Aircraft Propeller Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 110 pages | Mordor Intelligence

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Report description:

The Aircraft Propeller Systems Market is valued at USD 378.280 million in 2024 and is anticipated to reach USD 529.22 million by 2029, registering a CAGR of 6.95% during the forecast period (2024-2029).

The ongoing R&D of next-generation turboprop aircraft, the stable growth in the sales of the different types of aircraft, and the increasing demand for unmanned aerial vehicles (UAVs) are expected to propel the growth of the aircraft propeller systems market. Increased focus on reducng vibration and interior noise acts as a driver for the market. Advancements in aircraft propeller systems technology also play a crucial role in enhancing aircraft performance, further propelling market growth. Moreover, growth in aircraft sales and production, especially from the commercial segment, is generating demand for exhaust systems for aircraft.

R&D on new propeller designs, such as a team in MIT Lincoln Lab's Structural and Thermal-Fluids Engineering Group working on new annular shape toroidal propellers, which are radically quieter (noise range 1-5 kHz) than traditional propellers. Similarly, Hartzell tested its new five-blade swept airfoiled carbon fiber propeller on a flight of a Hydrogen-Powered Airliner. It is part of a project with Universal Hydrogen where Hartzell Propeller is working and supporting advanced air mobility manufacturers. Such initiatives from various companies contribute to the growth of the market.

Aircraft OEMs and part manufacturers face several challenges involving additional costs that are incurred while complying with cumbersome certification processes. It poses a challenge for the mass-scale production of aircraft parts and components. Thus, the stringent certification process acts as a barrier to new entrants with the potential to enter the aircraft propeller systems market. The advent of innovative manufacturing technologies such as additive manufacturing and the increasing use of digital propeller vibration monitoring systems are anticipated to significantly impact the market prospects in the future.

Aircraft Propeller System Market Trends

The Original Equipment Manufacturer (OEM) Segment to Dominate the Market

As the aviation industry continues to grow, the orders for new turboprop and piston engine aircraft may simultaneously generate demand for the parts of the aircraft, like propellers. The demand generated by the aircraft OEMs is now high, which increased the revenues from the OEM segment. For instance, in May 2022, the US Army, in its modernization plan for aviation platforms, selected Bell Textron's V-280 Valor Tiltrotor to replace the UH-60 Black Hawk. The army awarded a USD 1.3 billion contract to Bell Textron for a V-280 Valor Tiltrotor helicopter. As per the contract, the army will fund USD 232 million for Bell's preliminary design and development of a virtual prototype.

Similarly, in August 2023, Statkraft Ventures invested in Electra. Aero, Inc., a US-based firm, to develop its full-scale pre-production prototype electric short takeoff and landing (eSTOL) aircraft. Electra's eSTOL aircraft include eight electric propellers mounted under the fixed wings. As per the plan, the company is to test its prototype by 2025. Electra received 1,200 preorders for the eSTOL aircraft.

Asia-Pacific is Projected to become the Fastest Growing Market During the Forecast Period

Though North America dominates market share in 2022, Asia-Pacific is expected to show remarkable growth during the forecast period. China emerged as a global leader in terms of UAV development. The development of new UAVs in China is anticipated to generate a huge demand for propeller systems during the forecast period. The increasing demand for turboprop aircraft from commercial and military sectors is a major driver for the propeller systems market in India. Even in Japan, Australia, and other countries in the region, the procurement of turboprop aircraft is increasing, thereby contributing to the growth of the regional market. For instance, in March 2023, the Indian Ministry of Defence signed a contract with Hindustan Aeronautics Limited (HAL) for the purchase of six Dornier-228 aircraft for the Indian Air Force (IAF). The six current aircraft will be modified with a more fuel-efficient engine and a composite propeller with five blades.

Similarly, in June 2023, the Indian Ministry of Defence approved the acquisition of 31 MQ-98 drones from General Dynamics at USD 3.5 billion. According to this agreement, the Indian Navy would receive 15 Sea Guardians, and the Indian Army and Indian Air Force would each receive 8 SkyGuardians. The SkyGuardian drone includes a wingspread of 24.07 m, carries a payload of 2,155 kg, and is capable of maritime surveillance, over-the-horizon targeting, anti-submarine warfare, airborne early warning, and electronic warfare.

Aircraft Propeller System Industry Overview

The major players in the aircraft propeller systems market include Hartzell Propeller Inc., General Electric Company, RTX Corporation, Textron Aviation Inc., and Airmaster Propellers, with each having access to the key geographical regions. For players to sustain themselves in the market studied, it is very critical to establish themselves with a client and cater to their custom requirements with superior quality, performance, and the lowest possible price. The demand for aircraft propellers in the coming years is expected to be from Asia, Russia, and the Middle East. First, entry may be beneficial to any entrant in the market studied. For instance, in June 2021, Piedmont Propulsion Systems was awarded a contract by the Mexican airline Transportes Aeromar to support its fleet of ATR 42 and 72 aircraft. Piedmont Propulsion Systems conducted comprehensive propeller repair for the aircraft as part of the multi-year arrangement.

The market may also witness inorganic growth due to prominent players trying to retain market share. On this note, in July 2021, Hartzell Propeller acquired the assets of Tanis Aircraft Products, a Minnesota-based manufacturer of engine preheat systems for fixed and rotary-wing aircraft. The Tanis brand will now be a part of Hartzell Propeller's heated product line. It also includes

systems for battery, avionics, cabin, and propeller de-icing, as well as systems for piston, turbine, and helicopter engines.

Additional Benefits:

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

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