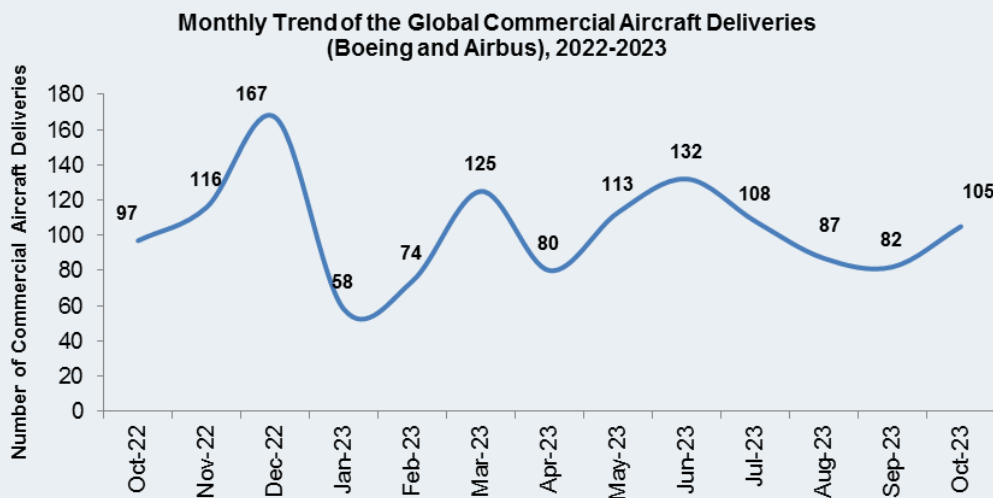


Composites Market Update for October 2023

The industry, while experiencing some growth in segments like construction (up 5% to 6% from the previous year), is also facing downturns in other key areas. Infrastructure unexpectedly declined by 3.5% to 5%, and the marine sector saw a significant decrease of 20%. The transportation segment also experienced a similar decline due to various economic issues. These variations across different markets have contributed to an overall monthly decrease of about 5% and a year-to-date decline of approximately 12% through October. This mixed performance highlights the industry's sensitivity to broader economic factors, such as interest rates and discretionary spending, which are influencing the demand for products like boats and RVs. With a cautious outlook for 2024 and expectations of a slight downturn from 2023, the composites industry is in a state of cautious anticipation. The future seems to hinge on navigating these complex market dynamics and adapting to the shifting economic landscape.

Aerospace

Commercial aircraft (Boeing and Airbus) deliveries increased from 82 aircraft deliveries in September 2023 to 105 aircraft deliveries in October 2023.



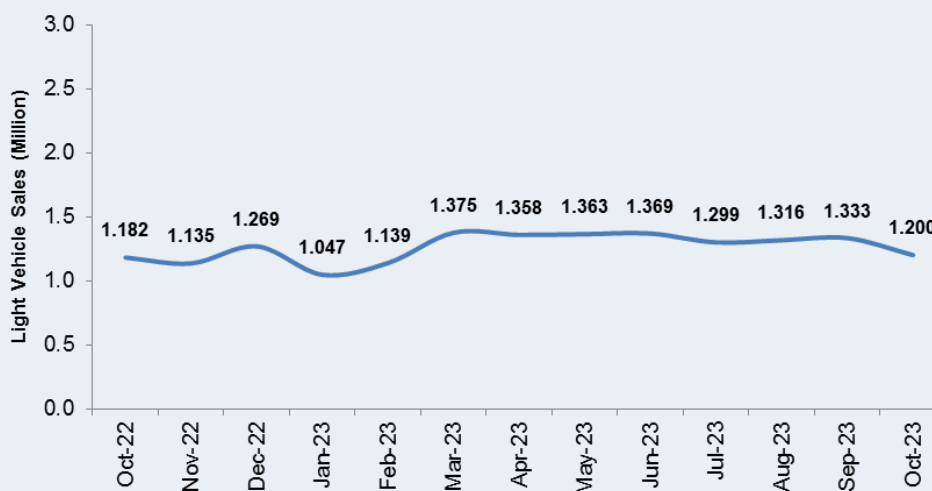
One of the highlights of October 2023 is as follows:

- DEMGY Acquires EIS Aircraft GmbH.** DEMGY Group pursues its growth strategy with the acquisition of E.I.S. Aircraft GmbH, a German company specializing in the production of thermoplastic and composite components for the aerospace industry. The acquisition of E.I.S. Aircraft is in line with this commitment to innovation and continuous improvement in structural lightening. The acquisition of E.I.S. Aircraft GmbH enables the DEMGY Group to consolidate its activities in Germany and strengthen its European leadership, by becoming one of the leading processors of high value-added plastics for the aeronautics sector, with high-performance plastic and composite solutions that are lighter than metal, to promote energy savings.

