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MRO 360°



When Every Day Counts

Avoiding Heavy Maintenance Delays

Information Technology
New Trends in MRO Software

Maintenance Tooling
Personal vs. Company-Owned Toolboxes

Mythbusters
More Inspections Always Means More Safety



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Dear Colleagues,

For our October issue we have focused on two specific areas – MRO software and aircraft heavy maintenance.

We first wanted to find out if AI was having a major influence on relevant software in our article *New Trends in MRO Software* or if the jury was still out on its efficacy.

For our second feature article *Avoiding Heavy Maintenance Delays*, we hoped to identify what operators recognised as pain points when it came to scheduling heavy maintenance and what steps could be taken to mitigate the risk of delays in return to service.

We also decided to explore the benefits of either personal or company owned toolboxes, while for our monthly Mythbuster article, we chose *More Inspections Always Mean More Safety*.

Finally, we have three very informative company profiles that are well worth a read for GAMIT and Airside MRO, while we also have the third and final instalment for the company profile on Willis Lease Finance Corporation.

As always, we hope you enjoy the magazine.



Torsten Tamm
Publisher

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EDITORIAL

Torsten Tamm LinkedIn
Publisher
torsten.tamm@avitrader.com

Heike Tamm LinkedIn
Editor-in-Chief
heike.tamm@avitrader.com

David Dundas LinkedIn
Content Writer
david.dundas@avitrader.com

Volker Dannenmann
Graphic Designer
volker.dannenmann@gmail.com

ADVERTISING & CONTRIBUTION ENQUIRIES

Tamar Jorssen LinkedIn
Central, North & South America
tamar.jorssen@avitrader.com
Phone: +1 (778) 213 8543

Malte Tamm LinkedIn
Europe, Middle East & Asia
malte.tamm@avitrader.com
Phone: +49 (0)162 8263049

SEE OUR **MEDIA KIT**

AviTrader Publications Corp.
Suite 305, South Tower
5811 Cooney Road
Richmond, British Columbia
V6X 3M1, Canada
Phone: +1 (778) 213 8543

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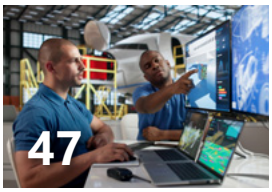


Avoiding Heavy Maintenance Delays















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GMF to establish Muscat Airport MRO facility



© GMF AeroAsia

Garuda Maintenance Facility Aero Asia (GMF AeroAsia), part of the Garuda Indonesia Group, has signed a concession agreement with Oman's Civil Aviation Authority (CAA) to operate a maintenance, repair and overhaul (MRO) facility at Muscat International Airport for 20 years. GMF AeroAsia Chief Executive Officer Andi Fahrurrozi and Oman CAA President Eng. Naif Ali Hamed Al-Abri signed the agreement at the Civil Aviation Investment Forum 2026 in Muscat on October 5, supporting GMF's international expansion. The CAA will own the hangar, provide the concession and oversee regulatory compliance. GMF will develop and operate the hangar and supporting facilities in phases, guided by market demand and the agreed business plan. Oman's strategic location is expected to broaden GMF AeroAsia's access to markets in the Middle East, Africa and Europe, complementing the company's existing service network based in Indonesia. Andi Fahrurrozi commented on the new agreement: "The development of an MRO facility in Oman marks the first step in establishing GMF's operational presence closer to customers in the Middle East and surrounding regions. With our experience and capabilities, we see an opportunity to serve a broader aircraft maintenance market while contributing to the growth of Oman's aviation industry." On the same occasion, GMF AeroAsia also signed a Commemoration Document with Mach Aerospace International to support the development of aviation capabilities and human resources. The collaboration is part of GMF's efforts to strengthen the supporting ecosystem for MRO operations in Oman. As the next step, GMF will continue its operational preparations with local partners through the phased development of facilities, capabilities, and human resources. By strengthening its presence in international markets and building strategic partnerships, GMF remains committed to delivering services that go beyond technical reliability to create greater value for its customers.

Airhub Aviation adopts MRO-PRO software



Airhub Aviation has selected MRO-PRO software for line maintenance © MRO-PRO

Airhub Aviation, a subsidiary of Lithuania-based GetJet Group, has signed up to use AI-driven aircraft maintenance software from MRO-PRO as the company expands its presence in the aviation maintenance market. MRO-PRO said Airhub Aviation will use its centralised digital platform to manage and coordinate line maintenance operations, providing greater visibility and automation while helping to reduce administrative work. The agreement comes ahead of MRO-PRO's debut as an exhibitor at MRO Europe in Amsterdam and adds Airhub Aviation to the software specialist's growing customer base. The deal highlights growing demand in the aircraft maintenance, repair and overhaul (MRO) sector for digital tools that can streamline maintenance planning, improve operational oversight and increase the commercial value of maintenance activities.

SR Technics cuts processing time with Bridgestone technology



© SR Technics

SR Technics has completed the rollout of Bridgestone Corporation's (Bridgestone) easytrack solution, becoming the first MRO provider to adopt the technology, the company announced. The implementation follows a two-year joint project and extends a partnership between SR Technics Spain SAU and Bridgestone that dates back to 1999. The technology has replaced a largely manual process with a digital workflow covering logistics, planning and inventory management. It was first introduced at SR Technics Spain's Mallorca base before being expanded to Madrid and is now integrated across stores and wheel shop operations at both sites. SR Technics said the system has cut processing times by 45%, while improving planning, efficiency and data accuracy and reducing manual administrative work. The company said the technology also provides greater traceability across operations, allowing staff to track workflows and inventory through a single system.



First Class Air broadens MRO services with Vertical Aerospace investment



Vertical Aerospace supports many sectors of the MRO industry, including commercial aircraft, air cargo, military and rotorcraft
© Vertical Aerospace

First Class Air has invested in and partnered with Vertical Aerospace, an aviation MRO provider based in Bristow, Oklahoma, expanding its capabilities in complex aircraft structural repair, engineering and fabricated-part manufacturing. The deal will increase First Class Air's technical capabilities and capacity, giving customers access to additional resources for the repair and support of complex aircraft structures and components. Vertical Aerospace will continue to operate from its 226,000-ft² facility in Bristow under founder and General Manager Tray Siegfried. Vertical Aerospace provides MRO, engineering and fabricated-part manufacturing services for commercial, cargo and military aircraft. Its capabilities include nacelle and thrust-reverser repair, flight-control surfaces, composite and metallic structural repair, cowlings, ducts and exhaust components, as well as repair development, fabrication, non-destructive testing and specialised processing. The company's quality system is AS9100 Rev. D certified, while its facility holds FAA and EASA repair station certifications. The transaction also adds in-house repair and manufacturing capabilities to First Class Air. Vertical Aerospace's Bristow facility includes an autoclave and clean room, phosphoric-acid anodising and cleaning systems, non-destructive testing, heat treatment, welding, laser tracking, engineering and design systems, and other specialised equipment for advanced repair and manufacturing applications.

SR Technics supports Garuda CFM56 maintenance

SR Technics has begun maintenance services for selected CFM56 engines operated by Garuda Indonesia, supporting the national carrier's fleet readiness and operational requirements. The work is being carried out through SR Technics' engine maintenance operations in Zurich and forms part of Garuda Indonesia's broader efforts to strengthen operational reliability and the resilience of its maintenance network. SR Technics, a provider of engine maintenance, repair and overhaul (MRO) services, said the cooperation draws on its established MRO capabilities to provide dedicated maintenance support for the selected CFM56 engines. The programme is intended to support Garuda Indonesia's fleet operations and maintenance requirements across its network.



SR Technics employees work on CFM56 engines *© SR Technics*

Barnes Aerospace buys Scotland-based ATL Turbine Services



ATL Turbine Services has been repairing and refurbishing gas turbine components for over 30 years © *ATL Turbine Services*

Barnes Aerospace has acquired Scotland-based ATL Turbine Services, expanding its aerospace component repair operations into Europe and establishing its first dedicated component repair and overhaul presence in the region. ATL Turbine Services, based in Dundee, specialises in the refurbishment and repair of hot-section gas turbine components. The acquisition adds repair, assessment, coating and engineering capabilities in Europe to Barnes Aerospace's existing global repair network, allowing it to support customers across the turbine engine component lifecycle. The deal follows Barnes Aerospace's acquisition of US-based Jet AirWerks in August 2026, which expanded its commercial aero-engine inspection, repair, overhaul and disassembly capabilities in North America. Barnes Aerospace said the two acquisitions support its strategy of developing a broader global aftermarket network and providing full-lifecycle component services closer to customers.



FL Technics Indonesia has signed a service support agreement with GE Aerospace



FL Technics Indonesia and GE Aerospace have inked a service support agreement for avionics systems
© *Shutterstock*

FL Technics Indonesia has signed a service support agreement with GE Aerospace covering avionics systems for Boeing 737 and Airbus A320 aircraft at its facilities in Jakarta and Bali. The agreement makes FL Technics Indonesia the first MRO provider in Indonesia to partner with GE Aerospace under the arrangement. The deal was signed at MRO Asia Pacific 2026 in Singapore. GE Aerospace will provide technical support directly at the FL Technics' facilities at Soekarno-Hatta International Airport and I Gusti Ngurah Rai International Airport, giving airline operators greater access to specialised avionics maintenance services. "Avionics is the backbone of aircraft systems, and we are constantly working to maintain the highest standards with the right resources and expertise," Martynas Grigas, Chairman of FL Technics Indonesia, said. The partnership will add GE Aerospace's technical expertise to FL Technics Indonesia's operations as the company seeks to strengthen safety and maintenance capabilities in line with the changing needs of airline customers, Grigas outlined.

TARMAC Aerosave wins Indian A320 maintenance approval



TARMAC Aerosave has secured Indian DGCA approval covering the full A320 family of aircraft © *Tarmac Aerosave*

TARMAC Aerosave has secured approval from India's Directorate General of Civil Aviation (DGCA) to carry out maintenance on Indian-registered Airbus A320-family aircraft, the company said at MRO Asia-Pacific 2026. The approval covers the full A320 family across all engine types, including CFM56, IAE V2500, CFM LEAP-1A and Pratt & Whitney PW1100G. TARMAC Aerosave's headquarters and facility in Tarbes, France, can now perform maintenance on Indian-registered aircraft and issue certificates of release to service recognised by the Indian authority. The approval covers the group's core services, including base maintenance, end-of-lease transitions, aircraft storage and preservation, return-to-service work and engine services. India is the world's fastest-growing aviation market in terms of fleet expansion, while its single-aisle fleet corresponds closely with the scope of the new approval, spanning current-generation LEAP-1A and PW1100G engines as well as the previous-generation CFM56-5B and V2500. With approval covering all four engine types, TARMAC Aerosave can accept A320-family aircraft operated by Indian carriers without engine-related restrictions. The company said this would benefit lessors and operators with mixed fleets and support aircraft transitions between Indian and international operators.

