

GLOBAL MRO DEMAND ACCELERATES AS AIRLINES EXTEND FLEET LIFECYCLES

The outlook for the global aircraft maintenance market remains very positive. Continued delays in new aircraft deliveries are prompting airlines to keep existing fleets in service longer, driving sustained demand for MRO services. Freight Trends learnt that engine maintenance continues to be the largest and fastest-growing segment, while demand for spare engines, used serviceable material (USM), and leasing solutions is also increasing. Europe experiences seasonal peaks in heavy maintenance, whereas Asia-Pacific and the Americas benefit from more consistent year-round demand supported by fleet expansion and strong air traffic growth.



Žilvinas Lapinskas



Valentina Pilshchikova,

How would you describe the current global demand for heavy aircraft maintenance, and which aircraft segments are driving the strongest growth?

Žilvinas Lapinskas, CEO, FL Technics - The heavy maintenance market continues to follow a strong seasonal pattern, particularly in Europe, where the highest workload is typically concentrated between September/October and March/April, when MRO providers operate at maximum available capacity. In contrast, Asia-Pacific and the Americas generally experience a more balanced year-round maintenance demand profile, supported by high fleet utilization and continued traffic growth.

Overall, the market continues to grow steadily. In 2025, global aircraft MRO demand reached approximately USD 136 billion and is expected to grow to around USD 193 billion by 2036. In Europe, the Airbus A320ceo and A320neo families continue to generate the largest share of heavy maintenance demand. In Asia-Pacific, growth is primarily driven by expanding Airbus A320 family, Boeing 737NG/737 MAX, and A321neo fleets, supported by rapid airline expansion and increasing passenger traffic. In the Americas, demand remains strongest among Boeing 737 and

Airbus A320 operators, with airlines extending aircraft service life amid ongoing delivery delays and capacity constraints.

Valentina Pilshchikova, Engines & Parts Trading Sales Manager, Vallair -

Global demand for aircraft maintenance is very strong and continues to grow. Deliveries of new aircraft are still delayed so airlines are continuing to keep aircraft in service longer. According to Aviation Week's latest forecast, the global MRO market is expected to generate around \$1.6 trillion between 2026 and 2035, with annual growth of around 3.2%.

The biggest growth is coming from narrowbody aircraft such as the Airbus A320 family and Boeing 737. Engine maintenance is the largest segment of the market, representing about 53% of total MRO demand, and is expected to grow faster than other maintenance categories. At Vallair, we are experiencing high demand for spare engines, used serviceable material (USM), and leasing solutions as airlines focus on maximising fleet utilisation.

How is the rise in passenger and cargo traffic influencing heavy maintenance demand?

Žilvinas Lapinskas - The continued growth

in passenger traffic is a major driver of heavy maintenance demand. Airlines are operating their fleets at high utilization levels to meet strong travel demand, which means aircraft are reaching maintenance thresholds faster and require more frequent scheduled checks. At the same time, ongoing aircraft delivery delays are encouraging operators to keep existing aircraft in service longer, further increasing demand for heavy maintenance and life-extension programs.

Cargo traffic remains resilient, although its growth has moderated compared to the exceptional levels seen during and immediately after the pandemic. Nevertheless, freighter operators continue to rely heavily on existing fleets, generating steady demand for maintenance services. Overall, higher aircraft utilization across both passenger and cargo segments is reinforcing the need for reliable MRO capacity, efficient turnaround times, and long-term maintenance partnerships.

Valentina Pilshchikova - The increase in passenger and cargo traffic is creating more demand for heavy maintenance. Aircraft are flying more hours and completing more flights, which means they require more inspections, repairs, and major maintenance checks.

Global airline revenues are expected to exceed \$1 trillion in 2026, whilst airline capacity is increasing across most regions. As utilisation increases, airlines need reliable maintenance support to keep aircraft safe and available for service.

At Vallair, we support this demand through our maintenance facilities in Chateauroux and Montpellier, France, where we provide narrowbody and widebody heavy maintenance, bridging checks, and aircraft storage solutions.

How are geopolitical disruptions and supply chain issues affecting maintenance schedules?

Žilvinas Lapinskas - Geopolitical disruptions and ongoing supply chain instability continue to have a direct impact on maintenance planning and aircraft downtime across the industry. Rising operational

uncertainty, material shortages, longer lead times for parts, and increased logistics costs make it more challenging for airlines and MRO providers to plan maintenance events efficiently.

As a result, maintenance schedules today require greater flexibility, closer coordination with suppliers, and faster operational decision-making to minimize disruptions and avoid extended aircraft ground time.

Valentina Pilshchikova - Geopolitical tensions, trade uncertainties, and supply chain disruptions continue to affect aircraft maintenance worldwide. Delays in receiving spare parts, materials, and components can extend maintenance timelines and increase aircraft downtime.

It would be remiss not to mention the issues affecting Pratt & Whitney GTF and CFM LEAP engines, which have created significant additional maintenance requirements across the global fleet. To reduce these risks, MRO providers, such as Vallair, are increasing inventory levels, improving forecasting, and working with a broader supplier network to maintain operational continuity.

What strategy would you use to mitigate the current global shortage of skilled MRO talent?

Žilvinas Lapinskas - The most effective strategy is to combine long-term workforce development with local recruitment and structured training. FL Technics project of new hangar at Dominican Republic (Punta Cana) is a good example: instead of relying only on importing talent, the company is building a local aviation skills pipeline, sup-

ported by training, onboarding, and career development.

