various segments. The report also includes an in-depth competitive analysis of the key market players, along with their profiles and key growth strategies.

Reasons to buy the report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall Graphene coating market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Cost effectiveness), restraints (Competition from substitute products), opportunities (Growth by evolving fashion trends and active lifestyles), and challenges (Microplastic pollution due to excessive use) influencing the growth of the Graphene coating market.



Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the Graphene coating market

Market Development: Comprehensive information about lucrative markets – the report analyses the Graphene coating market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the Graphene coating market

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players in the Graphene coating



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