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Aero Norway, GE Aerospace sign LEAP MRO deal



Aero Norway has signed an offload agreement with GE Aerospace for CFM LEAP engine modules © *GE Aerospace*

Aero Norway, an ITP Aero company specialising in MRO of CFM56 engines, has signed a multiyear agreement with GE Aerospace to perform shop visits on high-pressure turbine components for CFM LEAP-1A and LEAP-1B engines. The deal is Aero Norway's first of its kind and marks a step in the company's expansion into the CFM LEAP engine market. Under the agreement, Aero Norway will support GE Aerospace's open MRO ecosystem by handling repairs of LEAP high-pressure turbine (HPT) rotors and HPT stage 2 nozzle assemblies. GE Aerospace is expanding its network of third-party MRO providers as demand for LEAP engine maintenance grows, with more than 8,000 engines currently in service and a backlog of more than 10,000. "We are very proud to sign this agreement with GE Aerospace," Aero Norway Chief Executive Officer Neil Russell said. "It represents a significant milestone in our CFM LEAP journey" and will help expand MRO capacity while maintaining quality and efficiency, he added. Flavio Gregorio, Vice President of CFM LEAP and RISE programmes at GE Aerospace, said the agreement will support engine availability and utilisation for operators. Aero Norway and ITP Aero bring more than three decades of MRO experience, Gregorio said, adding that their expertise will help improve maintenance performance for customers.



Malaysia Aviation Group to acquire Airbus MRO unit SAE



MAG has signed a sale-and-purchase agreement with Airbus for the acquisition of Sepang Aircraft Engineering (SAE) © *MAG*

Malaysia Aviation Group (MAG) has signed an agreement with Airbus to acquire Sepang Aircraft Engineering (SAE), an Airbus Group subsidiary, as it seeks to expand its MRO business and increase third-party revenue. The proposed acquisition is part of MAG's Long-Term Business Plan 3.0 and is aimed at strengthening the group's engineering capabilities and expanding its integrated aviation services portfolio. MAG President and Group Chief Executive Officer Captain Nasaruddin A. Bakar said the deal reflected the group's focus on disciplined investment in businesses that can strengthen its core operations, diversify revenue and support long-term growth. SAE will complement the existing capabilities of MAB Engineering, particularly in Airbus A320 maintenance, aircraft painting and specialised component repairs, MAG said. The acquisition would allow MAG to offer a broader range of MRO services to existing and new third-party customers in Southeast Asia and other markets, while leveraging Malaysia's engineering skills and cost competitiveness, the group said. "SAE further complements MAB Engineering's existing capabilities through its A320 expertise, dedicated paint hangar and specialised component repair services," Nasaruddin said. He said the combined capabilities would help MAG capture opportunities in the growing MRO market and support Malaysia's ambition to develop into a leading regional aerospace hub. The transaction remains subject to customary conditions, including approval from the Civil Aviation Authority of Malaysia (CAAM). MAG said it would work with SAE, CAAM and other stakeholders to secure the necessary approvals, with completion targeted for 2027.

FTAI Aviation and United extend CFM56-7B engine exchange programme

FTAI Aviation (FTAI) has announced a multi-year maintenance, repair and exchange (MRE) agreement with United Airlines (United), one of the largest CFM56-7B operators. Under the agreement, FTAI will provide engine exchanges in place of traditional shop visits. The partnership, which began with United's V2500-powered fleet, now covers selected CFM56-7B engines, with scope for the programme to expand over the agreement's term. Under the MRE programme, FTAI supplies a serviceable engine ahead of each scheduled United engine removal, then purchases the unserviceable engine, saving the airline the cost and downtime of a traditional shop visit. FTAI adds the acquired engines to its inventory for use across its MRO network. Launched with an initial group of engines in 2026, the programme will expand as further engines become due for removal, with both companies coordinating deliveries around United's removal schedule. "This is an important step forward in our maintenance programme for our Boeing 737 NG aircraft," said United Executive Vice President and Chief Financial Officer Mike Leskinen. "This growing relationship will help us improve utilisation for this important part of our fleet as we fly more customers to more destinations." This announcement follows last week's acquisition by FTAI Aviation of 27 Boeing 737-700 aircraft from Canadian airline WestJet, marking one of the company's largest aircraft transactions to date.

Avora Group consolidates aviation businesses under one platform

Avora Aviation, Fly2Sky, MX Technic and Avora Aviation Academy have been consolidated as business units of Avora Group, creating an integrated aviation platform spanning aircraft leasing, airline capacity, technical services and training. The group's businesses include Avora Aviation, focused on aircraft leasing, trading and asset management; Fly2Sky, an EASA-certified airline providing capacity solutions; MX Technic, an EASA Part-145 maintenance and CAMO services provider; and Avora Aviation Academy, which provides crew and technical training and plans to expand into flight training. Avora Group said the consolidation reflects the development of the businesses and creates a platform capable of providing airlines with a broader range of services. The group's strategy is centred on integrating the units' existing capabilities across aircraft assets, airline operations, technical services and training. Airline customers will be able to combine Fly2Sky's operating capacity with Avora Aviation's leasing, asset management and aircraft trading services, alongside MX Technic's maintenance capabilities and Avora Aviation Academy's training services. The group aims to support airlines across different stages of their fleet and capacity requirements, from short-term and seasonal capacity to longer-term aircraft solutions, while providing training aligned with their fleets. Each business will retain its existing brand and focus while drawing on Avora Group's combined infrastructure, capital, expertise and operational capabilities.

SriLankan Engineering signs Jetstar line maintenance deal



SriLankan Engineering will provide line maintenance for Jetstar's Boeing 787 aircraft operating at Bandaranaike International Airport © *AirTeamImages*

SriLankan Engineering has signed a long-term line maintenance agreement with Jetstar, part of the Qantas Group, covering the airline's flights to Colombo, Sri Lanka. Under the agreement, SriLankan Engineering will provide line maintenance services for Jetstar's Boeing 787 aircraft operating at Bandaranaike International Airport in Colombo. The deal will support Jetstar's Sri Lanka operations with maintenance and technical services for its 787 flights, SriLankan Engineering said. The partnership is also expected to pave the way for SriLankan Engineering to obtain Civil Aviation Safety Authority (CASA) Part 145 approval from Australia. Once secured, the approval would allow the company to provide certification services for Jetstar flights operating to Sri Lanka. The planned regulatory approval would expand SriLankan Engineering's ability to support Jetstar's operations and strengthen its position in the international aircraft maintenance market.



WGI plans to invest US$19 million in Aerospace MRO facility



Image of WGI MRO's new facility © *WGI*

Western Massachusetts aerospace company WGI plans to invest about US$19 million to build a 68,000 ft² maintenance, repair and overhaul (MRO) facility at its existing Southwick campus, the company announced. The new facility will house WGI MRO and expand the company's capacity to service precision aerospace components, with specialised equipment, higher production capacity and additional MRO capabilities. The project is expected to create 30 new jobs and has received approval for US$450,000 in tax credits under Massachusetts' Economic Development Incentive Program, WGI said. The investment comes as the 85-year-old, family-owned company seeks to expand its MRO business and meet demand from a growing customer base. WGI said the project would also support aerospace manufacturing and repair activity in western Massachusetts.

Liebherr wins China Airlines A350 landing gear contract



Liebherr-Aerospace and China Airlines have reached an agreement for the overhaul of nose landing gear on the airline's Airbus A350 fleet © *China Airlines*

Liebherr-Aerospace has been selected by Taiwan-based China Airlines to provide exchange and overhaul services for the nose landing gear on its fleet of 18 Airbus A350 aircraft. Under the agreement, Liebherr-Aerospace will provide asset exchange services to support the airline's maintenance planning and fleet availability. "China Airlines is our launch customer in Asia for the A350 nose landing gear overhaul programme," said Joël Cadaux, General Manager Aerospace at Liebherr-Singapore. The agreement reflects the companies' focus on long-term cooperation and operational performance, Cadaux said, adding that the landing gear exchange solution would help China Airlines maximise fleet availability while maintaining safety and reliability standards. The A350 nose landing gear system was developed, manufactured and certified by Liebherr-Aerospace Lindenberg GmbH, the Liebherr group company responsible for flight controls, landing gear systems, gears, gearboxes and electronics.

SAE, Cebu Pacific sign A320 maintenance deal

Sepang Aircraft Engineering (SAE) has signed a contract with Philippine low-cost carrier Cebu Pacific covering 12-year maintenance and end-of-lease (EOL) checks for seven A320 aircraft. The agreement was signed during MRO Asia in Singapore, with the checks to be carried out at SAE's facility at Kuala Lumpur International Airport. The deal builds on the companies' existing relationship, which includes heavy maintenance, EOL checks, engine changes, skin panel replacement and on-site engineering support in Manila. SAE, a wholly owned subsidiary of Airbus, said the agreement would further strengthen its support for Cebu Pacific's A320 fleet through its maintenance, repair and overhaul (MRO) capabilities.

RECARO opens expanded aircraft seat plant in Poland

RECARO Aircraft Seating Polska has opened an expanded production and office facility in Świebodzin, Poland, following a double-digit million-euro investment that more than doubles the site's footprint and raises annual production capacity to 100,000 passenger seats. The expansion increases the facility's total area from about 10,550 m² to more than 22,000 m², while annual production capacity rises from 60,000 to 100,000 seats. About 8,600 m² of additional space has been added for production, logistics and cut2dress operations, bringing the combined area for those functions to around 18,000 m². The number of production lines will increase from four to eight to meet rising customer demand. The new production layout is based on a linear product flow aimed at improving ergonomics and operational efficiency. Assembly and logistics areas have also been separated to improve workplace safety and material flow.



Ribbon-cutting ceremony to officially open the new facility in Poland *© RECARO Aircraft Seating*

Warehouse operations are due to be further upgraded with dedicated storage areas and automated storage and picking technology, planned for implementation by the end of 2027. The expansion also adds about 3,000 m² of office space, more than doubling the site's working area to almost 5,000 m². The new facilities include open-plan offices, conference rooms, a canteen and employee areas designed to support collaboration and a modern working environment.

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GMF, FTAI deepen engine maintenance partnership



The partnership was formalised at MRO Asia-Pacific 2026 in Singapore © *GMF AeroAsia*

GMF AeroAsia (GMF), part of the Garuda Indonesia Group, and FTAI Aviation have expanded their strategic partnership to increase engine and auxiliary power unit maintenance capacity and strengthen their presence in the Asia-Pacific market. The initial agreement covers CFM56-5B and CFM56-7B engines and GTCP131-9 series APUs, with GMF guaranteeing capacity for FTAI over the next five years. The partnership was formalised at MRO Asia-Pacific 2026 in Singapore. The companies already work together, with GMF providing engine maintenance services to FTAI. The expanded partnership is expected to support a gradual move into deeper module and component work, as well as next-generation engines including CFM International's LEAP. GMF Chief Executive Andi Fahrurrozi said the agreement would help the company respond to rising engine maintenance demand from FTAI, its customers and the wider regional aviation market. The partnership will allow GMF to expand its customer base in Asia-Pacific and globally while building its maintenance capacity and capabilities, Fahrurrozi said.

