

Composites Market Update for May 2024

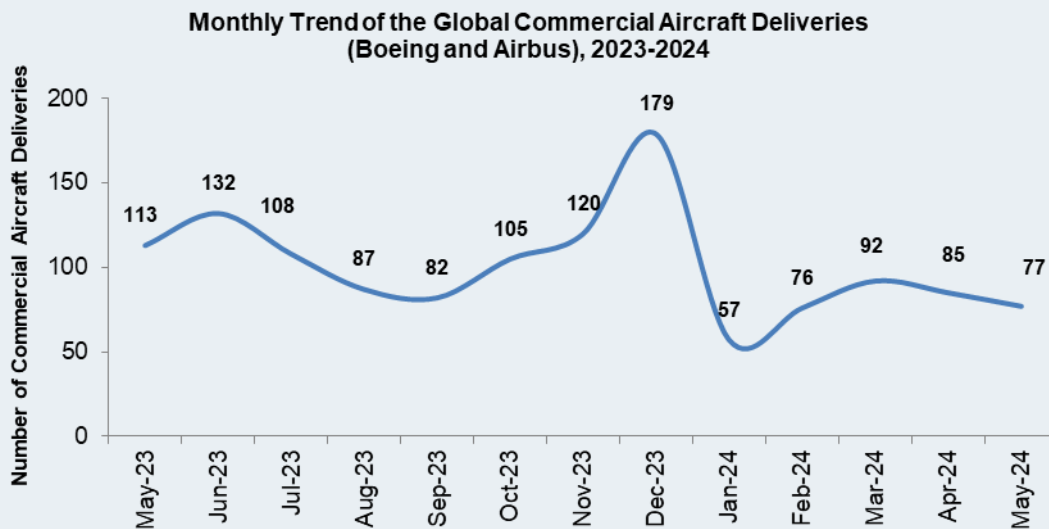
The composite materials market is currently navigating a challenging landscape, marked by varied performance across different sectors. The market has experienced a significant downturn overall, with a year-over-year decline of approximately 8%. Specific sectors have shown varied declines: the marine sector has been hit hardest, reflecting a substantial downturn. Infrastructure has also seen notable decline. The construction sector, however, has shown more resilience, with only a 1% decrease year-over-year, indicating a relatively stable performance amidst broader market contractions.

Month-over-month figures present a slightly more stable picture but still highlight ongoing challenges. Overall, the composite market is flat to slightly down, with specific sectors showing mixed results. The infrastructure sector is down by an average of 2.5%, while the marine sector has experienced a 2% month-over-month decline. The pool sector is a bright spot, showing no month-over-month decline and maintaining steady performance. The stability in pool sector contrasts with the more volatile performance seen in other areas, suggesting pockets of resilience within the broader market.

Looking ahead, there is cautious optimism for certain sectors, particularly as interest rates stabilize and potentially decrease, which could spur growth in the construction market. However, the industry remains in a wait-and-see mode, with companies preparing for potential improvements in the latter half of the year. Overall, while the composite materials market faces significant headwinds, certain areas are beginning to show signs of stabilization and potential recovery.

Aerospace

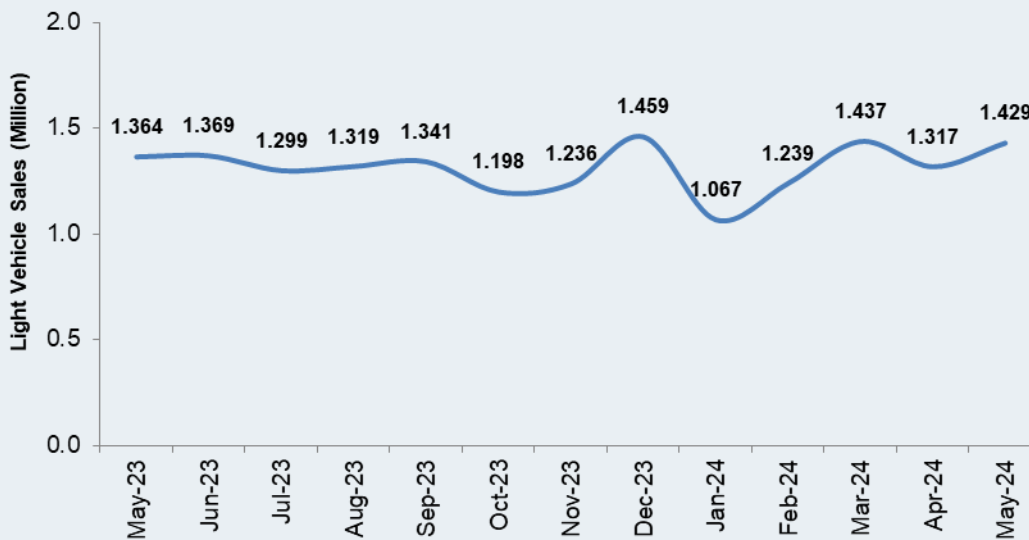
Commercial aircraft (Boeing and Airbus) deliveries decreased from 85 aircraft deliveries in April 2024 to 77 aircraft deliveries in May 2024.