At the same time, addressing the talent shortage requires investment in future specialists. FL Technics works closely with universities and educational institutions, supports internship programs, and participates in scholarship initiatives designed to encourage more young professionals to pursue careers in aviation maintenance.

This approach not only helps address the industry-wide talent shortage but also supports the development of a more sustainable and stable workforce closer to growing maintenance capacity and operational demand.

Valentina Pilshchikova - The best way to address the shortage of skilled maintenance personnel is to invest in people. This includes developing apprenticeship programs, partnering with aviation schools, and providing continuous technical training. Here at Vallair, investing in people is a top priority. Our training division, Aircraft Academy, is dedicated to nurturing the next generation of technicians. Our trainees finish their courses workforce-ready, having received quality on-the-job training in live environments at our Vallair facilities.

The aviation industry is expected to continue growing over the next decade, creating additional demand for qualified technicians. Retaining experienced employees is therefore just as important as attracting new talent. Offering career development opportunities, competitive working conditions, and access to new technologies can help strengthen the workforce and improve productivity.

How are AI and predictive maintenance transforming aircraft maintenance operations?

Žilvinas Lapinskas - AI and predictive maintenance are gradually transforming aircraft maintenance operations by shifting the industry from reactive troubleshooting toward earlier issue detection, improved planning, and more data-driven decision-making.

By utilizing aircraft data, reliability analytics, and CAMO software, engineering teams can better anticipate technical issues, plan material availability in advance, and reduce unplanned aircraft downtime. For MRO providers, these technologies improve operational efficiency, support faster turnaround times, and help airlines maintain higher aircraft availability.

Valentina Pilshchikova - Predictive maintenance is helping airlines and MRO providers identify potential problems before they become serious. AI makes valuable contributions to this workflow by analysing aircraft data in real time, allowing maintenance teams to detect trends and plan maintenance activities before failures occur.

AI has great potential in aircraft maintenance operations and it is becoming a useful tool to assist maintenance teams in, ultimately, reducing unscheduled maintenance, minimising aircraft downtime, improving reliability, and controlling operating costs.

As airlines focus on maximising fleet availability, predictive maintenance and AI are becoming increasingly capable of improving efficiency and supporting safer operations.





How is e-commerce driven aircraft utilization impacting heavy maintenance demand and maintenance cycles?

Žilvinas Lapinskas - E-commerce continues to support strong cargo aircraft utilization, particularly on time-sensitive routes, placing additional pressure on maintenance cycles. Higher aircraft utilization means fleets reach scheduled maintenance thresholds sooner, while operators increasingly require faster and more predictable turnaround times to maintain network reliability.

For MRO providers, this drives growing demand for efficient heavy maintenance planning, strong material availability management, and flexible maintenance capacity capable of supporting both passenger and cargo operations.

Valentina Pilshchikova - The continued growth of e-commerce is increasing the use of cargo aircraft worldwide. Cargo fleets are flying more frequently and accumulating more flight hours, which creates additional wear and tear on aircraft and engines.

As a result, operators need more heavy maintenance checks, repairs, and inspections. Many cargo aircraft are converted freighters that are older and require additional maintenance support. MRO capacity is therefore more in demand, as are faster turnaround times and predictive maintenance solutions.

How are you adapting to shortages in both new OEM parts and Used Serviceable Material (USM)?

Žilvinas Lapinskas - The situation with OEM parts and Used Serviceable Material (USM) availability has improved compared to previous years, however, supply chain challenges still remain for certain components.

To mitigate potential disruptions, we rely on internal maintenance data, operational statistics, and forecasting to identify parts that may become problematic during upcoming maintenance projects. In such cases, we proactively secure stock in advance or prepare alternative solutions to help avoid delays and maintain project continuity.

Valentina Pilshchikova - Vallair is adapting to parts shortages through better planning and stronger supply chain management. This includes ordering critical parts earlier, maintaining higher inventory levels, and working closely with suppliers and repair vendors.

We are also increasing the use of component repairs, exchange programs, and asset management solutions to improve parts availability. With approximately 50% of the global aircraft fleet now operating under leasing arrangements, Vallair is prioritising effective asset management and component support, as we recognise that these have become increasingly important for our customers to maintain fleet availability and minimise downtime.

Which regions are expected to dominate aircraft heavy maintenance over the next decade?

Žilvinas Lapinskas - Over the next decade, the regions expected to remain strongest in

the heavy maintenance market will likely be those capable of maintaining a competitive cost base, operational efficiency, and a stable skilled workforce.

Balancing these factors is becoming increasingly challenging across the industry, particularly amid ongoing labor shortages and rising operational costs. While not every market will be able to maintain all three conditions equally, the ability to combine efficiency, cost competitiveness, and long-term talent retention will be essential for sustainable growth and competitiveness in the global MRO sector.

Valentina Pilshchikova - Asia-Pacific is expected to be the largest growth market for aircraft heavy maintenance over the next decade. This growth will be driven by strong passenger demand, fleet expansion, and continued investment in MRO facilities.

North America will remain one of the largest maintenance markets because of its extensive commercial and cargo fleets. The Middle East is also expanding its aviation and MRO capabilities, while Europe will continue to play an important role in heavy maintenance, aircraft transitions, engineering services, and engine maintenance.

Together, these regions will drive the continued growth of the global MRO industry, supported by increasing aircraft utilisation and long-term fleet expansion.