StandardAero, GMR Aero Technic expand engine support in India

StandardAero has signed a supplier services agreement with GMR Aero Technic, India's largest third-party MRO provider, to expand on-wing engine support for airlines in India. The agreement initially covers support for narrow-body engines including CFM International's CFM56-7B, LEAP-1A and LEAP-1B, StandardAero said. India is a major market for the latest-generation LEAP engines, which power Airbus A320neo and Boeing 737 MAX aircraft. Indian operators have about 1,000 such engines in service and a further 3,200 on order, the company said. The CFM56-7B, which powers the Boeing 737NG family, also remains widely used in India, with more than 100 engines in service. StandardAero has provided engine MRO services to Indian operators for several years, including support for the LEAP-1B, AE 3007A regional turbofan and PW127 regional turboprop engines. The companies said the agreement will combine their capabilities to provide enhanced on-wing support to operators across India.



Signing of the supplier services agreement © *StandardAero*

EirTrade facility earns AFRA Diamond status

EirTrade Aviation's airframe and engine disassembly facility at Ireland West Airport Knock has received "KPI-Diamond" certification from the Aircraft Fleet Recycling Association (AFRA), the aviation services company said. The accreditation recognises compliance with AFRA's best management practices and a high level of asset data collection and monitoring. "At the Diamond standard, data is gathered for each asset, so it doesn't matter if it is one engine or twenty aircraft, the level of detail and monitoring is the same," said Steven Trowell, EirTrade's Senior Vice President for Maintenance and Disassembly. EirTrade said its Knock facility is expanding as more aircraft and engines enter the site for redelivery after lease expiries and teardown. The company is also investing in recruitment and training as it builds its maintenance and disassembly workforce. "As the only teardown operation in Ireland we have a huge responsibility to reassure our customers, in the airline, lessor and Used Serviceable Material (USM) community, that we meet the highest standards in Europe," Trowell said. The Knock operation combines aircraft disassembly with Part-145 line maintenance services. EirTrade said the facility also supports the recovery, reuse and recycling of aircraft components and materials as part of its focus on the circular economy. Ireland West Airport Knock's location on Ireland's western seaboard could provide a gateway for aircraft movements between Europe and North America, while its location within the European Union offers a potential base for aircraft redeliveries. The airport's government-backed Strategic Development Zone provides for up to 44,000 m^2 of aviation-related development, including maintenance, repair and associated services. Its existing infrastructure includes a 2,511-metre runway and dedicated aviation development land. Government-backed airport upgrades and a planned infrastructure programme of more than €35 million (US$40 million) for 2026-2028 are expected to support the airport's longer-term development, with Ireland seeking to strengthen its position as an international aircraft leasing hub.

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Collins Aerospace expands Iowa engine components plant



© Collins Aerospace

Collins Aerospace, an RTX business, has disclosed that it is expanding its manufacturing site in West Des Moines, Iowa by 14,000 ft². The multi-million-dollar investment will increase capacity to meet growing customer demand. The facility specialises in producing advanced fuel distribution systems, including original equipment components and spare parts, while also providing maintenance, repair and overhaul services. Its products support a broad range of commercial and military platforms, with the site shipping more than 25,000 engine nozzles each month. It also operates as an FAA-certified Part 145 repair station, specialising in engine nozzle systems and powerplant accessories. The West Des Moines operation currently employs around 300 full-time staff. The expansion is expected to create additional roles by the end of 2026, with further recruitment planned for 2027 to support long-term programme growth. "The investment at our West Des Moines site demonstrates our commitment to advancing commercial and military aviation through our innovative fuel distribution technology," stated James Bagg, Vice President and General Manager of Engine Control Systems at Collins Aerospace. "This expansion helps us enhance delivery performance, improve manufacturing capabilities and add jobs to meet growing customer demand." The expansion follows Collins Aerospace's June 2026 investment in Malaysia, where the company committed US$63 million to expand its MRO footprint at Subang Aerotech Park. The project more than triples the size of its Selangor operation, strengthening its role as a regional hub for MRO support across a range of aircraft components.



AAR to buy controlling stake in MRO Holdings



© Shutterstock

AAR Corp. has agreed to acquire a 65% controlling stake in MRO Holdings at an implied enterprise value of US$4 billion, in a deal that will expand the aviation aftermarket company's maintenance operations. The transaction values MRO Holdings at 10.7-times its forecast 2026 adjusted EBITDA, including US$75 million in expected annual cost synergies and excluding transaction-related tax benefits with an estimated present value of about US$150 million, AAR said. MRO Holdings provides aircraft maintenance, repair and overhaul services across the Americas. The company has about 10,000 employees and 115 airframe maintenance lines at facilities in El Salvador, Mexico, Colombia and the United States. About 90% of its revenue comes from U.S. customers. AAR said the deal would create the world's largest heavy maintenance, repair and overhaul provider, with the combined business expected to service nearly 3,000 aircraft a year in its hangars. The acquisition will also broaden AAR's maintenance offering and create opportunities to expand its component repair, original equipment manufacturer distribution and aviation software businesses, the company said. "We see more growth opportunities for the heavy maintenance business itself, including wide-body maintenance and increased capture of European and Middle Eastern fleets for service in the Americas," AAR Chairman, President and Chief Executive John Holmes said. AAR said the transaction structure would allow it to partner with MRO Holdings' existing management team while retaining financial flexibility to pursue its broader strategy. Holmes described the acquisition as a transformational step in AAR's long-term growth plan.

VSE Aviation signs Jeju Air repair deal



Jeju Air © Shutterstock

VSE Aviation has signed a two-year repair agreement with Jeju Air, South Korea's largest low-cost carrier, the aviation aftermarket services provider said. Under the agreement, VSE Aviation will provide repair services for a broad range of aircraft components through its MRO facility in Miramar, Florida. The scope includes accessories, avionics, fuel systems, harnesses, hydraulics, instruments, mechanical components, pneumatics and radio equipment. "We are pleased to expand our relationship with Jeju Air, further strengthening the support we provide across their fleet," said George Poh, VSE Aviation's APAC leader. The agreement reflects customers' confidence in VSE Aviation's technical expertise and its ability to provide aftermarket services aimed at supporting fleet operations, Poh said. VSE Aviation's MRO business provides repair and overhaul services for a wide range of aircraft systems and components, supported by specialised technical expertise and its growing global MRO network.

AirBorneo inks four-year engine services agreement with P&WC



Pratt & Whitney Canada and AirBorneo Airways sign PW127M maintenance agreement © *AirBorneo Airways*

Pratt & Whitney Canada (P&WC) has signed a four-year agreement with AirBorneo Airways to provide maintenance, repair and overhaul (MRO) services for PW127M engines powering the airline's ATR 72-500 turboprop fleet through 2030, the companies said. AirBorneo operates its ATR 72-500 aircraft on Malaysia's Rural Air Services network, which connects remote and underserved communities across East Malaysia. The agreement is designed to help AirBorneo manage engine maintenance costs and support aircraft availability for the network, Pratt & Whitney Canada said. "We worked closely with AirBorneo to develop a maintenance solution that manages engine costs and supports high dispatch availability for these critical flights," said Anthony Rossi, vice president of customer service at Pratt & Whitney Canada. The engines will be maintained primarily at Pratt & Whitney Canada's Singapore facility, which serves as a customer-support hub for the Asia-Pacific region. Recent investment at the Singapore site has expanded its turboprop MRO capabilities, strengthening its capacity to provide localised support to operators across the region, the company said.

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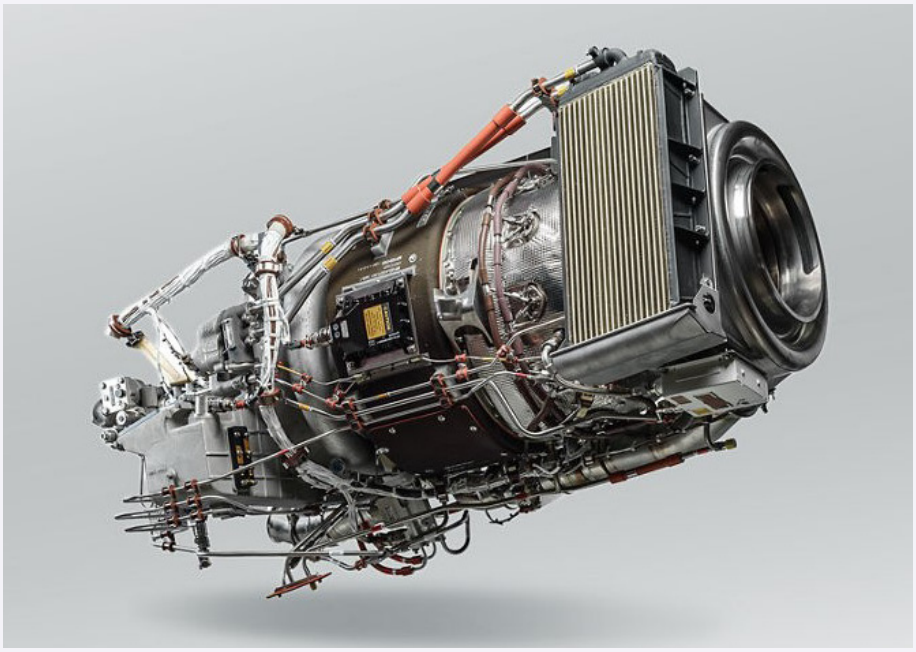
GA Telesis expands USM processing capacity in Florida



© Shutterstock

GA Telesis LLC said it is expanding its distribution operations with the opening of a used serviceable material (USM) processing centre in Port St. Lucie, Florida, as demand for aviation parts grows. The new facility will process components recovered from aircraft and engine dismantling projects, the company said. It will receive, document, evaluate and prepare parts for shipment to approved maintenance, repair and overhaul (MRO) facilities. After repair or overhaul, serviceable components will be distributed through GA Telesis' global network to support airlines, aircraft lessors and MRO customers. The expansion is aimed at supporting growth in both the company's USM and new-parts distribution businesses and is expected to create jobs in St. Lucie County, GA Telesis said. The company's main distribution centre in Fort Lauderdale, Florida, as well as its facilities in Europe and Asia, will continue to handle distribution of new and serviceable aviation material. Separating USM processing from the main distribution operations is expected to allow the facilities to specialise in different functions, while increasing throughput, improving material flow and reducing the time needed to move components through the repair and distribution cycle, the company said. GA Telesis is currently dismantling a record number of aircraft and engines as airlines and lessors adjust fleet requirements and demand grows for lower-cost replacement parts that are available immediately. Recent dismantling projects have included Airbus A320neo and Boeing 737 MAX 8 aircraft, expanding the company's inventory of components for newer commercial aircraft fleets.

