

Fiber Reinforced Composites Industry Set to Nearly Double from USD 14.8 Billion in 2024 to USD 27.7 Billion by 2035 -TMR

Global Fiber Reinforced Composites Market to Grow from USD 14.8 Billion in 2024 to USD 27.7 Billion by 2035 Driven by Aerospace and Automotive Demand - TMR

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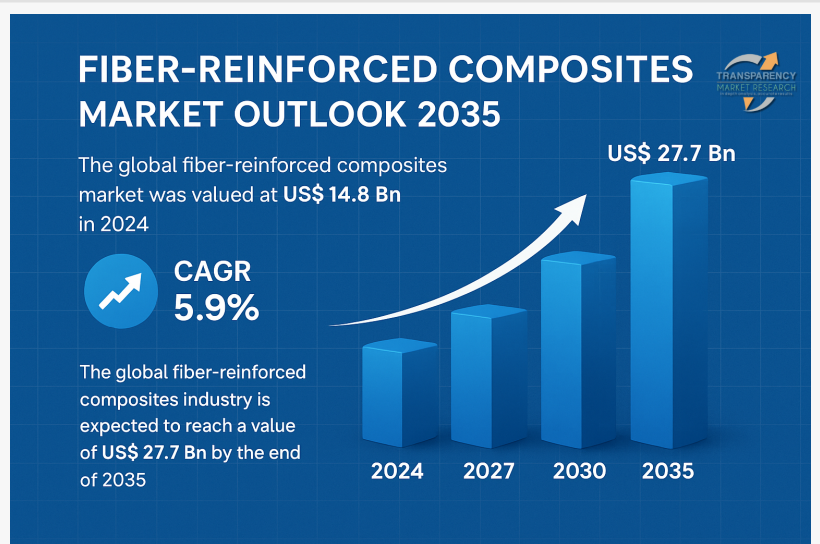
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The global fiber-reinforced composites market is set to witness robust growth, driven by rising demand across aerospace, automotive, construction, and renewable energy sectors. Valued at US\$ 14.8 Bn in 2024, the market is projected to expand at a CAGR of 5.9% between 2025 and 2035. By 2035, it is expected to reach US\$ 27.7 Bn, supported by the increasing adoption of lightweight, durable, and high-performance materials. Sustainability initiatives and technological advancements in composite manufacturing are further accelerating industry expansion.

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Fiber Reinforced Composites Market to Generate USD 27.7 Billion in Revenues by 2035 Supported by Rising Use in Infrastructure and Renewable Energy”

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Analysts' Viewpoint on the Fiber-reinforced Composites Market

The fiber-reinforced composites market is experiencing strong growth, driven by the rising adoption of lightweight

and high-strength materials across key sectors such as automotive, aerospace, wind energy, and

construction. Produced primarily by impregnating fibers like carbon or glass into a polymer matrix, these composites offer superior durability, corrosion resistance, and reduced weight compared to conventional metallic materials.

The increasing use of composites in electric vehicles and commercial aircraft highlights global efforts to improve fuel efficiency and reduce emissions, in line with sustainability targets. Similarly, the wind energy industry relies heavily on fiber-reinforced composites for turbine blades, further boosting market expansion.

Leading players are investing in advanced manufacturing processes, recycling technologies, and cost-effective production methods to enhance accessibility. At the same time, ongoing R&D in hybrid composites and strategic partnerships are broadening application areas and improving performance. With supportive regulations favoring eco-friendly materials, fiber-reinforced composites are emerging as a key enabler of next-generation engineering applications.

Fiber-reinforced Composites Market Overview

Fiber-reinforced composites are advanced engineering materials created by combining high-strength fibers—such as carbon, glass, or aramid—with a polymer, metal, or ceramic matrix. The result is a lightweight yet highly durable material with exceptional resistance to wear, corrosion, and fatigue. By efficiently distributing stress through embedded fibers, these composites surpass traditional metals in terms of strength-to-weight ratio, making them ideal for industries that demand both efficiency and reliability.

Applications span multiple sectors:

- Aerospace and Automotive: Enhance safety, reduce weight, and improve fuel efficiency.
- Wind Energy: Critical for manufacturing long-lasting, high-performance turbine blades that withstand harsh conditions.
- Construction: Used in bridges, reinforcements, and architectural structures due to their longevity and resistance to environmental degradation.
- Marine and Other Industries: Provide strength and durability in applications exposed to challenging operating environments.

As industries continue to prioritize sustainability, performance, and cost-efficiency, fiber-reinforced composites are set to play a pivotal role in shaping modern engineering and green technology solutions.

Major Players' Analysis in the Fiber-reinforced Composites Market

The global fiber-reinforced composites market is shaped by the presence of leading manufacturers such as Toray Industries, Hexcel Corporation, Owens Corning, and Solvay. These companies are recognized for their specialized carbon fibers, fiberglass, resins, and prepreg

solutions, tailored to applications across aerospace, automotive, wind energy, and construction industries. Their innovations deliver an excellent strength-to-weight ratio, durability, design flexibility, and cost-effectiveness, making them indispensable in meeting the growing demand for lightweight and sustainable engineering solutions.

