

AIRCRAFT COMPONENT MRO SECTOR GROWS AMID FLEET UTILIZATION AND AGING AIRCRAFT

The aircraft component MRO sector is growing steadily, driven by increased global air travel, higher fleet utilization, and aging aircraft requiring heavier maintenance. Freightier Trends learnt that the demand is especially strong for narrowbody types like the A320 and B737. The industry is shifting from reactive to predictive maintenance, opening new growth opportunities. However, supply chain challenges persist, with parts shortages and longer turnaround times. Many CEO aircraft remain in service longer, reducing USM availability and increasing pressure on OEMs. Here are the details

How would you describe the current growth of the aircraft components MRO sector?

Pascal Parant, Group Chief Commercial & Marketing Officer, Vallair - According to expert analyses, the component MRO market is expected to grow at a CAGR of 3.9% from 2024 to 2034, slightly above the overall MRO market (~3.4%). This growth rate is also higher than the projected fleet CAGR, which ranges between 2.5% and 3.4%.

At Vallair we believe that several factors are behind this trend. OEMs tend to increase their spare parts catalogues year on year and maintain a high level of control over the market through IP and licensing, which increasingly restrict competition. It is worth remembering that there are only about 29,000 commercial aircraft in service worldwide - a very small base compared to the 88 million cars produced annually. The aviation market is therefore not volume-driven but premium-driven.

Historically, anything related to aviation sees its costs rise over time. In today's market, very few components are priced below \$1,500 (excluding expendables). Higher prices also reduce the risk of OEM-driven obsolescence.

The supply chain continues to strain the market - for both new and current components. MROs and airlines face difficulties in sourcing parts, while many CEO (current engine option) aircraft are being kept in service longer. This results in less USM from teardowns and more pressure on OEMs, with longer turnaround times for repairs.

Benjamin Strauss - VP of Operations MRO Services, GA Telesis - The aircraft components MRO sector is experiencing steady growth, driven by the resurgence of global air travel and increased fleet utilization. Recent delivery delays of new aircraft, in particular B737 MAX and B787, had operators adjust their growth and fleet modernization strategies and instead extend lifecycles of their existing fleets. As aging aircraft require more frequent and heavier maintenance, this further increases aircraft component MRO demand. Narrowbody aircraft, especially the A320 and B737 families, are seeing high demand,

adding to component MRO needs. Overall, the sector is transitioning from reactive to proactive and predictive maintenance strategies, which are going to reshape operational models and create new growth opportunities.

With our growing stock and capability portfolio, as well as the most recent acquisition of the major Landing Gear and Wheels & Brakes MRO facility in Miami, GA Telesis is in the best position to support the growing market and offer our customers better service levels. Today, GA



Pascal Parant

Telesis manages an inventory of over 300,000 new and used part numbers for aircraft, APU, landing gear, and engine systems available to fulfill our customer's needs.

Eric Von Son, Repairs Manager – EirTrade Aviation - Although the MRO market is growing, significant expansion is still hampered by supply chain issues and problems with the B737Max and GTF deliveries. This is forcing operators to put additional MRO activity into their existing B737NG and A320ceo fleets. At EirTrade we envisage that will probably continue to impact growth for another 3 to 5 years.

How is the role of Predictive Maintenance and AI-powered diagnostics in extending component lifecycles?

Pascal Parant - Predictive maintenance and AI do not necessarily extend component lifecycles; rather, they optimise lifecycle management. They allow operators to remove components before a major failure occurs, thus avoiding higher overhaul costs. For example, removing an electromechanical unit before failure can prevent severe damage (e.g. to an ACM impeller or even an engine). While this may not extend the overall lifecycle, it reduces overhaul costs and can even prevent BER (Beyond Economic Repair) situations.

At Vallair we note that predictive maintenance solutions combined with AI have demonstrated the ability to reduce unscheduled removals and on-wing failures by up to 30%, depending on the program and source. The largest MROs and OEMs have developed such predictive tools - Airbus (Skywise), Boeing (AHM), Lufthansa Technik (Aviatar), AFI KLM EGM (Prognos).