Automotive

The U.S. new vehicle sales of 1,429,028 units in May 2024 represented an increase of 5% as compared to 1,363,818 units in May 2023.

Monthly Trend of Light Vehicle Sales in the US, 2023-2024



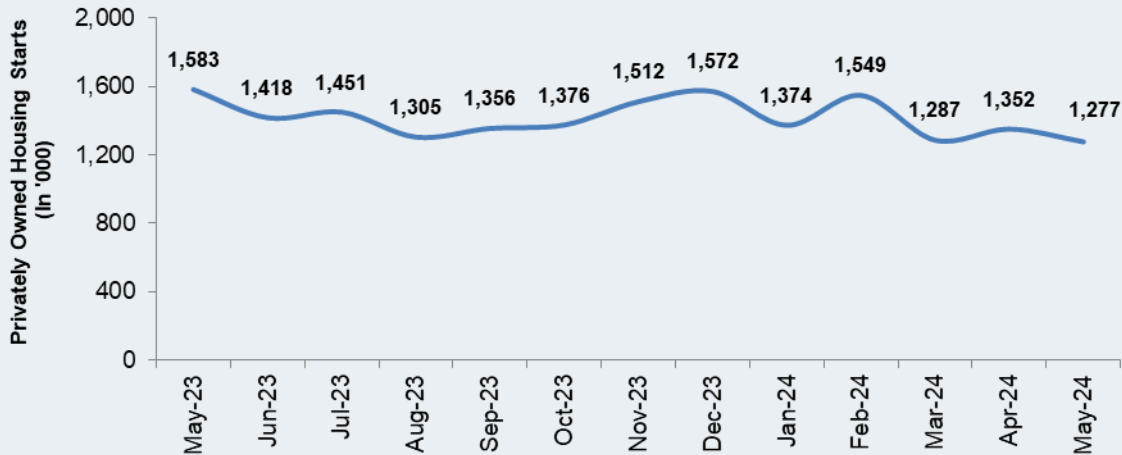
One of the highlights of May 2024 are as follows:

- **TPI manufactures all composite Kenworth SuperTruck 2 cabAE.** TPI Composites Inc. has announced its contributions to the development, engineering and manufacturing of the all-composite cab for the Kenworth SuperTruck 2 demonstrator. TPI's composites expertise enabled development of critical components and cab structures with significant weight reduction and improved freight efficiency. The truck is developed in 6 year period as part of collaboration with the Department of Energy's (DOE) SuperTruck program.

Construction

Privately-owned housing starts in May were at a seasonally adjusted annual rate of 1,277,000. This is 5.5% below the revised April estimate of 1,352,000 and is 19.3% below the May 2023 rate of 1,583,000. Single-family housing starts in May were at a rate of 982,000; this is 5.2% below the revised April figure of 1,036,000. The May rate for units in buildings with five units or more was 278,000

Monthly Trend of Privately Owned Housing Starts in the US, 2023-2024



One of the highlights of May 2024 are as follows:

- **Renco USA brings Lego-style composite building system to construction.** Renco USA Inc. has brought its mineral composite, fiber-reinforced (MCFR) building system using repurposed resins, glass fibers and naturally occurring calcium compounds to residential construction in an effort to design strong, resilient and sustainable structures.