Honeywell, Garuda Indonesia sign three-year APU services deal



Honeywell APU

© Honeywell Aerospace

Honeywell Aerospace said it has signed a three-year agreement with PT Garuda Indonesia (Persero) Tbk to provide repair and maintenance services for auxiliary power units (APUs) across the Indonesian airline's aircraft fleet. The agreement covers Honeywell Aerospace's 131-9B, 331-350 and 331-500 APU models and builds on the companies' longstanding partnership, Honeywell said. The arrangement is intended to give Garuda Indonesia greater predictability over repair costs and defined service expectations, supporting maintenance planning during the three-year term. "Consistent, predictable maintenance support is critical in helping airlines plan maintenance effectively and keep their fleets operating reliably," said Eric Ai, President of Asia Pacific at Honeywell Aerospace. APUs provide electrical power and conditioned air when aircraft are on the ground, supporting aircraft and cabin systems during boarding and turnaround. Honeywell Aerospace provides repair, overhaul and upgrade services for aircraft systems through a global network of 26 repair and overhaul facilities, including sites in the Asia-Pacific region, as well as more than 100 commercial air transport channel partner locations.

ST Engineering, Collins expand component support



ST Engineering and Collins Aerospace agreement signing © *ST Engineering*

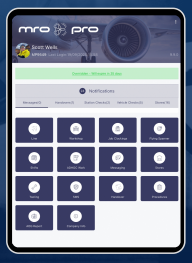
ST Engineering's Commercial Aerospace business and Collins Aerospace, an RTX business, have signed three multi-year agreements to expand component support for airline operators, building on their longstanding relationship.
The agreements introduce new collaboration on component repairs and extend existing arrangements covering spare parts procurement and lifecycle repairs. Together, they will combine original equipment manufacturer (OEM) and maintenance, repair and overhaul (MRO) expertise to provide airlines with component repairs designed to support aircraft dispatch and reduce turnaround times. Under the new agreement, ST Engineering will provide repair services for Collins fan assembly electronics boards used on Boeing 787 aircraft. The arrangement is intended to reduce turnaround times for line-replaceable unit (LRU) repairs and improve efficiency by offering repair rather than replacement solutions to airlines and operators. ST Engineering has also extended and expanded a multi-platform agreement to procure new Power & Controls spare parts from Collins for its LRU component MRO operations. The broader arrangement adds more narrow-body aircraft components to ST Engineering's portfolio, supporting OEM-standard component repair services. Furthermore, the companies have also extended their collaboration on LRU component repairs for Airbus A320- and Boeing 737-family aircraft through Collins' FlightSense aftermarket support programme.

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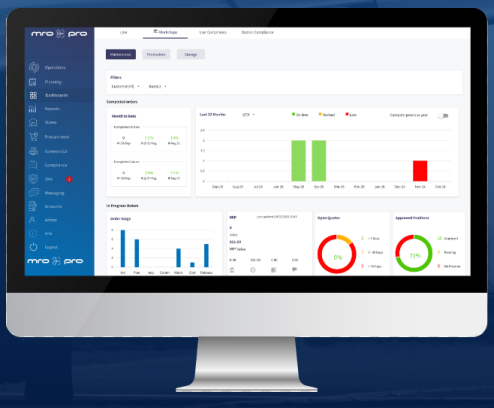
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Safran, China Airlines sign A350-900 landing gear agreement



The agreement was signed at Safran Landing Systems' Singapore facility during MRO Asia-Pacific *© Aloysius Lim - Safran*

Safran Landing Systems and Taiwan-based China Airlines have signed an agreement covering the overhaul of the main landing gear on the carrier's fleet of 18 Airbus A350-900 aircraft, the companies said on September 23. The agreement, signed at Safran Landing Systems' Singapore facility during MRO Asia-Pacific, covers the airline's entire A350-900 fleet and will support its landing gear maintenance needs from 2026 to 2031. Under the deal, Safran will provide landing gear overhaul services and related technical support aimed at maintaining the reliability, availability and performance of China Airlines' A350 fleet. The maintenance work will be carried out at Safran Landing Systems' MRO centre in Singapore, drawing on the French company's original equipment manufacturer expertise and MRO capabilities. The agreement builds on a long-standing relationship between the two companies. China Airlines already uses Safran Landing Systems for landing gear maintenance on its Airbus A330 fleet. Other members of the China Airlines Group, including Tigerair Taiwan and Mandarin Airlines, also work with Safran Landing Systems on landing gear services for their respective fleets.

Joramco opens new customer centre to deepen airline ties

Joramco, the Amman-based aircraft MRO facility and engineering arm of Dubai Aerospace Enterprise (DAE), has opened a new Customer Center aimed at strengthening collaboration with airline customers and improving support. The 1,850 m² facility spans two floors and brings customer-facing teams and engagement areas together in one location, allowing closer communication and faster coordination between Joramco and its partners. The center includes 35 offices for customer representatives, with capacity for up to 108 people, as well as meeting rooms, customer lounges and dedicated collaboration areas. It also provides direct access to Joramco's hangars, allowing customer representatives to work closer to ongoing maintenance operations. Jeff Wilkinson, Chief Executive Officer of DAE Engineering, said the centre was intended to bring Joramco closer to its customers, allowing the company to understand their requirements more quickly and respond more effectively. He said the facility demonstrated Joramco's commitment to making transparency and collaboration central to its day-to-day operations.



Official opening of Joramco's new Customer Center *© Joramco*

ProvenAir launches new Lease Management platform

ProvenAir Technologies has deployed its new Lease Management platform, a cloud-based solution designed to help aerospace asset owners track their portfolios and the lease economics governing them, the company said. Developed in close collaboration with RESIDCO a commercial aircraft and engine lessor, the platform provides asset owners with a single system for managing lease and portfolio data, replacing spreadsheets and manual processes that have long been used across the industry. As ProvenAir's design partner, RESIDCO worked alongside the company's product team throughout development, helping shape the platform's core workflows around real portfolio and lease scenarios. The collaboration resulted in Fly Forward Economics, Lease Management's flagship capability, which brings lease-value and return-condition forecasting into the same view as underlying maintenance and traceability records. “Working with ProvenAir on this platform means we now have lease and asset data in one place and with a real-time view. It's changed how quickly we can answer basic questions about our own portfolio,” said Scott Daniels, Managing Director, Aviation, at RESIDCO.

GE Aerospace to invest US$225m in Niskayuna research centre



Aerial view of the research centre in Niskayuna, New York © *GE Aerospace*

GE Aerospace will invest US$225 million to modernise its research centre in Niskayuna, New York, as the aerospace company expands its research capabilities in areas including artificial intelligence, autonomy, robotics and advanced propulsion. The state of New York has committed US$8.4 million in tax credits through Empire State Development, while the Schenectady County Metroplex Development Authority will provide additional local incentives worth US$5.3 million. The GE Aerospace Research Center has operated as a technology development hub for more than 75 years. The latest investment will upgrade its infrastructure and research equipment, with about two-thirds of the funding allocated to infrastructure improvements and the remainder to advanced research technology. The project is expected to create 75 full-time jobs over five years, including research, engineering and skilled trade positions, as well as temporary construction employment. GE Aerospace said the upgraded centre will support advanced technology programmes with academic and federal partners, including projects backed by the U.S. Department of Energy and Department of War. Site improvement work is expected to begin immediately, with research operations continuing during construction with minimal disruption, the company said.



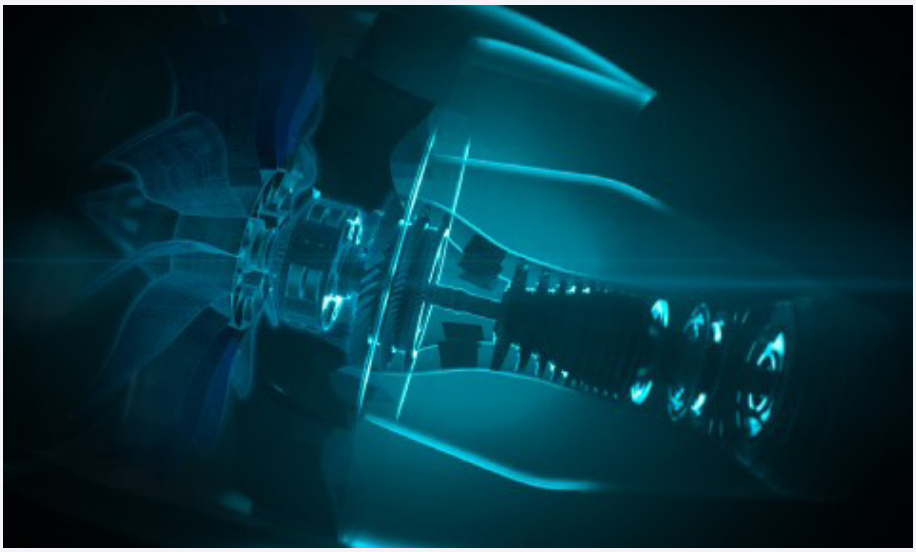
China Airlines picks REVIMA for B787 APU support

China Airlines has selected REVIMA to provide long-term maintenance, repair and overhaul (MRO) support for the airline's APS5000 auxiliary power unit (APU) fleet on its Boeing 787 aircraft. Under the agreement, REVIMA will provide Power by the Hour (PBTH) support, covering APU and line-replaceable unit (LRU) repairs as well as predictive maintenance services. "Ours is a long-term agreement structured to provide maximum value to China Airlines, from top-quality support to best-in-class lifecycle management of its B787 APU fleet," said Olivier Legrand, President and Chief Executive of REVIMA. REVIMA will also provide China Airlines with access to its digital services portfolio, including Predicare, Effifuel, Opticooling and Optipower, aimed at improving ground operations efficiency.