Automotive

The U.S. new vehicle sales of 1,200,286 units in October 2023 represented an increase of 2% as compared to 1,181,540 units in October 2022.

Monthly Trend of Light Vehicle Sales in the US, 2022-2023



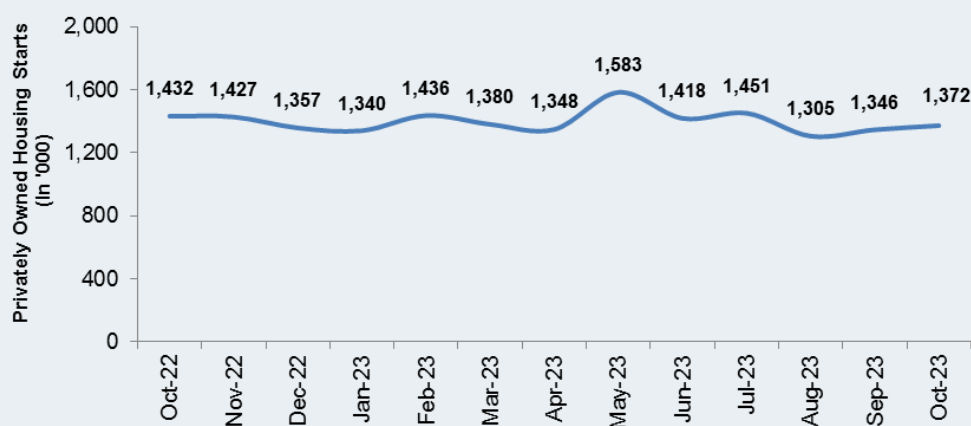
One of the highlights of October 2023 is as follows:

- BcompAmpliTex Fabric is incorporated into Bus A/C Panels.** Tier 1 automotive supplier Eberspacher has developed bus A/C covers using sustainable light weighting company Bcomp's natural fiber composites. Eberspacher's choice is described as a bold push toward the use of more sustainable materials in mass transport applications, and closely follows Bcomp's successful entry into large-scale production of automotive interior parts. Eberspacher manufactured prototype panels using Bcomp's ampliTex technical fabric, intending to gauge interest among OEMs. The composite panels use a vinyl ester resin infusion with an in-mold transparent gelcoat finish, leaving the ampliTex's flax-based weave visible.

Construction

Privately-owned housing starts in October 2023 were at a seasonally adjusted annual rate of 1,372,000. This is 1.9% above the revised September estimate of 1,346,000, but is 4.2% below the October 2022 rate of 1,432,000. Single-family housing starts in October were at a rate of 970,000; this is 0.2% above the revised September figure of 968,000. The October rate for units in buildings with five units or more was 382,000.

Monthly Trend of Privately Owned Housing Starts in the US, 2022-2023



One of the highlights of October 2023 is as follows:

- Prismatic Tiles by Planefibra Improve Natural Light.** Planefibra in addition to translucent and opaque composite roof tiles, has incorporated prisms into its translucent glass fiber-reinforced polymer (GFRP) tiles, developing a product solution that increases the use of natural light by around 30% this is said to be on par with the efficiency of prismatic polycarbonate tiles. In addition to greater diffusion of sunlight, prismatic GFRP tiles guarantee more visual comfort, as they avoid the hot spot effect, an unwanted phenomenon in which an excessively bright point of light is formed and concentrated in a certain area.

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 17 units from January to September 2023 amounted to 3,062 MW. This is in contrast to the 7,083 MW generated by 43 units during the same period in 2022. Wind energy, with an aggregated generating capacity of 148.00 GW that contributes 11.59% to the total energy sources, amounted to 1,276.99 GW.

One of the highlights of October 2023 is as follows:

- **Gurit Forms Long-Term Supply Contracts with Two Wind OEMs.** Gurit is entering into a 4-year and a 3-year supply contract for core material kits, secured with two wind turbine OEMs. The 4-year contract is a continuation of an existing supply agreement enabling Gurit to supply a share of the customers' global demand of core material kits. It contains volume agreements for Europe, Asia and the Americas. The 3-year supply contract enables Gurit, for the first time, to supply fully integrated core material kits to the customer and represents the renewal of an existing supply agreement. It is scheduled to commence in 2024.

Consumer Goods

New orders for manufactured durable goods in October, down three of the last four months, decreased \$16.0 billion or 5.4% to \$279.4 billion. This followed a 4.0% September increase. Excluding transportation, new orders were virtually unchanged. Excluding defense, new orders decreased 6.7%. Transportation equipment, also down three of the last four months, drove the decrease, \$16.0 billion or 14.8% to \$92.1 billion.

