Composites Market by Fiber Type (Glass Fiber Composites, Carbon Fiber Composites, Natural Fiber Composites), Resin Type (Thermoset Composites, Thermoplastic Composites), Manufacturing Process, End-use Industry, and Region - Global Forecast to 2028

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Report description:

The global composites market size is projected to grow from 108.8 USD billion in 2023 and is estimated to reach 181.7 USD billion by 2028., at a CAGR of 10.8% between 2023 and 2028. Composite materials are transforming numerous industries by integrating different materials to form an enhanced composite. These materials provide exceptional versatility, allowing customization of characteristics such as durability, rigidity, electrical conductivity, and heat tolerance through careful selection and combination of components. Often presenting a substantial reduction in weight compared to traditional metals or materials, composites are perfectly suited for use in sectors like aerospace, transportation, and sports equipment.

"Carbon fiber composites are the fastest-growing fiber type of composites market in terms of value."

Carbon fiber composites are projected to register the highest CAGR in terms of value between 2023 and 2028.Carbon fiber is renowned for its exceptional strength and lightweight properties, making it a superior. carbon fiber finds extensive application in industries such as aerospace, automotive, sports equipment, and construction due to its ability to enhance the performance and efficiency of products. In the aerospace industry, for instance, the use of carbon fiber composites contributes to significant weight savings, leading to improved fuel efficiency and reduced emissions.

"Thermoplastic composites is the fastest-growing resin type of composites, in terms of value."

Thermoplastic composites have emerged as the most rapidly expanding category of resin types. In recent times, there has been a notable surge in the utilization of thermoplastic resins within the realm of fiber-reinforced composites. This type of resin, when combined with continuous fiber, yields structural composite products. A key benefit of employing thermoplastic resin as a matrix substance is its ability to be remolded and reused, distinguishing it from thermoset resin. As a result, composites made from

thermoplastic resin are easily recyclable, leading to a significant rise in their adoption over the past decade.
"Resin Transfer Molding (RTM) manufacturing process is the second fastest-growing manufacturing process of composites, in terms of value."
RTM utilizes a rigid, yet flexible, counter mold to enhance surface compression during the vacuum-assisted resin transfer process. This method leads to superior strength-to-weight ratios, increased laminate compaction, and elevated glass-to-resin ratios. It is primarily used for molding large, complexly shaped parts with a high-quality finish. Such components are typically found in automotive, construction, infrastructure, and aerospace sectors. The RTM technique is anticipated to see significant growth over the next five years, particularly due to its expanding use in the automotive and construction sectors within emerging markets.
"Wind energy is the second fastest-growing end-use industry of composites, in terms of value."
The wind energy sector is forecasted to experience the second-highest compound annual growth rate (CAGR) over the next five years. Composite materials, known for their remarkable tensile strength, play a crucial role in constructing wind turbines, facilitating the production of large blades and increased energy output. Approximately 70-75% of the weight of wind blades consists of fiber reinforcement, typically combined with epoxy or unsaturated polymer resins. Fiberglass, renowned for its robust tensile strength, aids manufacturers in achieving larger blades and maximizing energy production. Moreover, fiberglass enhances the wind energy industry's resilience by enabling turbines to operate effectively in harsh environments, thanks to its corrosion-resistant properties.
"Asia Pacific is the fastest-growing composites market."
The Asia Pacific region is forecasted to experience the highest compound annual growth rate (CAGR) in the composites sector in terms of value over the upcoming five years. This region holds significant potential for growth in the electrical and electronics industry. The continuous expansion of technologically advanced electronic devices has generated a substantial need for lightweight and strong electronic products. This escalating demand for cutting-edge electronic products across diverse applications has spurred innovations and advancements in the composites industry within Asia Pacific.
This study has been validated through primary interviews conducted with various industry experts globally. These primary sources have been divided into the following three categories:
-By Company Type - Tier 1- 40%, Tier 2- 33%, and Tier 3- 27%
-By Designation - C Level- 50%, Director Level- 30%, and Executives- 20%
-By Region - North America- 15%, Europe- 50%, Asia Pacific- 20%, Middle East & Africa (MEA)-10%, Latin America-10%
The report provides a comprehensive analysis of company profiles listed below:
-Owens Corning (US)
-Toray Industries, Inc. (Japan)
-Teijin Limited (Japan)
- Mitsubishi Chemical Holdings Corporation (Japan)
- Hexcel Corporation (US)
- SGL Group (Germany)
-Nippon Electric Glass Co. Ltd. (Japan)
-Huntsman International LLC. (US)
-Solvay S.A. (Belgium)

Research Coverage

This report covers the global composites market and forecasts the market size until 2028. The report includes the market segmentation - Fiber Type (Glass Fiber Composites, Carbon Fiber Composites, Natural Fiber Composites, and Other), Resin Type (Thermoset Composites and Thermoplastic Composites), Manufacturing process (Lay-up, filament winding, injection molding, pultrusion, compression molding, RTM, and others), End-use Industry (Aerospace & Defense, Wind Energy, Automotive & Transportation, Construction & Infrastructure, Marine, Pipes, Tanks & Pressure vessels, Electrical & Electronics, and Others) and Region (Europe, North America, Asia Pacific, South America, and Middle East & Africa). Porter's Five Forces analysis, along with the drivers, restraints, opportunities, and challenges, are discussed in the report. It also provides company profiles and competitive

strategies adopted by the major players in the global composites market.
Key benefits of buying 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 composites 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 (Increasing demand from aerospace applications
-□Extensive use of composites in construction & infrastructure industry, Growing demand from satellite parts manufacturing, Stringent eco-friendly regulations to drive adoption of composites in automotive applications, Increasing use of ATF and AFP technologies for manufacturing aircraft primary structures, Increasing focus on lightweight and high-performance materials), restraints (High processing and manufacturing costs, Lack of standardization in manufacturing technologies
-□Limitations in use of carbon fiber composites in high-temperature aerospace applications), opportunities (High demand for environmentally friendly electric vehicles, Growing adoption of natural fiber composites, Growing penetration of natural fiber composites and carbon fiber composites in emerging applications, Reduction of carbon fiber composite costs, Increasing use of carbon fiber composites in 3D printing, Increasing number of wind energy capacity installations
-□Development of advanced software tools for prepreg product development, High demand for carbon fiber composite in CNG and hydrogen storage.,) and challenges (Developing low-cost technologies,Issues related to recycling) influencing the growth of the composite market

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

-□Market Development: Comprehensive information about lucrative markets - the report analyses the composite market across varied regions.

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

-□Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like Owens Corning (US), Toray Industries, Inc. (Japan), Teijin Limited (Japan), Mitsubishi Chemical Holdings Corporation (Japan), Hexcel Corporation (US), SGL Group (Germany), Nippon Electric Glass Co. Ltd. (Japan), Huntsman International LLC. (US), Solvay S.A. (Belgium) among others in the composite market.

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