Signing ceremony between REVIMA and China Airlines © *REVIMA*

Rolls-Royce to lead EU hybrid-electric aircraft project



Rolls-Royce to elevate EU's latest Clean Aviation call © *Rolls-Royce*

Rolls-Royce has been selected by the European Union's Clean Aviation programme to lead a project aimed at demonstrating hybrid-electric propulsion technology for future short- and medium-range aircraft, as the aviation industry seeks to cut emissions while improving fuel efficiency. The ELEVATED project is one of 19 initiatives selected under the latest Clean Aviation funding call. The projects will receive up to €290 million in EU funding and are expected to generate total public and private investment of €664 million, supporting technologies ranging from hybrid-electric propulsion to hydrogen-powered and ultra-efficient regional aircraft. Led by Rolls-Royce Deutschland, the ELEVATED consortium includes industrial, academic and research partners from France, Germany, the Netherlands, Norway, Spain and the United Kingdom. The partners will work on areas including hybridisation, electrification, engine integration, electrical machines and drives, high-voltage systems, aircraft integration and technology modelling. Subject to the completion of the grant process, the project will integrate a hybrid-electric subsystem into an existing "donor" engine. The system will then be integrated, controlled and tested under conditions intended to replicate those encountered in aircraft operation. Rolls-Royce said the hybrid-electric system is being developed towards a target of reducing aircraft-level carbon dioxide emissions by at least 20%. The project will also assess the potential contribution of hybrid-electric technology to the company's UltraFan 30 technology demonstrator, supporting its development towards Technology Readiness Level 6, a stage at which technology is considered sufficiently mature for demonstration in a relevant environment. UltraFan is Rolls-Royce's next-generation geared engine programme for both narrow-body and wide-body aircraft. The UltraFan 30 demonstrator is focused on short- and medium-range aircraft and is scheduled for ground testing in 2028. The demonstrator combines new engine-core architecture, fan technology, advanced materials and manufacturing processes, with the aim of improving fuel efficiency, emissions and durability. Rolls-Royce said the engine is being designed to operate with 100% sustainable aviation fuel from the outset. The ELEVATED project forms part of wider European efforts to develop lower-emission aviation technologies while maintaining the competitiveness of the region's aerospace industry. (€1.00 = US$1.15 at time of publication).

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Werner Aero acquires third aircraft in August



Werner Aero has acquired its third aircraft in August which will enter its aircraft teardown programme
© *Werner Aero*

Werner Aero has acquired an Airbus A319-100, MSN 2897, its third aircraft acquisition in August, and delivered it to eCube Solutions in St Athan, Wales, for entry into the company's aircraft teardown programme. The acquisition brings Werner Aero's total aircraft acquisitions to 16 and the number of aircraft placed into its teardown programme to 14 through August 2026. The company said the latest acquisition reflects continued activity in the aviation aftermarket and aircraft lifecycle management sector. Werner Aero is expanding its presence in the aviation aftermarket, supporting the transition of aircraft from service to teardown, parts recovery and material reuse.

Citadel Aviation to acquire Mach 1

Citadel Aviation has agreed to acquire Mach 1 Aviation Group (Mach 1), a U.S. Federal Aviation Administration (FAA) Part 145-certified repair station in Savannah, Georgia, expanding its presence on the U.S. East Coast and adding aircraft-on-ground (AOG) support to its services. The deal, which is expected to close by the end of September, is subject to customary closing conditions. Financial terms were not disclosed. Mach 1, founded in 2020 by former Gulfstream master technicians Richard Bennett, Derek Johnston and Ben Venuti, provides airframe, avionics and cabin systems support for Gulfstream aircraft worldwide. Its team has more than 100 years of combined technical experience across avionics, SATCOM and cabin communications, engine and airframe systems, and entry-into-service programmes. The company is an approved service provider to most Part 135 operators in its market and also supports a large base of Part 91 aircraft owners. Its services include maintenance support and assistance with aircraft transactions. Following completion of the deal, Mach 1 will continue operating under its FAA Part 145 certificate and retain its existing customer commitments. Its Savannah facility will become an East Coast service and AOG coordination centre for Citadel. Mach 1 customers will gain access to Citadel's broader capabilities, including maintenance, repair and overhaul, cabin refurbishment, engineering, connectivity and technology upgrades, as well as support for narrow- and wide-body VIP aircraft. Citadel customers will gain access to Mach 1's rapid-response Gulfstream support. The acquisition is part of Citadel Aviation's expansion following its rebrand from Citadel Completions in January. The company opened operations at Dallas Love Field in March and said it secured 13 new VIP aircraft projects in January. It has completed 48 aircraft projects to date. Mach 1 will be Citadel's third major capability expansion in less than a year.

Airbus converts Broughton A380 plant for A321 production



Airbus invests £150m into UK manufacturing © *Airbus*

Airbus is investing £150 million (US$172.5 million) to convert its former A380 wing production facility in Broughton, Wales, into a production line for A321 aircraft, as the planemaker expands its industrial capacity to meet demand for its best-selling A320 family. The conversion is due to be completed by the end of the year and will include six wing production jigs, an equipping line and a paint shop. The facility will support production of the A320 family, which has a backlog of about 7,500 aircraft, around 70% of them A321s, Airbus said. The investment will also support about 480 new jobs at the Broughton site in 2026, including 250 positions at the refurbished facility. The site currently employs about 6,000 people. Airbus said the upgraded factory would use new manufacturing processes and technology developed with input from workers across the site. Production of the first wing is already under way, with all six jigs expected to be operational by the end of the year. The investment follows a multi-million-pound expansion of Airbus' Belfast facility, which is aimed at increasing wing manufacturing capacity and advanced composite capabilities to support the planned production ramp-up of the A220.

AJW Group signs A330 support deal with Sun PhuQuoc Airways



AJW Group has signed a six-year PBH support agreement with Sun PhuQuoc Airways *© AJW*

AJW Group has signed a six-year Power-by-the-Hour (PBH) support agreement with Sun PhuQuoc Airways to support the Vietnamese carrier's expanding Airbus A330 fleet as it develops medium- and long-haul operations across the Asia-Pacific region. Sun PhuQuoc Airways plans to introduce its A330 fleet in phases, with the first two aircraft entering service this month. The airline expects the fleet to grow to as many as 15 A330s by 2030 as it expands its long-haul network. The agreement extends a partnership established earlier this year, when AJW Group signed a long-term PBH and Main Base Kit agreement covering the carrier's Airbus A320-family fleet. Under the latest agreement, AJW Group will provide PBH support for the A330 fleet, including component availability during the aircraft induction programme and technical and supply chain support aimed at maintaining operational performance. The introduction of the A330s will allow Sun PhuQuoc Airways to serve longer-haul markets and broaden its international network.

Plane Support wins approval for 3-D-printed helicopter parts

Australian aerospace engineering company Plane Support has secured Civil Aviation Safety Authority (CASA) approval to manufacture cabin air-conditioning ducting for the 214B helicopter using 3-D printing, in a project initiated by aerial firefighting and disaster response operator McDermott Aviation. The approval, granted under CASA's Australian Parts Manufacturer Approval (APMA) framework, covers ducting components for the Bell 214B (B-1) and follows nearly two years of development by the companies in consultation with the regulator. McDermott Aviation, the world's largest operator of the 214B and holder of the aircraft's type certificate, initiated the project to improve access to replacement parts for its fleet, some of which can be difficult to source. "An aircraft waiting on a component you can't easily get hold of is an aircraft that isn't working," said John McDermott, founder and President of McDermott Aviation. "Being able to have approved parts made here in Queensland gives us far more control over that." Plane Support used 3-D scanning to capture the original ducting and create accurate digital models. The components were then reverse-engineered and redesigned for additive manufacturing while retaining their original form, fit and function. The company established a dedicated aerospace additive manufacturing laboratory for the project, equipped with a Markforged FX10 industrial 3-D printer. It also developed the quality systems, production controls and inspection procedures required to meet CASA's airworthiness standards. The approval expands Plane Support's capabilities under CASA's Part 21K framework for additive manufacturing and could provide a basis for producing additional aircraft components using the technology.



Plane Support Director of Engineering Jason Hazell (l) and Director of Manufacturing and Maintenance Fraser Wright (r) holding 3-D printed 214B helicopter parts *© Plane Support*

FL Technics wins Lufthansa engine maintenance deal



© FL Technics Engine Services

FL Technics Engine Services has signed an agreement with Lufthansa Group's Group Engine Management GmbH to support its engine maintenance requirements, marking a milestone for the relatively young facility. The agreement covers repair and maintenance services for the CFM56-engine family, strengthening FL Technics Engine Services' position as a specialist MRO provider for the engine type. The partnership will also provide an opportunity to exchange expertise and further develop the company's operational capabilities, as well as build market confidence in its services. The agreement follows the development of FL Technics Engine Services' CFM56-focused operations and represents a further step in establishing its processes and standards in collaboration with a major aviation group. Based in Kaunas, Lithuania, the company operates a purpose-built 3,400 m² engine maintenance facility with eight bays dedicated to the CFM56 family, including the CFM56-3, CFM56-5B and CFM56-7B models. Its services include engine repairs, module swaps, partial performance restoration, lease-return services and on-wing support. The company said its services are designed to maximise time on wing, reduce operating costs and optimise asset value for customers.

ReGEN opens components hub in Singapore

ReGEN, a provider of commercial aircraft airframe and engine components and part of Genesis Group, has opened a new components hub at Singapore's Changi Airfreight Centre. The facility will stock serviceable airframe and selected engine components for Airbus A320 and A330 families, as well as Boeing 737 and 777 aircraft, allowing airlines and maintenance, repair and overhaul (MRO) providers in the region to access replacement material more quickly. The Singapore facility is ReGEN's third regional location and expands its inventory network across Europe, North America and Asia, strengthening its presence in the global used serviceable material (USM) market. "Opening the Singapore hub allows us to bring ready-to-install, serviceable material closer to customers in the region," said David Curran, head of ReGEN. "Growing aircraft utilisation in Asia is driving increased maintenance requirements and demand for replacement material. Establishing inventory in Singapore allows us to respond locally, shorten lead times and provide faster, more reliable access to the components our customers need," he said.

AURELIUS completes Marshall Aerospace acquisition

Private equity investor AURELIUS has completed its acquisition of British aerospace and defence company Marshall Aerospace, providing a new ownership base for the business as it seeks to expand its operations. Marshall Aerospace specialises in military MRO, aerospace engineering and advanced manufacturing. Its customers include the Royal Norwegian Air Force and the US Marine Corps, while its industry partners include Boeing, Lockheed Martin and Thales. Recent contract awards include a multi-year agreement to support the entry into service and sustainment of 12 C-130J aircraft acquired by Turkey's Ministry of National Defence, and a 14-year contract with Thales to manufacture sonar modules for the Royal Navy. The acquisition combines Marshall Aerospace's engineering capabilities, workforce and programme delivery experience with AURELIUS' operational expertise and long-term investment approach, the companies said. The new ownership is expected to support the company's next phase of growth and create opportunities to contribute to defence programmes in the UK and allied countries. The transaction establishes Marshall Aerospace as an independent, mid-sized British aerospace and defence company under AURELIUS ownership. The acquisition was completed on October 8, 2026.



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"AI Will Have a Significant Role"

AviTrader MRO 360° spoke to Chris Leese-Wood, Chief Operating Officer, GAMIT and Anthony Wilkinson, Business Development Manager, GAMIT

Founded in 1990 and headquartered at London Stansted Airport, GAMIT is an aviation services and asset-management company supporting airlines, aircraft operators, owners and MROs worldwide. Its portfolio spans technical services, aircraft material and logistics support, asset management and digital records management. A key part of its offering is ROAM, GAMIT's digital platform for managing aircraft technical records and documentation. Since joining AMAC Aerospace in 2021, GAMIT has further strengthened its position within an international aviation group serving the commercial, business and VIP aviation sectors.