One of the highlights of October 2023 is as follows:

- **Mito Materials Graphene Amplify Composite Fly Fishing Rod Performance.** St. Croix Fly is unveiling Evo and its saltwater-equivalent, Evo Salt, two new premium fly rod designs that have been further refined using Mito Material Solution's graphene technology. The Evo and Evos Salt Series fly rods are constructed from ultra-high modulus/high-strain SCVI carbon, high-modulus SCIV carbon and premium-quality SCII carbon. Unlike other fly rods built with pre-applied graphene integrated into carbon fiber prepreg, Evos and Evos Salt are powered by Mito's functionalized graphene, which is applied in-house at St. Croix at total weight-loading accuracies within 0.01%, delivering radical hoop strength, optimized loop stability and complete accuracy.

Recent Development in Materials

- **Toray Develops TORAYCA T1200, the Ultra High-Strength Carbon Fiber.** Toray Industries, Inc. has developed TORAYCA T1200 carbon fiber, the world's highest strength at 1,160 kilo pound per square inch (Ksi). This new offering will move the company forward to reducing environmental footprints by lightening carbon-fiber-reinforced plastic materials. This fiber also opens a new performance frontier for strength-driven applications. Its potential applications range from aero structures and defense to alternative energy and consumer products. T1200 has a tensile strength of up to 1,160 Ksi, more than 10% higher than TORAYCA T1100, which currently has the highest tensile strength available. T1100 applications include defense weapon systems, space, aircraft, and sports and leisure equipment.

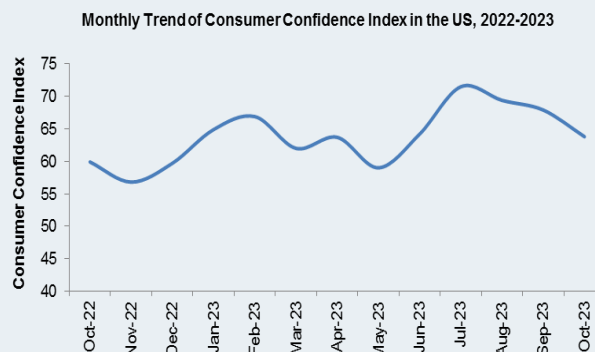
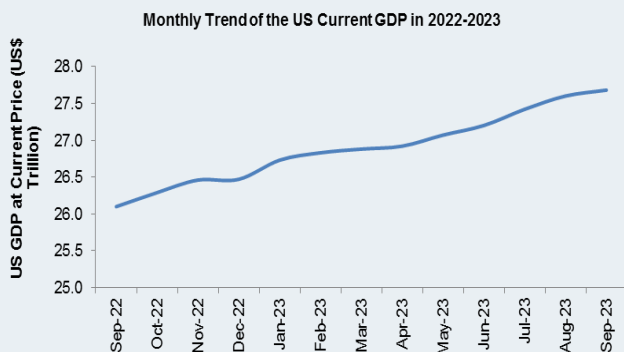
- Solvay Launches XencorXTreme.** Solvay introduces XencorTMXTreme, a new family of long glass fiber PPA solutions for battery applications requiring resistance to thermal runaway and propagation. The Xencor family of long fiber thermoplastics (LFT) comprises innovative, long-fiber reinforced structural products that target challenging metal replacement applications and semi-structural applications. The materials are designed to retain an excellent level of electrical insulation after exposure to flame helping to mitigate thermal runaway in batteries. More importantly, the material has a high glass transition temperature (Tg), which enables dimensional stability of the parts under battery operating conditions. XencorXTreme is designed for battery components such as over molded bus bars, module end plates and fixtures and extends Solvay's broad portfolio of battery solutions.

The US Economic Overview – October 2023

The US Consumer Confidence Index decreased to 63.8 in October 2023 as compared to 67.9 in September 2023. The GDP at current price of the US increased from US \$27.60 trillion in August 2023 to US \$27.68 trillion in September 2023.

Real gross domestic product (GDP) increased at an annual rate of 5.2% in the third quarter of 2023, according to the "second" estimate. The increase in real GDP reflected increases in consumer spending, private inventory investment, exports, state and local government spending, federal government spending, residential fixed investment, and non-residential fixed investment. Imports increased.

The price index for gross domestic purchases increased 3.0% in the third quarter of 2023. The personal consumption expenditures (PCE) price index increased 2.8%, a downward revision of 0.1% point. Excluding food and energy prices, the PCE price index increased 2.3%, a downward revision of 0.1% point.



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