All predictive systems rely on massive datasets and the ability to identify early signs of component fatigue. Their effectiveness depends not only on data quality, volume, and continuous machine learning, but also on leveraging lessons from past operational experience prior to the advent of AI. A solid historical baseline is essential to optimise AI tools; once this foundation is in place, machine learning can perform remarkably well. We can draw a parallel with the medical field, where AI is now able to detect cancers that even trained human eyes may miss on radiographs. Similar breakthroughs will inevitably occur in aviation. However, we must remain cautious: AI can mislead, learn to distort results, and potentially open doors to cyber threats. It is a powerful tool, but certainly not a universal remedy.

Benjamin Strauss - Predictive maintenance and AI-powered diagnostics will transform component lifecycle management, but their impact is closely tied to how quickly operators adopt these technologies and more importantly adapt their mindsets and processes. Some still follow a "fly until it fails" approach, while others embrace predictive strategies to proactively reduce



Eric Von Son

unplanned ground time, improve reliability and optimize schedules. Big data analysis and most recently AI enable early detection of wear and anomalies, allowing preventive removals that extend component and parts life and avoid costly AOG events. MROs can actively support this transition by providing value-adding use cases, analytics as well as collaborative Engineering and training.

With GA Telesis, we are happy to provide such an industry-leading use case by adopting blockchain authentication technology to revolutionize aircraft components and asset traceability. Our patented new WILBUR blockchain provenance platform will provide truly immutable records, blockchain storage, and future computer vision capture technology of parts images in real-time. This revolution in parts traceability management has been driven by the demand for a safer, fraud-proof technology while also considering ease of aircraft asset and parts transaction.

Eric Von Son - These will start playing a more prominent role in the MRO business although neither will not extend the lifecycle on all components. EirTrade does foresee that these tools will ensure better maintenance planning/scheduling and reduce the time that aircraft / engines are out of service for maintenance, or AOG situations.

With the rise in narrowbody aircraft deliveries and freighter conversions, how is component MRO demand expected to evolve?

Pascal Parant - The growth in narrowbody demand will only materialise once supply chain constraints are resolved and Boeing's quality issues are cleared by regulators. For now, slower new aircraft deliveries mean that the current fleet remains in service longer, with airlines carrying out even heavy checks to maintain network capacity.

This fleet life extension directly impacts feedstock for passenger-to-freighter (P-to-F) conversions. Vallair believes that aircraft which have undergone a recent heavy check and still have strong engines are the most likely candidates for conversion — provided the market remains supportive.

Post-COVID, the demand for narrowbody freighters has declined sharply, while long-haul widebody conversions remain stronger, driven by e-commerce growth and sustained global trade flows (especially between China and the rest of the world).

Benjamin Strauss - The recent growth of narrowbody aircraft deliveries, particularly A320neo and 737 MAX, along with freighter conversions, is reshaping component MRO demand.

These aircraft types show high utilization for short- and medium-haul routes and cargo operations, leading to more frequent component servicing. MROs must adapt by expanding capabilities for newer systems and increasing inventory for high-turnover parts. This trend is expected to drive demand for quick-turn services, reliability engineering, and strategic partnerships with OEMs and operators to support growing fleets effectively. GA Telesis Engine Services, GATES SPAH, a joint venture between GA Telesis and ATSG, located in Wilmington, OH, as well as our GATES engine repair and overhaul station in Helsinki, Finland, have capabilities to work on the LEAP engines that power A320neo and 737 MAX. This marks the beginning of the GATES USA SPAH's new quick turn maintenance services for the LEAP engine platform, further expanding our capabilities and customer support portfolio.

Eric Von Son - The lifecycles of the narrowbodies like the B737NGs and A320CEOs will be extended which, in turn, will increase the demand for MRO activities on these aircraft types and related engines.

How is the growing adoption of PMA and USM impacting future component strategies?

Pascal Parant - As OEMs continue to raise prices, PMA is becoming an attractive alternative. While it remains a sensitive topic for engines - particularly in the high-pressure flow path - it is far more accepted for components, where the technical risks are lower.