AviTrader MRO: GAMIT has been supporting airlines, MROs and business aviation operators for more than three decades. How has your role evolved as the industry has become increasingly digital and data-driven?

Chris Leese-Wood: GAMIT was founded in 1990 and, although the industry has changed considerably since then, the fundamentals of what our customers need have not changed that much. They need reliable technical support, access to material, good engineering knowledge and, ultimately, solutions that help keep aircraft operating.

Where things have changed is the amount of data now being generated and the speed at which people expect to access it. Over the years we have moved from predominantly physical records, manual processes and traditional materials support into a much more connected environment.

We actually started digitalising aircraft records back in the late 1990s, so this has been a gradual evolution for us rather than something that has happened overnight. Today, products such as ROAM and RDOC allow us to combine our engineering and aircraft asset management experience with automation and intelligent document processing.

For us, technology should make people's jobs easier. It should remove repetitive work and give experienced people better information to make decisions.

Since becoming part of the AMAC Aerospace Group, how have your customers benefited from the combined capabilities of both organisations?

Becoming part of AMAC Aerospace has given us much greater depth and reach. GAMIT already had established capabilities in materials, logistics, technical services, CAMO, aircraft transitions and digital records. Within the wider AMAC Aerospace Group there is significant capability in aircraft maintenance, completions, engineering, modifications and business aviation support across a number of locations.

That means we are able to look at a customer's requirement much more broadly. A project may start as an aircraft records or CAMO requirement but develop into maintenance support, engineering, materials, an aircraft transition or a combination of several services.

It also gives our customers access to a much larger pool of aviation experience while GAMIT continues to operate with the flexibility and responsiveness that our



customers have always expected from us. The intention when GAMIT joined AMAC Aerospace was to work more closely on mutual projects and create efficiencies for customers. We are seeing that happen more and more.

Materials support has always been one of GAMIT's core strengths. What distinguishes your approach from a traditional aircraft parts supplier?

We have never wanted to be a company that simply receives a part number, sends a quotation and moves on to the next enquiry.
There is normally an operational requirement behind every request for material, and understanding that requirement is important.
Depending on the situation we may supply from stock, source material through our international network, arrange an exchange, manage a repair or overhaul, or provide a consignment or tailored stock solution.
Repair management is a good example. Operators can find themselves managing a large number of different specialist workshops, warranty claims, turnaround times and repair inputs. GAMIT can take that complete process away from the customer and provide a single point of contact.
The same applies to logistics. Supplying the component is one part of the job; making sure it gets to the aircraft when it is needed is equally important.
That wider level of support is probably what distinguishes us most from a traditional parts supplier.

Aircraft availability often depends on how quickly components can be sourced worldwide. How does GAMIT manage global logistics to keep aircraft flying?

Speed is obviously critical, particularly with an AOG, but speed without control doesn't necessarily solve the problem.
GAMIT has developed an international network of supply-chain and logistics partners over many years. Once the material has been identified, our team can manage the movement of that component through to the customer rather than leaving them to coordinate different parties themselves.
We monitor and track shipments, keep the customer updated and follow the consignment through customs clearance and final delivery.
For an AOG requirement in particular, communication is extremely important. The operator needs to know what is happening, where the component is and whether the planned delivery is still achievable.
Our approach is therefore to take ownership of the requirement. Finding the part is only half the job. It needs to be in the right place at the right time.

What trends are you currently seeing in aircraft spare parts availability, and how are you helping customers navigate ongoing supply chain challenges?

Supply-chain pressure is still very evident across the market. Certain components remain difficult to source, repair turnaround times can be lengthy and operators are having to think much further ahead about their material requirements.
One change we have seen is that customers are looking more seriously at how they manage inventory rather



© GAMIT

than relying entirely on individual spot purchases when something is required. That is where solutions such as consignment stock, vendor-managed inventory, exchanges, leasing and repair management become increasingly important.
We are also using our supplier and repair network to give customers alternative options where possible. Sometimes the right answer is purchasing a component, but in another situation an exchange, repair or managed stock solution may make much more sense.
There isn't one solution to the current supply-chain environment. The important thing is giving the operator options and helping them reduce the risk of an aircraft sitting on the ground waiting for material.

GAMIT operates as an independent CAMO. Why is that independence valuable for aircraft owners, operators and lessors?

The value is having somebody looking at the continuing airworthiness of the aircraft from an independent position.
The CAMO's responsibility is to understand the status of the aircraft, monitor the requirements and make sure maintenance is planned and controlled correctly.
Having that function independent from the organisation physically carrying out the maintenance can provide an additional level of oversight.
It is particularly useful during maintenance inputs, aircraft transactions and lease transitions where there may be a number of different parties involved, all with slightly different responsibilities or commercial interests.
Our role is to concentrate on the aircraft and its continuing airworthiness requirements.
Independence doesn't mean working separately from everyone else. A good CAMO has to work very closely with the operator, MRO, engineering teams and other stakeholders. It simply means there is a clear and objective technical position throughout the process.

GAMIT offers engineering support alongside CAMO. How do these services complement one another during the aircraft lifecycle?

They naturally work together.
CAMO gives you the continuing oversight of the aircraft, whereas engineering support allows you to deal with the individual technical requirements that arise throughout its life.
That could involve AD or Service Bulletin assessments, maintenance planning, technical representation during a maintenance input, records reviews, aircraft inspections or support during delivery and redelivery.
Having both capabilities means there is continuity. If an issue is identified during an engineering review, it can be considered within the wider airworthiness and maintenance position of the aircraft rather than treated as an isolated item.
The same applies during an aircraft transition. Records, maintenance status, physical condition, engineering requirements and lease conditions are all connected.
Our experience has always been that the better those areas communicate with each other, the more efficiently the project runs.

ROAM has become one of GAMIT's signature products. What industry challenge originally inspired its development?

Anthony Wilkinson: ROAM really came out of our experience managing aircraft delivery and redelivery projects.
Anyone who has worked on an aircraft transition will recognise the problem. You can have boxes of historic records, lever-arch files, scanned PDFs, different naming conventions and information stored in several locations. Then, at some point, somebody needs a particular piece of compliance evidence and needs it quickly.
We had spent years working with those records ourselves and believed there had to be a better way of managing them.
The idea behind ROAM wasn't simply to scan documents and put them online. We wanted the system to understand how aircraft records are structured and allow the user to find and use the information within them.
That is why indexing, metadata, OCR and document classification became such an important part of ROAM from the beginning.
The aim was quite simple: take aircraft records from the box on the hangar floor and turn them into useful, accessible information.

Many people still see aircraft records as an administrative necessity. How does ROAM transform records into an operational advantage?

Aircraft records are much more important than that. They are the evidence behind the technical status and history of the aircraft.
The problem is that if the information is poorly organised, it can be difficult to use. ROAM takes those records and classifies them into a structured format. OCR and metadata allow users to search across the archive and locate an individual document very quickly, rather than opening large PDF files or searching through folders manually.
Where it becomes particularly useful is when ROAM is connected with information

from the maintenance planning system. You can start comparing what the planning system says should exist against the actual compliance documents held within the records archive. That allows ROAM to identify gaps, support compliance reviews and build status or transition binders.
Instead of discovering a missing document during an audit or at the end of a lease, the objective is to identify it much earlier. That turns technical records from a storage requirement into something that can actively support the operation.



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ROAM integrates with existing maintenance and ERP systems rather than replacing them. Why was interoperability such an important design principle?

Because we don't believe an airline should have to replace a good maintenance system simply to improve the way it manages records.
Operators have made significant investments in systems such as AMOS, TRAX, ULTRAMAIN and SAP. Those systems perform important functions within the organisation and ROAM has been designed to complement them.
ROAM concentrates on the records and document side while exchanging information with the customer's existing systems.
For example, the maintenance planning system can provide the data showing what compliance is required and ROAM can use that information to locate and link the supporting PDF records. From there it can highlight gaps or help build compliance and transition structures.
We have always designed ROAM to be highly connectable because every airline's IT environment is slightly different.
The objective is not to create another isolated system. It is to make better use of the systems and data that the customer already has.

What role will artificial intelligence play in materials management, CAMO and aircraft records?



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AI will have a significant role, but in aviation it has to be introduced in a practical and controlled way.
We are already using intelligent automation within our records environment. The RDOC processing engine can classify, verify and direct aircraft maintenance documents from engineering events such as work packages, assessment forms and technical logs into ROAM.
That is a good example of where automation adds immediate value. There is a large volume of repetitive document work involved in technical records, and technology can deal with much of that far more efficiently.
The next step is using the information we are collecting to help people make better decisions. That includes areas such as AI-assisted search, advanced alerting and using historic information to identify trends that may support predictive maintenance.
There are similar opportunities within materials. Better analysis of maintenance requirements, historic consumption and component activity should help organisations forecast demand and position stock more effectively.
We don't see AI replacing the engineer, CAMO specialist or materials professional. Aviation still depends heavily on experience and judgement.
The value of AI is giving those people better information and removing the repetitive tasks that take up their time.

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Avoiding Heavy Maintenance Delays

Beyond the Hangar: Tackling the Hidden Causes of Late Redelivery

By David Dundas

Heavy maintenance checks are among the most complex and demanding activities in the commercial aviation industry. Requiring close coordination between airlines, maintenance, repair and overhaul (MRO) providers, engineers, suppliers and regulatory teams, these checks must be completed within carefully planned timeframes while meeting stringent safety and airworthiness requirements. When an aircraft remains in the hangar longer than anticipated, the consequences can extend far beyond the maintenance facility, affecting fleet availability, operational schedules, costs and the wider reliability of airline services. As a result, avoiding unnecessary delays has become an important priority for airlines and MRO organisations alike. Heavy maintenance planning involves managing numerous interdependent activities, often against a backdrop of tight schedules, complex technical requirements and the possibility of unexpected developments. Even relatively small disruptions can have wider implications when they affect subsequent tasks or the planned return of an aircraft to service.

Successfully managing these challenges requires more than simply completing the physical maintenance work. The entire process, from initial preparation and induction through to final release, demands careful coordination, realistic expectations and effective communication between all parties involved. To explore the challenges involved, we asked six aviation professionals to share their perspectives on avoiding heavy maintenance delays in commercial aviation. Their insights examine the factors influencing maintenance turnaround times and the practical considerations involved in keeping checks on schedule, while highlighting the importance of delivering aircraft safely, efficiently and ready to return to operational service.

> ***"Aircraft maintenance delays are most often caused by unclear or changing work scopes, poor advance planning, unexpected defects found after opening up of panels and replacement parts' shortages."***
>
> *Andrew Crombie, Director of Asset Management, Aventure Aviation*



Andrew Crombie, Director of Asset Management, Aventure Aviation

What are the most common causes of delays during heavy maintenance checks today, and which of them are actually within the MRO's control?



