Advanced Composite Materials - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Advanced Composite Materials Market size is estimated at USD 2.46 billion in 2025, and is expected to reach USD 3.29 billion by 2030, at a CAGR of greater than 6% during the forecast period (2025-2030).

The COVID-19 pandemic had negatively impacted the market for advanced composite materials. The nationwide lockdowns and strict social distancing measures resulted in the closure of airplane and automotive manufacturing facilities, thereby affecting the market for advanced composite materials. However, post-COVID pandemic, the market recovered well after the restrictions were lifted. The market recovered significantly, owing to the rise in consumption of advanced composite materials in aerospace and defense, wind energy, and automotive end-user industries.

The increasing demand for lightweight materials in the aerospace and defense industries and the rising demand for fuel-efficient and lightweight vehicles are expected to drive the market.

The increasing prices of raw materials are expected to hinder the market's growth.

The recycling of advanced composites and the increasing demand for nanocomposites are expected to create opportunities for the market during the forecast period.

The North American region is expected to dominate the market. It is also expected to register the highest CAGR during the forecast period due to rising demand for advanced composite materials in aerospace and defense, wind energy, automotive, and marine end-user industries.

Aerospace and Defense End-user Industry to Dominate the Market

- The demand for composite materials is increasing in the aerospace industry. The use of composite materials in commercial transport aircraft is massive because reduced airframe weight enables better fuel economy and, therefore, lowers operating costs.

- The advanced composite materials include high strength, stiffness, heat and chemical resistivity, electrical conductivity, and various other thermal and chemical properties. Thus, the usage of advanced composites is increasing in the aerospace and defense industry.
- According to the International Air Transport Association (IATA), the global revenue for commercial airlines was valued at USD 472 billion in 2021 and USD 727 billion in 2022, registering a growth rate of 43.6% Y-o-Y. Furthermore, the revenue is expected to reach USD 779 billion by the end of 2023. Such factors are likely to increase the demand for advanced composite materials from aerospace parts manufacturing in the years to come.
- Boeing, one of the largest global aircraft manufacturers, announced it delivered a total of 480 aircraft in 2022, which is an increase of 41% compared to the total of 340 aircraft across the world in 2021. Thus, the increasing deliveries of new aircraft are expected to drive the demand for advanced composites.
- The United States is the manufacturing hub for airplanes in the North American region. Airbus and Boeing are the largest manufacturers of airplanes in the country. For instance, in 2022, Airbus delivered 661 commercial aircraft, registering 1,078 gross new orders by the end of the year. Similarly, Boeing Aeroplane OEM company received orders for 57 of the 737 Max 8 jets, with delivery expected through 2025. Thus, the increasing demand for airplanes is expected to drive the market for advanced composite materials.
- In Europe, the rising production of aircraft, mainly in countries such as France and Germany, is expected to drive the demand for advanced composite materials. In May 2023, VoltAero, an aircraft manufacturer, announced plans to build a manufacturing facility for hybrid-electric aircraft in France. Thus, the increasing production of new aircraft in the region will drive the demand for advanced composites in the region.
- Many countries are focusing on growing a domestic defense industry while manufacturing hardware locally. These factors are expected to drive the demand for advanced composite materials during the forecast period. Hence, owing to the factors mentioned above, the aerospace and defense application segment is expected to dominate the market during the forecast period.

North America Region to Dominate the Market

- The North American region is expected to dominate the market for advanced composite materials during the forecast period. The demand for advanced composite materials is increasing in aerospace and defense, automotive, and electronics industries in countries like the United States, Canada, and Mexico.
- According to data from the Bureau of Transportation Statistics, airlines in the United States carried 853 million passengers in 2022 at a growth rate of 30% compared to 674 million passengers in 2021. Thus, several airline companies are expanding their fleet and procuring aircraft with advanced capabilities to cater to the increasing demand for air passengers. For instance, in February 2022, American Airlines ordered 30 new 737 Max 8 jets from Boeing. Thus, the rising demand for commercial airplanes is expected to drive the current studied market.
- In North America, especially in the United States, the electronics industry is expected to grow at a moderate rate. An increase in the demand for new technological products is expected to help the market expansion in the future.
- In the United States, the rapid pace of innovation in terms of the advancement of technologies and R&D activities in the

electronics industry is driving the demand for newer and faster electronic products. According to the Consumer Technology Association, the retail revenue from consumer electronics and technology sales in the United States was estimated at USD 505 billion in 2022, compared to USD 461 billion in 2021.
- According to the Advanced Medical Technology Association (AMTA), America's medical technology companies play a crucial role in diagnosing and providing patients with quality treatment options, improving outcomes, reducing healthcare costs, and driving economic growth. The United States is the world's largest medical device market, accounting for over 40% of the global medical device market.
- According to OICA, in 2022, the United States automotive vehicle production reached 10.06 million compared to 9.15 million units manufactured in 2021, at a growth rate of 9%. Thus, the rise in vehicle production will drive the market for advanced composite materials in the region.
- Due to all such factors, the market for advanced composite materials in the region is expected to register a growth rate during the forecast period.

Advanced Composite Materials Industry Overview

The advanced composite materials market is fragmented in nature. Some of the major players in the market include (not in any particular order) TORAY INDUSTRIES INC., Kolon Industries Inc., SGL Carbon, Mitsubishi Chemical Carbon Fiber and Composites Inc., and TEIJIN LIMITED.

Additional Benefits:

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

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