

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

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Report description:

The automotive composites market was valued at USD 27.12 billion in 2021 and is expected to reach USD 56.46 billion by 2027, registering a CAGR of over 13% during the forecast period 2022 - 2027.

Over the short term, the COVID-19 pandemic has had a negative impact on the market. With stringent lockdown and social distancing norms implemented across the world, the production of composite materials was severely affected. With the reduced number of vehicle sales worldwide, the market opportunity for composites to be used as different structures in vehicles was completely reduced.

Over the long term, Factors such as increasing demand for lightweight materials from the automotive industry and a growing focus on fuel economy are expected to be major drivers for the market. However, the high cost associated with carbon fiber composites and glass fiber composites is hindering the growth of the market. Usage of such composites in low-cost vehicles could increase the prices of such vehicles drastically.

The low recyclability of composites is also a restraint for their penetration in entry-level passenger vehicles. However, collaborations of the OEMs with suppliers (due to rising demand for fuel-efficient vehicles, growing lightweight electrical vehicle segment, and major automobile giants, like BMW and Nissan, trying to replace their existing metal parts with composite fibers) imply the scope and booming opportunity that the market is anticipated to offer over the forecast period.

Presently, composite materials, like thermoplastics and reinforced glass, have drawn the attention of carmakers, making them focus on sourcing better, tensile, and lighter components to manufacture automobile units.

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Automotive Composites Market Trends

Growing Demand for Lightweight Materials

The automotive industry has been focusing on the weight of vehicles as it has a direct impact on driving dynamics and fuel consumption. Due to the high cost of potential lightweight solutions and consumers' limited willingness to pay for weight reduction in automotive, the use of costly lightweight materials has so far been limited.

As governments worldwide are implementing stringent emission regulations and planning to set even higher emissions standards in the coming years, the importance of lightweight materials will likely increase. In a typical automobile, fiber is 50% by volume, while adding just 10% to the weight. In the United States, regulations mandate that by 2025, the average fuel economy standard must meet 54.5 miles per gallon.

A mileage-sensitive market like India is a great market for composites, owing to the demand for better fuel efficiency from vehicles, which can be achieved by using different composites. Although composites can account for a great business in the country, the costs associated with the research and development of the composites in vehicles can be a restraint for the market.

With the demand for lightweight vehicles increasing rapidly in developing economies, the market for carbon fiber composites is projected to grow at a fast pace during the forecast period.

Asia-Pacific leading the Automotive Composite Market

The automotive composites market is led by Asia-Pacific, followed by Europe and North America, in that order. The demand for lightweight materials is growing rapidly in the region due to the growing automotive industry and emission regulations.

For instance, in India, the automotive industry is expanding rapidly, with the rising income level of consumers. In addition, the demand for lighter vehicles has increased with awareness about fuel efficiency and environmental benefits.

Currently, India is the fifth-largest producer of light and commercial vehicles and is the second-largest producer of two-wheeler vehicles. With the rapid growth in manufacturing capacities in the country, the consumption of carbon fiber composites is expected to increase during the forecast period.

Emission legislation regulations in the United States and Europe have forced automobile manufacturers to restrict the exhaust levels of their vehicles. Vehicles in the European region have started to adapt to Euro 6 norms, while other regions have also followed suit. The higher standards (which are for controlling the emissions) are, in turn, dependent on the vehicle's weight, combustion, and fuel efficiency and thus are difficult to achieve.

Demand for customized cars is on the rise globally, with the younger population showing a keen interest in customizing their cars like sports and racing cars. In the manufacture of racing cars and luxury sports cars, thermoset composites have already been widely in use for many years. Together, these factors are expected to drive the market for automobile composites toward exponential growth in the future.

Automotive Composites Market Competitor Analysis

Companies, such as Toho Tenex (Teijin Ltd), Toray Industries Inc, Mitsubishi Chemical Carbon Fiber and Composites, Inc., and SGL Carbon, are some of the major players in the market studied. Companies are trying to invent new composites that can reduce the

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vehicle's total weight to much lower proportions. For instance,

In June 2021, Mitsubishi Chemical Co., Ltd. announced the development of a new carbon fiber prepreg that can be used as a part of an automotive engine.

In March 2021, Hexcel joined ASCEND Project, aiming to improve high-rate manufacturing and processing technologies to develop lightweight advanced composite materials for the automotive and aerospace industry.

BMW has adopted carbon fiber reinforced plastic in a mixed-material approach. Its German competitor, Audi, is also using the material to produce the rear wall of the space frame for its A8 luxury sedan. This part provides around 40% of the vehicle's overall torsional rigidity, making it suitable for manufacture with CFRP. The part is around 50% lighter in weight than its metallic predecessor.

Additional Benefits:

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

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