Wind Energy

As per the most recent "Energy Infrastructure Update" released by the Office of Energy Projects within the Federal Energy Regulatory Commission, wind energy with the combined installed capacity of 4 units in April 2024 amounted to 737 MW. Wind energy, with an aggregated generating capacity of 152.48 GW that contributes 11.8% to the total energy sources, amounted to 1,295.38 GW.

Some of the highlights of May 2024 is as follows:

- **Blade2Circ project to facilitate sustainable next-gen wind blade designs.** The EU-funded project aims to develop a new generation of wind turbine blades using high-performance bio-based composite materials. This initiative, with a budget of almost €4 million, is led by Aitiip and brings together a consortium of 11 partners from European countries.
- **NREL integrates robotics into wind turbine blade production.** Researchers at the U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory have successfully leveraged robotic assistance in the manufacture of wind turbine blades, enabling the

elimination of difficult working conditions for operators and the potential to improve the consistency of the product.

Consumer Goods

New orders for manufactured durable goods in April, up three consecutive months, increased \$1.9 billion or 0.7% to \$284.1 billion. This followed a 0.8% March increase. Excluding transportation, new orders increased 0.4%. Excluding defense, new orders were virtually unchanged. Transportation equipment, also up three consecutive months, led the increase, \$1.1 billion or 1.2% to \$96.2 billion.

Recent Development in Materials

- **Elastomer-integrated composite grows high-temperature application options.** RCF Technologies produces a material called Rishon, an elastomer that integrates the capabilities of rubber into composites. In short, Rishon combines the properties of fabrics and elastomers into a single, homogeneous product.
- **Hexcel, Fairmat agreement bolsters U.S. composite recycling efforts.** Hexcel Corp. and Fairmat have announced a 10-year agreement to recycle carbon fiber composite materials from Hexcel’s Salt Lake City facility for reuse in composite materials sold into various commercial markets.
- **Toyoda Gosei develops seawater-derived fiber-reinforced material.** Toyoda Gosei Co. Ltd. has developed a lightweight material reinforced with fibers that use magnesium hydroxide derived from seawater, in its decarbonization efforts to create lighter weight products leveraging its plastic and rubber materials technology.

Recent Product Launches in the Composites Market

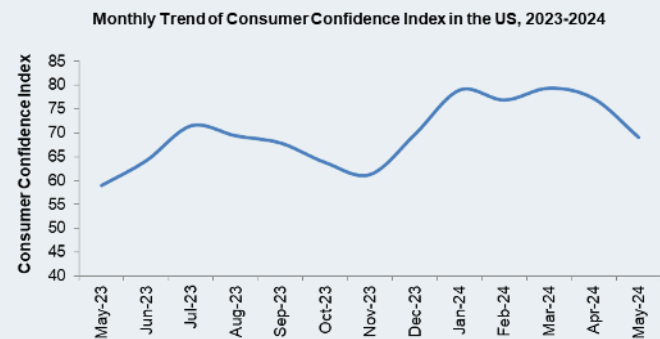
The following table represents new product launch in the composites market in May 2024.

Product	Company Name	Description
Remode Sustainable Office Chair	Ahrend	Envalior 30% glass fiber-reinforced Akulon RePurposed material helped Ahrend to achieve lighter task chair with closed-loop value chain and reduced emissions.

The US Consumer Confidence Index decreased to 69.1 in May 2024 as compared to 77.2 in April 2024. The GDP at current price of the US increased from US \$28.37 trillion in February 2024 to US \$28.42 trillion in March 2024.

Real gross domestic product (GDP) increased at an annual rate of 1.3% in the first quarter of 2024, according to the "second" estimate. The increase in real GDP primarily reflected increases in consumer spending; residential fixed investment, nonresidential fixed investment, and state and local government spending that were partly offset by a decrease in private inventory investment. Imports, which are a subtraction in the calculation of GDP, increased.

The price index for gross domestic purchases increased 3.0% in the first quarter of 2024, compared with an increase of 1.9% in the fourth quarter of 2023. The personal consumption expenditures (PCE) price index increased 3.3%, compared with an increase of 1.8%. Excluding food and energy prices, the PCE price index increased 3.6%, compared with an increase of 2.0%.



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