Because of the nature of heavy maintenance checks and the need for comprehensive planning in advance, it might be easy to assume that delays during such a check could be avoided. However, that is rarely the case, and so we decided we wanted to find out why. Here, Andrew Crombie, Director of Asset Management at Aventure Aviation gets straight to the point. "Aircraft maintenance delays are most often caused by unclear or changing work scopes, poor advance planning, unexpected defects found after opening up of panels and replacement parts' shortages. Occasionally, availability of specialist staffing, e.g. NDT technicians to confirm defects, slow engineering decisions and specific repair schemes, and late customer approvals can contribute to delays. Some factors, such as planning, staffing, tooling, material readiness, and production control, are within the MRO's control, while aircraft condition, hidden defects, scope changes, customer-supplied parts, and delayed customer or OEM approvals, are not. For major heavy-maintenance checks, preparation should begin three to four months before aircraft induction, and firm turnaround commitments should only be made after the work scope, materials, and technical risks have been thoroughly reviewed," he tells us. For Isac Roths, CEO of First Class Air, the answer is relatively straightforward. "The biggest delays often come from what you don't know going into the maintenance event," he comments, adding that "Once an aircraft is opened up, findings such as corrosion, delamination, excessive wear or damage outside published repair limits can quickly change the work scope. Those findings may require additional engineering, specialised repairs or replacement components, and the impact becomes even greater when the necessary rotables or materials aren't readily available. Not all of that is within an MRO's control. OEM lead times continue to grow, certain materials and fasteners have become more difficult to source, and logistics are less predictable than they once were. What the MRO can control is how quickly it identifies those issues, communicates them and develops alternatives. The best way to minimize delays is to anticipate as many potential problems as possible and have the engineering, material and supply-chain resources ready to respond when the unexpected occurs."

At Inventory Locator Service, Jimmie Quick, Marketing Manager, sees one of the main causes as being "… slow or inefficient sourcing of necessary parts." She explains further and provides a solution to the problem. "Fortunately, MROs have ways to improve their lagging logistics. For example, at Inventory Locator Service, we give our subscribers access to the single largest global aerospace marketplace so they can find what others miss. This search is sharpened with tools like Cross-Reference which can surface alternate or PMA numbers when the original part isn't sitting there under its OEM number. PartsWatch is another useful perk; it flags availability changes without manual re-checking. And our Message Broadcasts put time-sensitive notices in front of the whole marketplace for faster resolution." Guy Danon, Global Head of Sales and Marketing at Pentagon 2000 Software, Inc., is in agreement with Quick in regard to parts' availability, but goes further. "When we speak with MROs, the biggest sources of delay they mention are usually unexpected findings, parts availability, customer approval of additional work, records and documentation issues, and labour availability. These issues also tend to compound each other. A technical finding may require an engineering review, which may lead to a revised parts requirement and a need for skilled mechanics and tools, all of which then need customer approval before the work can move forward." He then adds that "An MRO cannot control what it finds once the aircraft is opened, especially on older airframes. What it can control is how quickly it identifies the finding, determines what is required to address it, gets the customer involved and starts the process of sourcing the necessary parts. The same applies to customer approvals. The MRO cannot control how quickly a customer responds, but it can make sure the information is delivered to the customer in the most efficient and rapid manner, whereby the extra work is clearly documented, the cost and impact are understood, and the request reaches the right person without delay. In many cases, the finding itself is manageable. The bigger turnaround time (TAT) issue is how long it takes for that finding to reach engineering, purchasing and the customer. When the hangar floor, engineering, purchasing and the commercial team are connected, the parts request and the customer quote can be prepared from the same record once the corrective action is defined."

Jean-François Deorocki, COO – Vallair MRO, Montpellier suggests looking at the problem from two different angles. He advises that: "The first is 'findings', which are never fully incorporated into the initial TAT estimate. The corrective action can range from relatively straightforward corrosion treatment, to long and resource-intensive zero-stress repairs — the nightmare of every operator and MRO centre. The second is parts availability and supply chain issues. At Vallair in Montpellier, we currently have an aircraft in the hangar waiting for specific aerostructure parts that simply aren't available. The OEM is trying

to source one directly from the production line. In the meantime, the aircraft is sitting waiting for its part." At Werner Aero, Veronica Madrid, Repair Administrator, comes up with additional problems as well as 'the usual suspects'. "The most common causes of delays during heavy maintenance checks are parts' shortages, long lead times, unavailable components, and unexpected findings during inspections. When a required part or component is not available, the related maintenance task may have to stop until the part can be sourced and delivered. Unexpected findings, such as corrosion, cracks, structural damage, or other defects, can also significantly affect the schedule. These findings often require additional inspections, engineering review, repairs, or replacement parts, which can add days to the check." She then provides areas for mitigation, explaining that "While unexpected findings are not always within the MRO's control, their impact can be reduced through effective planning, early inspections, strong communication, and quick coordination with engineering and supply chain teams. Parts-related delays are also partially within the MRO's control through proper material planning, accurate forecasting, maintaining critical inventory, and establishing reliable supplier relationships."

What information does the MRO need from the customer before induction to create a realistic turnaround-time estimate?

As with most areas of aircraft maintenance, effective and accurate communication is critical. In this instance, it is the information obtained prior to planning heavy maintenance that can help to reduce the risk of any unnecessary delays. So, what is key and when is it needed? Andrew Crombie is keen to highlight the need for advance preparation: "The MRO requires a comprehensive and finalised maintenance work scope at least eight weeks before aircraft induction. Essential information includes the aircraft's maintenance status, required tasks, regulatory compliance (ADs/SBs/Engineering Orders), repair and damage history, i.e. all temporary repairs that need to be converted to permanent repairs, carry forward defects needing resolution, reliability records, component status where applicable, modification and upgrades e.g. cabin configuration, and customer-specific requirements. The airline and MRO must clearly define responsibilities for rotable parts, materials, tooling, engineering, specialist services, and approval of non-routine work. Long-lead items, preload kits, and commonly needed materials should be available before induction, and any missing information must be documented as potential turnaround-time risks." While a planned work package is essential, Guy Danon also points out the need for information on the aircraft's maintenance history. He indicates: "That includes findings from the last heavy check, deferred defects, airworthiness directive (AD) and service bulletin status, modification status, recent repairs, component history and any known corrosion or structural areas. Most of this history comes from the operator, and it is only useful if the MRO can access it easily. If the aircraft has been at the same MRO before, its previous work orders, findings, repair history, component records and supporting documentation should be stored against that aircraft so planners and maintenance teams can refer back to them when preparing a new check. If a recurring corrosion issue or component problem was identified on a previous visit, being able to find that information quickly can make a difference in how the work is planned and what parts, labour or engineering support may be needed."

Jean-François Deorocki is concise and straight to the point, commenting that: "For a realistic turnaround-time estimate, the MRO needs the following information at the beginning of the check: MPD tasks; Work Orders (WO); Service Bulletins; Structural repairs." He then adds that: "We also need a clear understanding of the aircraft configuration, including engines, and cabin configuration, including the type of galleys." Like Guy Danon, Veronica Madrid mentions, among other things, the need for the aircraft's maintenance history. "To create a realistic turnaround-time estimate, the MRO needs a clear and complete work scope from the customer before the aircraft is inducted. This should include the full maintenance task-card package, planned inspections, required modifications, Airworthiness Directives (ADs), Service Bulletins (SBs), component removals and replacements, and any known structural or component inspections. The MRO also needs information on the aircraft's maintenance history and any known or anticipated non-routine work. Having this information in advance allows the MRO to accurately plan manpower, materials, tooling, engineering support, and hangar capacity. The more complete and accurate the work scope is before induction, the more realistic the turnaround-time estimate will be," she recommends. "The more complete the aircraft and component history is before induction, the more realistic the turnaround-time estimate can be. For components, basic information such as the reason for removal, time since new or overhaul, previous repair history and known recurring issues can tell the MRO a great deal about what it may encounter once the

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Isac Roths, CEO, First Class Air

> ***"When an operator establishes in advance the parameters under which it is willing to consider DER repairs and defines the documentation required to approve those repairs, a great deal of back-and-forth can be eliminated later."***
>
> *Isac Roths, CEO, First Class Air*

component is inspected," Isac Roths tells us. "The same principle applies at the aircraft level. Historical maintenance information, known discrepancies, previous structural repairs and accurate records allow the MRO to anticipate potential non-routine work instead of discovering everything after induction. It is also helpful to establish the operator's engineering requirements and approval parameters in advance. You will never eliminate every surprise in aircraft maintenance, but better information at the beginning gives everyone a much more realistic starting point for planning the work, materials and turnaround time," he further explains.

How important is the quality and completeness of the initial work scope in avoiding delays later in the check?

On the basis a work scope is an official, detailed document or package that defines every inspection, service, modification, and repair task an MRO facility must perform on an aircraft, we wanted to discover what, if anything, was critical for avoiding delays, aside from the very obvious. Guy Danon makes an interesting observation when he tells us that no heavy maintenance scope is going to predict every finding on an aircraft. The important thing is to distinguish between what is known, what is expected and what may still be discovered. He goes on to suggest that: "A good plan includes the scheduled tasks, known customer requirements and a realistic allowance for unplanned work based on the aircraft's age, history and type. It should also schedule the inspections most likely to generate additional findings at the start of the check. If an inspection identifies corrosion or a structural issue early in the check, engineering and purchasing can start working on it while other maintenance is underway. For this to happen, the MRO needs access to an agile MRO system that is flexible enough to easily design and trigger new work packages and disseminate the various elements of the newly added work packages to the correct stakeholders. If the same finding appears late in the check, the MRO may suddenly be dealing with an engineering request, customer approval and parts requirement with very little time left in the schedule." Once again Jean-François Deorocki is concise and gets straight to the point. "The quality and completeness of the initial work scope are essential for correctly sizing the manpower requirements and ensuring that the appropriate qualifications are available - B1, B2, cabin and structures. This information is also essential for defining the critical path and allocating the right human resources to the right tasks," he advises.

For Andrew Crombie, "A clearly defined and agreed work scope is essential to meeting turnaround time targets. Incomplete work scope planning can cause delays, resource inefficiencies, material shortages, rework, and most important cost disputes. To avoid these issues, the customer and MRO should review and finalize the work scope before induction, and any later changes should require a formal assessment of their impact on schedule, manpower, materials, and cost." Isac Roths, like everyone else, agrees that the quality and completeness of the initial work scope is extremely important. However, he goes further and identifies one area in particular where upfront planning can make a significant difference, and that is engineering. "When an operator establishes in advance the parameters under which it is willing to consider DER repairs and defines the documentation required to approve those repairs, a great deal of back-and-forth can be eliminated later. If damage is discovered outside of published repair limits, the MRO and operator already understand the path forward. A complete work scope combined with clearly defined decision-making and approval processes gives the MRO the best opportunity to keep the maintenance event moving," he suggests.

Which types of non-routine findings have the greatest impact on turnaround time—structural damage, corrosion, wiring, cabin findings, component issues, or something else?