For USM, Vallair considers that two strategies are visible right now:

New-generation aircraft: The first teardowns of A320neo and 787s have begun, giving component MROs access to much lower-cost parts compared to OEM pricing, which was previously the only source.

Mature aircraft: Operators focus on green-time management or sourcing serviceable/overhauled components at a lower cost (and often with reduced TAT) than a full repair.

Benjamin Strauss - While PMA parts offer cost-effective alternatives, industry-wide acceptance remains limited due to operator and lessor restrictions. USM is gaining a lot of momentum - not just for cost savings but also to mitigate OEM material supply shortages and extended lead times. Together with increasing MRO demand, this results in a high focus on short and reliable TATs (Turn Around Times). A third strategic pillar that we at GA Telesis extensively explore are Engineering repair developments. They are increasingly accepted by operators for their reliability and cost-effectiveness. MROs must navigate these dynamics by ensuring traceability, Quality Assurance, and regulatory compliance. Balancing OEM relationships with customer preferences for PMA, USM and repair developments is key to building a resilient supply chain and



Benjamin Strauss

flexible component strategy. GA Telesis, as a leading player in the aviation sector, has continually expanded its partnerships with leading OEMs to enhance its parts and service offerings.

Eric Von Son - Supply chain issues and rising maintenance costs have increased the acceptance of PMAs & USM. PMA manufacturers and suppliers will continue to expand their product lines, especially on the aircraft types that are at a later stage of their lifecycle. EirTrade predicts that there will also be an increased demand for USM as an alternative for new parts. Significant growth of this sector is however under pressure due to the reduced availability of aircraft/engines for teardown, but supply

will increase again after the current B737Max and GTF issues are resolved.

How are you prepared to handle the increasing complexity of components from next-gen aircraft platforms like the A321XLR or 777X?

Pascal Parant - The short answer is that these platforms are still too young. This segment is currently limited to a few major players with the investment strength to take it on — primarily OEMs, AFI KLM E&M, Lufthansa Technik, ST Aerospace, and other similar groups.

Benjamin Strauss - Next-gen platforms like the A321XLR and B777X introduce advanced systems and materials that require specialized MRO capabilities and new technologies. GA Telesis is actively supporting new fleets such as the B747-8, B787 and B737 MAX, staying ahead by quickly adapting to evolving customer expectations and developing new capabilities, all while maintaining highest Quality standards. Attracting and retaining talent and training our highly skilled workforce remains key for our ongoing commitment. A curious, customer-centric mindset and a fascination for aviation help

us to understand and master the complex systems and technologies necessary to service tomorrow's aircraft. Investments in tooling, new technologies (such as HVOF thermal spray coating), and close collaboration with OEMs and airlines ensure readiness for complex repairs.

Is there a regional disparity in component demand, especially between North America, Europe, the Middle East, and Asia-Pacific?

Pascal Parant - Yes, Vallair can report that the approach to components and MRO varies significantly by region:

North America: Very open to USM and PMA. Airlines often purchase proactively to secure the best deals.

Europe: Open to USM but more cautious with PMA, and far less speculative in purchasing compared to the U.S.

Middle East & Asia-Pacific: Traditionally more aligned with OEMs, with very limited USM usage and virtually no PMA. That said, there are early signs of greater USM adoption in APAC, particularly for mature aircraft.

Benjamin Strauss - While the overall market is very globalized, regional disparities in component demand are visible. North America and Europe maintain strong demand due to mature fleets and high traffic volumes, while Asia-Pacific is rapidly growing with fleet expansions and new aircraft deliveries. The Middle East focuses on widebody support, driven by hub carriers. Each region has unique regulatory environments, fleet compositions, and operational priorities, influencing MRO strategies. To meet varying demand profiles and ensure timely support across global markets, MROs must tailor their offerings regionally through localized facilities, strategic partnerships, or mobile repair teams.

GA Telesis maintains one of the most expansive sales and distribution networks in the industry via our Flight Solutions Group. With key operational hubs in North America, Latin America, Europe, Eurasia, and Asia, GA Telesis' support network spans 54 locations across 30 countries and continues to grow. Our global customer base can count on our 24/7/365 AOG service that delivers aircraft parts and services to where they need them most.



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