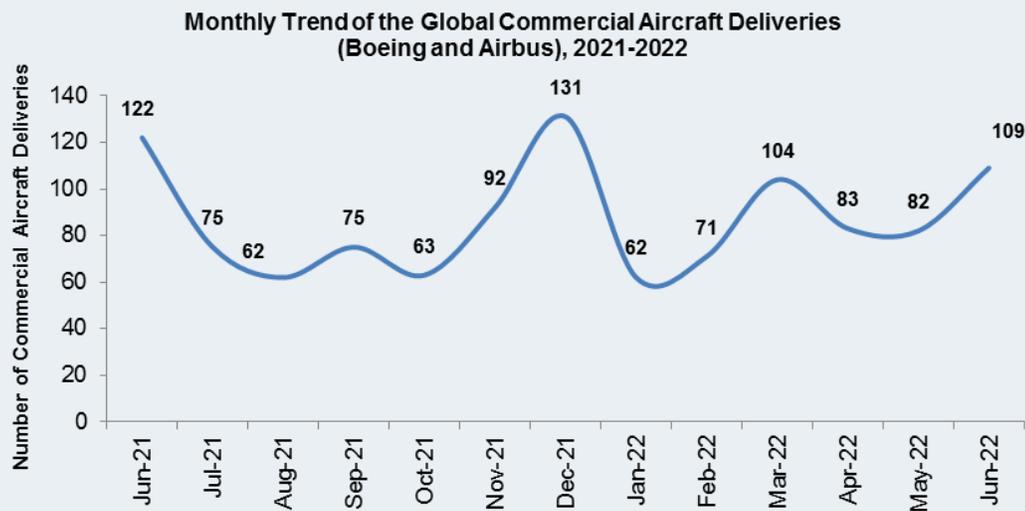


Composites Market Update for June, 2022

The composites market in June was robust, and roughly 1-2% above YoY performance. YTD the market is up roughly 2-3%. Demand remains high, but there are signs of weakness in July. July is expected to be flat on a YoY basis. The 4th Holiday created labor constraints, while steadily increasing raw material prices create business challenges. Transportation and construction remain steady and robust. Distribution is down slightly. Regarding leisure industries, RV is slowing down while Marine still has a roughly 6-month backlog of orders. Housing, which has been a strong driver for composites growth, remains high but may be settling at a more modest level, due to increasing interest rates and inflation. Fears of a recession loom, but there is strong short-term demand, and a positive outlook for 2022. Raw material prices continue to climb, which is likely to begin impacting demand. Styrene is particularly high, due to spiking petroleum prices. The most important external topic in the market is the economy, and fears of a recession. In particular, the inflation within the composites industry for materials exceeds the inflation rate of the broader economy, and that cost is passed to the consumer.

Aerospace

Commercial aircraft (Boeing and Airbus) deliveries increased from 82 aircraft deliveries in May, 2022, to 109 aircraft deliveries in June, 2022.



Some highlights of June, 2022, are as follows:

- Agreement between Hexcel Corporation and Sikorsky.** Hexcel Corporation has been awarded a long-term agreement by Sikorsky, a Lockheed Martin Company, to supply advanced composite structures for the CH-53K King Stallion heavy lift helicopter program. The award significantly expands Hexcel composite content on the aircraft. The composite structures will be made at Hexcel Kent (WA). The site is focused on manufacturing high-quality, high-rate

complex aircraft structures. It is a leading provider of primary, secondary, and flight-critical composite structures for Commercial Aerospace and for Space & Defense programs such as rotorcraft applications. Currently, Hexcel supplies carbon fiber prepregs, honeycomb and rotor blade components for the CH-53K. Under this new agreement, Hexcel also will supply composite structures for production of the cargo ramp and aft-kit components, with the first delivery of these parts expected to Sikorsky in 2023.

- Marshall Develops Composite Launcher Structures.** Marshall has an extensive heritage of design, testing and certifying structural composite structures on multiple Aerospace and Defense platforms including supporting the design & development of lightweight fast jet launchers, which are to be used on trial aircraft for the UK Royal Air Force (RAF). The developmental launchers will be used on flight trials to assess groundbreaking new weapons systems. The company collaborated with its customers throughout the design process to integrate all the sub-systems and systems requirements into the composite structure, and these highly complex and critical composite assemblies form the attachment between the aircraft and the weapon. The composite structure provides a very high level of rigidity whilst optimizing weight. The rigidity enables the launcher to react to extreme forces whilst the aircraft operates at supersonic speeds and flight positions to support successful launch of the weapon whilst operating in harshest of environments.