In addition, LyondellBasell Industries, Mitsubishi, Teijin Limited, and SABIC Group contribute significantly to the competitive landscape. With a strong emphasis on innovation, productivity, and material efficiency, these companies play a vital role in driving consolidation within the fiber-reinforced composites industry.

Key Developments in the Fiber-reinforced Composites Market

- 2025: Toray Industries announced that its T1100/3960 carbon fiber prepreg was selected for use in the U.S. Army Future Long-Range Assault Aircraft (FLRAA) airframe structures. This milestone reinforces the high-performance, certification-ready capabilities of Toray's composites and underscores the company's leadership in supplying advanced aerospace materials with strategic defense applications.
- 2024: Hexcel Corporation launched the HexForce 1K woven reinforcement fabric, designed to meet the growing need for lightweight yet high-performance composites. Offering superior strength-to-weight benefits, the material is ideally suited for aerospace, automotive, and advanced engineering applications. By improving manufacturing flexibility and enabling structural weight reduction, Hexcel has reaffirmed its commitment to next-generation composite technologies and strengthened its position as a leader in high-value performance materials.

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Key Growth Drivers

1. Lightweighting in Automotive & Aerospace – Enhancing fuel efficiency and reducing emissions.
2. Expansion in Renewable Energy – Growing installation of wind turbines increasing demand for composite blades.
3. Infrastructure & Construction – Adoption in bridges, pipelines, and buildings for durability and corrosion resistance.
4. Technological Advancements – Development of bio-based and recyclable composites.
5. Sports & Consumer Goods – Rising use in high-performance sporting equipment and consumer applications.

Market Restraints & Challenges

- High Production Costs – Advanced fibers such as carbon remain expensive.

- Recycling Challenges – Difficulty in reprocessing fiber composites impacts sustainability.
- Complex Manufacturing Processes – Requires specialized equipment and skilled labor.
- Volatility in Raw Material Prices – Fluctuations in resin and fiber costs affect margins.

Market Segmentation

By Fiber Type

- Carbon Fiber
- Glass Fiber
- Aramid Fiber
- Others

By Matrix Material

- Polymer Matrix Composites (PMC)
- Metal Matrix Composites (MMC)
- Ceramic Matrix Composites (CMC)

By End-use Industry

- Aerospace & Defense
- Automotive & Transportation
- Construction & Infrastructure
- Renewable Energy (Wind Energy)
- Consumer Goods & Sports
- Others

By Region

- North America
- Europe
- Asia-Pacific
- Latin America
- Middle East & Africa

Market Trends & Innovations

1. Sustainable Composites – Bio-based and recyclable materials gaining traction.
2. 3D Printing of Composites – Additive manufacturing enabling cost-effective production.
3. Hybrid Composites – Combining multiple fiber types for enhanced performance.
4. Smart Composites – Integration with sensors for real-time performance monitoring.
5. Circular Economy Initiatives – Rising focus on recycling technologies for composite waste.

Why Invest in This Report?

- Reliable market size and CAGR forecasts through 2035.

- Insights into emerging applications and industry trends.
- Competitive analysis of leading global manufacturers.
- Identification of growth opportunities across end-use industries.
- Comprehensive coverage of sustainability challenges and solutions.

Future Outlook

The global fiber-reinforced composites market is projected to surpass US\$ 27.7 Bn by 2035, supported by strong demand from aerospace, automotive, and renewable energy industries. With increasing emphasis on lightweighting, sustainability, and durability, FRCs will continue to play a pivotal role in the future of advanced materials.

Key trends shaping the future include:

- Wider adoption of bio-based composites in automotive and consumer goods.
- Integration of composites in urban infrastructure projects.
- Breakthroughs in composite recycling technologies.
- Expanding applications in electric vehicles (EVs) for improved efficiency.

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Important FAQs with Answers

Q1. What was the global market size of fiber-reinforced composites in 2024?

A1. The market was valued at US\$ 14.8 Bn in 2024.

Q2. What is the projected market size by 2035?

A2. The market is expected to reach US\$ 27.7 Bn by 2035.

Q3. What is the CAGR for 2025–2035?

A3. The industry is projected to grow at a CAGR of 5.9%.

Q4. What are the major applications of fiber-reinforced composites?

A4. Aerospace, automotive, construction, renewable energy, and consumer goods.

Q5. Who are the key players in the market?

A5. Major players include Toray Industries, Teijin, Hexcel, SGL Carbon, Mitsubishi Chemical, and Owens Corning.

Q6. What trends will shape the future of the industry?

A6. Bio-based composites, 3D printing, hybrid composites, smart monitoring, and advanced recycling solutions will define future growth.

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