Automotive

The U.S. new vehicle sales of 1,128,673 units in June, 2022, represented a decrease of 13% as compared to 1,302,213 units in June, 2021.

Monthly Trend of Light Vehicle Sales in the US, 2021-2022



Some highlights of June, 2022, are as follows:

- Mansory Refines Mercedes-Maybach GLS with Carbon Fiber Body Components.** With Mercedes' market launch of the Mercedes-Maybach GLS, the off-road specialist is now providing another luxury SUV as the basis for further refinements. In the area of design,

Mansory says almost all body components are either completely manufactured in carbon fiber or upgraded with carbon fiber applications. The complete front grille, including its vertical bars, is either left as standard, discreetly darkened on request or finished entirely in carbon fiber. Mirrors caps incorporate the composite material, as well as the rear apron diffuser.

- Porcher Industries Launches New Range of Flax Fiber-Based Thermoplastic Composites for Automotive.** According to the company, its new, environmentally conscious range is the answer to the increasing demands from automotive designers for composite parts that are simultaneously modern, attractive, durable and immediately recognizable as natural. Moreover, the material range provides high performance, in addition to low weight and cost, high impact resistance and acoustic absorption.
- Ducati Introduces Lightweight Motorcycle Seat Support Rear Frame.** The seat support rear frame comprises the entire aft frame of the vehicle, forming an integral part of the chassis. It is designed based on fatigue strength criteria, but also must meet stiffness, static strength and finish requirements. The part developed replaces a cast aluminum component for the Ducati Hypermotard 939, a vehicle designed for both road and off-road racing, and constitutes the main structural support for driver, and optionally passenger and cargo bins.

Construction

Privately-owned housing starts in June were at a seasonally adjusted annual rate of 1,559,000. This is 2.0% below the revised May estimate of 1,591,000 and is 6.3% below the June, 2021, rate of 1,664,000. Single-family housing starts in June were at a rate of 982,000; this is 8.1% below the revised May figure of 1,068,000. The June rate for units in buildings with five units or more was 568,000.

Monthly Trend of Privately Owned Housing Starts in the US, 2021-2022



One of the highlights of June, 2022, is as follows:

- Data Visibility Increases Efficiency, Competitiveness for Composite Infrastructure Solutions Company.** ClockSpring NRI engineers, designs and manufactures composite strengthening systems to restore, protect and reinforce pipes, pipelines and civil structures. The company

works with moisture-curable carbon fiber, fiberglass, Kevlar and other aramids, and serves a range of markets. ClockSpring|NRI says its solutions help restore and protect degrading or failing assets at a fraction of replacement costs.

Wind Energy

According to the latest "Energy Infrastructure Update" report from the Federal Energy Regulatory Commission's Office of Energy Projects, the cumulative installed capacity of 19 units during January – May, 2022 was 4,415 MW as compared to 6,674 MW of 35 units during January – May, 2021. With a total installed generating capacity of 139.44 (GW), wind constituted 11.15% of the total installed generating capacity of 1,250.72 (GW) among all energy sources.

One of the highlights of June, 2022, is as follows:

- **Iberdrola, FCC Ámbito Launches EnergyLOOP for Wind Turbine Blade Recycling.** This EnergyLOOP to lead the recycling of renewable installation components for wind turbines, said to be one of the biggest medium- and long-term challenges in the sector. This initiative will also contribute to the energy transition and boost the circular economy in Spain. EnergyLOOP plans to invest around €10 million in the facility. The project will work on the different stages that enable the circularity of wind turbine blades, including on-site pre-treatment and conditioning, waste transport logistics, recycling technologies and the marketing of recycled products.

Marine

The US marine industry is anticipated to experience good growth in 2022.

Some highlights of June, 2022, are as follows:

- **Persico Marine takes on future Construction of Infiniti 52 Racing Yachts.** The all-carbon fiber Infiniti 52 is the latest model in the Hugh Welbourn-designed Infiniti range that includes 36-foot, 46-foot and 105-foot models. All are equipped with Welbourn's dynamic stability system (DSS) retractable foils that protrude laterally from the hull beneath the water to provide extra stability automatically on demand.
- **National Composites Centre Supports Marine Industry to Overcome Composites Recycling Challenge.** The National Composites Centre is supporting a new consortium that has been formed to address the growing challenge of decarbonization and recycling of composite materials in the marine industry, with a long-term aim of creating the UK's first glass fiber composites recycling and re-use facility of its kind. The collaboration is led by Blue Parameters, a Guernsey based marine consultancy, with the aim of creating the UK's first large-scale glass-reinforced plastics (GRP) and fiber-reinforced plastics (FRP) recycling facility that will not only look at the process of recycling composite materials but also how the reclaimed materials and fibers could be repurposed for use in new composite components.

Consumer Goods

New orders for manufactured durable goods in June increased \$5.0 billion or 1.9% to \$272.6 billion, the U.S. Census Bureau announced today. This increase, up eight of the last nine months, followed a 0.8% May increase. Excluding transportation, new orders increased 0.3%. Excluding defense, new orders increased 0.4%. Transportation equipment, up three consecutive months, led the increase, \$4.5 billion or 5.1% to \$92.7 billion.

One of the highlights of June, 2022, is as follows:

- Carbitex Expands Flexible Carbon Fiber Plate Footwear for Work and Sport.** Carbitex says its AFX-AP material is a multi-layer composite plate that offers a high degree of performance. The company claims that it is the only patented plate with anti-puncture protection and asymmetric flexibility that provides uncompromised comfort while preventing the foot from overflexing and exhibits high flexibility in the other direction for more ergonomic movement. Carbitex's believes its latest material innovation introduces a paradigm shift in work site footwear, expanding the possibility for lighter weight work shoes that don't require heavy protective soles and excel in safety, stability and all-day performance.

Recent Development in Materials

- Aluula Introduces Lightweight Composite Materials for Wind Sports and Beyond.** Advanced materials technology firm Aluula introduces a range of ultra-strong lightweight fabrics that combine with polymer films in a patented fusion process to increase performance in windsports and other applications. According to Aluula, is a new class of composite materials built from components with eight times the strength-to-weight ratio of steel, and yet is lighter than nylon, polyester or aramid.

Recent Product Launches in the Composites Market

The following table represents new product launched in the composites market in June, 2022.

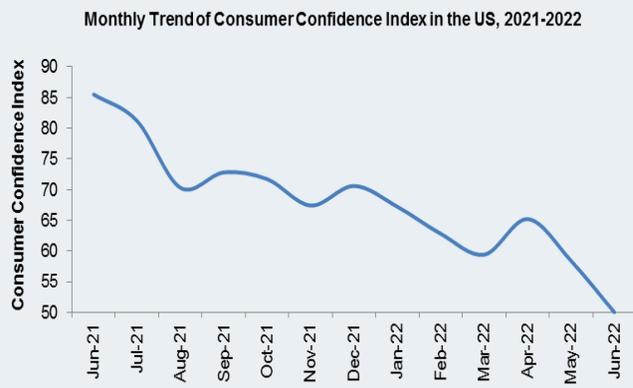
Product	Company Name	Description
KYDEX 5555RCL	SEKISUI KYDEX	The initial product launch features KYDEX 5555 RCL, utilizing recycled KYDEX Thermoplastics. KYDEX 5555 is specifically formulated to exceed low heat release requirements for aviation interiors. Through partnership with STELIA Aerospace and Team Plastique, SEKISUI KYDEX worked through technical requirements and validations to bring this product to launch.

The US Economic Overview – June, 2022

The US Consumer Confidence Index decreased to 50.0 in June, 2022, as compared to 58.4 in May, 2022. The GDP at current price of the US increased from US \$24.60 trillion in April, 2022, to US \$24.79 trillion in May, 2022.

Real gross domestic product (GDP) decreased at an annual rate of 0.9% in the second quarter of 2022, according to the "advance" estimate. The decrease in real GDP reflected decreases in private inventory investment, residential fixed investment, federal government spending, state and local government spending, and nonresidential fixed investment that were partly offset by increases in exports and personal consumption expenditures. Imports, which are a subtraction in the calculation of GDP, increased.

The price index for gross domestic purchases increased 8.2% in the second quarter, as compared with an increase of 8.0% in the first quarter. The PCE price index increased 7.1%, the same rate as the first quarter. Excluding food and energy prices, the PCE price index increased 4.4%, as compared with an increase of 5.2%.



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