Be prepared for the unexpected would appear to be a sensible approach to heavy maintenance checks, which sounds great in theory, but what about what about the practical reality. "Structural findings can have some of the greatest impact, particularly when corrosion, delamination, excessive wear or other damage extends beyond what is covered by the maintenance manual. At that point, what initially appeared to be a maintenance task can become an engineering, repair-development and material-availability challenge," Isac Roths at First Class Air tells us. He then adds: "The real schedule impact often comes from the combination of the finding and the solution required to address it. If engineering is needed to develop an approved repair, that takes time. If replacement is the better option but there is no serviceable rotable available in the market, the delay can become much more significant. This is why access to multiple solutions matters. Being able to evaluate repair, DER alternatives, replacement components and available serviceable material rather than relying on a single path can make a meaningful difference in getting an aircraft back into service."

For Veronica Madrid at Werner Aero, "Structural damage and corrosion are

typically the non-routine findings that have the greatest impact on turnaround time during a heavy maintenance check. These findings can affect multiple areas of the aircraft and may also delay access to other areas where scheduled maintenance needs to be performed. Structural and corrosion findings often require additional inspections, engineering reviews and approvals, specialized repairs, and additional materials. In some cases, special tooling or equipment may also be required. The time needed to develop an approved repair, source the necessary materials, and complete the work can significantly extend the aircraft's turnaround time." Andrew Crombie at Aventure Aviation is very much in accord with Veronica Madrid when he tells us that "Structural damage and corrosion usually cause the biggest maintenance delays because they often require extra inspections, engineering evaluations, possible airworthiness approvals for specialised repairs, and availability of custom parts. However, the actual impact depends on the aircraft maintenance scope. Other issues that can become major schedule drivers include wiring defects, fuel-tank leak problems, and shortages of critical replacement components."

How important is the final documentation and records review to on-time redelivery, and is this area sometimes underestimated during planning?

It seems, unsurprisingly, that everyone is in agreement here with regards to their importance, but they are also aware that perhaps a records review isn't awarded the level of importance it perhaps deserves. "Final documentation and records review are critical to on-time redelivery, and yes, they are frequently underestimated during planning. Teams focus heavily on the physical work and can treat records review as an afterthought, only to find discrepancies, missing signoffs, or incomplete traceability documentation late in the process. A mechanically complete aircraft stays grounded until the documentation catches up," says Jimmie Quick at Inventory Locator Service. She then suggests that: "Building a records review into the schedule from day one helps prevent this problem. ILS surfaces documentation availability during sourcing rather than after receipt. Through the Block Aero integration, a supplier's documentation status is visible alongside the listing itself, and the SmartCert/ProvenAir partnership puts certification and traceability data in reach during the same buying decision. A part purchased with its trace and certs already confirmed carries less risk of becoming one of the discrepancies a records team finds at the end of the check." Guy Danon at Pentagon 2000 Software makes a valid remark about how records are often treated as something to be finalized at the end of the check whereas, in reality, they should be managed throughout the maintenance event. He expands on this as he acknowledges that "A heavy check can involve thousands of task cards, both planned and unplanned, component removals and installations, certificates, inspections, sign-offs and other supporting documentation. If an issue is discovered during the final review, the technician or department responsible may already have moved on to another aircraft or another shift." He ends by explaining that "The goal is to avoid reaching the planned redelivery date with an aircraft that is physically complete but still held back by documentation issues. Keeping everything connected throughout the check helps reduce the reconciliation needed once the work is done. This is where many MROs struggle today. A large number of those we speak with use an ERP that was not designed for MRO work, or maintenance software that





Veronica Madrid, Repair Administrator, Werner Aero, LLC

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> *Veronica Madrid, Repair Administrator, Werner Aero, LLC*



Vallair MRO facility in Montpellier, France © *Vallair*

is not connected to inventory, purchasing and finance, and they fill the gaps with Excel spreadsheets."

Jean-François Deorocki, COO at Vallair MRO, Montpellier is unequivocal in his belief that the final documentation and records review should most definitely be planned for, suggesting that to avoid problems at the end of the check, the documentation needs to be reviewed every day, as the work is performed on the aircraft. He tells us that "At Vallair we rigorously follow this this process to ensure that any errors or missing information is corrected immediately. This enables us to provide the customer with any additional information required. The DFP must be sent to the customer every day for review and validation. This proof of compliance proves that an Airworthiness Directive (AD), repair, or component change was genuinely performed and certified." Andrew Crombie not only points out their importance, but highlights the downside when things aren't done properly. "Even if the aircraft is physically complete, it cannot be released for service if maintenance records, certifications, test results, modification documentation, approved engineering repair schemes or defect records are incomplete or inconsistent. To avoid delays, records should be reviewed by Maintenance Planning on a daily basis and closed continuously throughout the project. Customer should be informed of the completed status and open tasks on a regular basis - more frequently in later stages of the maintenance check, and a pre-redelivery records audit is maintained before the aircraft planned release date," he recommends. To conclude this section, Isac Roths adds to the conversation that documentation is critical, explaining also that: "Traceability has become particularly important as the aviation supply chain has grown more complex and more intermediaries may be involved in getting a component from one point to another. Gaps in traceability or missing documentation can create delays even when the physical part is sitting at the MRO ready to go. The best approach is to treat records as part of the maintenance process from the beginning rather than something to reconcile at the end. MROs should identify missing records when material is received, communicate those deficiencies immediately and establish clear expectations with customers about when required documentation must be provided."

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>
> *Jean-François Deorocki, COO, Vallair MRO, Montpellier*

What causes an aircraft that is physically finished in the hangar to remain technically or administratively unable to return to service?

This is perhaps the most frustrating outcome both for the MRO and also the carrier. We know this happens, but one has to ask the question why, when logically it makes little practical sense. Veronica Madrid comes up with a few reasons, explaining that even after the physical maintenance work has been completed it could still be awaiting technical, administrative, or regulatory release to return to service. She acknowledges that "One of the most



Jean-François Deorocki, COO, Vallair MRO, Montpellier

common causes is incomplete maintenance documentation. All routine and non-routine task cards must be properly completed, reviewed, and signed off by authorized personnel. Any open non-routine items, missing signatures, incomplete inspections, or unresolved discrepancies can prevent the aircraft from being released." She then adds that "There may also be delays related to final records review, engineering approvals, regulatory requirements, or customer acceptance. Until all required documentation is complete and the aircraft is confirmed to be in an airworthy condition, the authorised release personnel cannot approve the aircraft for return to service." Reasons given by Andrew Crombie extend beyond the obvious as he acknowledges that "Aircraft redelivery is most often delayed by unresolved maintenance or documentation, such as open task cards, incomplete inspections or tests, missing sign-off approvals on documentations and certificates, aircraft configuration discrepancies, unresolved deferred defects, and any issue that prevent the issuance of the final Certificate of Release to Service (CRS). While customer acceptance, commercial closeout, dispute of man-hours expended and payment issues can delay contractual handover, these are separate from the aircraft's technical readiness. Technical release can only occur once all required maintenance is completed, properly certified, and compliant with approved data and regulatory requirements.

For Isac Roths fully acknowledges that there can be a significant difference between completing the physical work and having everything necessary to return the aircraft to service. However, he sees many of the problems not so much as occurring at the end of the schedule, but a culmination of previously unresolved issues. "Outstanding records, incomplete component traceability, unresolved engineering approvals or missing documentation can all prevent final sign-off even though the maintenance itself has been completed," he says, adding that "In many cases, these aren't problems created at the end of the check, they are issues that weren't fully resolved earlier in the process. That's why communication between the operator, MRO, engineering teams, suppliers and other partners is so important throughout the maintenance event. Records should be reviewed as work progresses, engineering approvals should be addressed as findings occur, and component documentation should be verified when material arrives. The goal should be to have the administrative and technical work reach the finish line at the same time as the aircraft. An aircraft that is mechanically complete but waiting on paperwork is still an aircraft that isn't flying." Jimmie Quick identifies the same key problems but also offers a solution as she tells us: "An aircraft that is physically finished in the hangar can still be unable to return to service because of open paperwork: missing or incomplete airworthiness release documentation, unresolved non-routine findings that were never formally closed out, outstanding Airworthiness Directive or Service Bulletin compliance records, or incomplete component traceability. Sometimes it is a pending part certificate or missing serial-number documentation for a replaced component. The aircraft may be mechanically sound, but without a fully reconciled and signed-off records package, it cannot legally be released back to the operator. The incomplete component traceability is where ILS has a direct answer. When a replacement part is sourced through a supplier connected via Block Aero or covered under our SmartCert/ProvenAir partnership, its trace and certification data are attached and visible at the point of purchase, not chased down after the fact. That does not resolve every category of open paperwork listed above, but it does reduce the odds that a replaced component becomes the specific item holding up the records package at redelivery."

"There can be several reasons for this. Some examples we see at Vallair would be: no certifying staff available at the station; waiting for documentation from the customer, such as acceptance of deferred items; waiting for the Certificate of Conformity (CoC) from the MRO; or waiting for authorisation or technical approval from the OEM," says Jean-François Deorocki, while Guy Danon makes a lot of sense when he also identifies the same problems but suggests a proactive as opposed to reactive approach to them would help resolve many of the headaches. "In our experience, it is rarely one major problem. Before the aircraft can be released to service, every card has to be closed or formally deferred, and the records have to be complete. What usually holds the aircraft back is several small open items spread across different departments, and many of them are about information rather than work. These can be cards that were completed but never formally closed, certificates not filed with the job, records that do not match, approvals still pending, or final checks such as engine runs or a test flight that were not built into the plan. In most cases, the cause is that each department tracks its own part of the check separately, so the full picture often only comes together when the aircraft is ready to leave. This is something we see often, and many of our customers had dealt with it before moving to an ERP dedicated to MRO work. The MRO ends up trying to solve these problems at the end of the check, during the records review, instead of from the beginning, as the work, parts and documents are recorded," he shares with us.



Jimmie Quick, Marketing Manager, Inventory Locator Service

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PART THREE

From Leasing Engines to Delivering Thrust

The Fully Integrated Model Behind the Willis Flywheel

Four decades after Willis Lease Finance Corporation was established around the idea of leasing an engine independently from an aircraft, the company is pursuing a much broader proposition.

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Material constraints can create delays.

And throughout the event, the airline still needs an aircraft capable of flying.

ConstantThrust® changes the starting point.

Instead of asking only:

How do we repair this particular engine?



© WLFC

WLFC can ask:

How do we provide the serviceable thrust the customer requires?

The answer might involve a replacement engine, standby spare, lease, sale-and-leaseback, technical management, maintenance, material—or a combination of those capabilities.

The emphasis shifts from a particular engine serial number to the customer's operational requirement.

That is a significant extension of the idea Charlie Willis started with in 1985.

The original proposition separated engine use from engine ownership.

ConstantThrust® takes the concept further by addressing availability itself.

Demonstrating the Model

The model became particularly visible through a large-scale sale-and-leaseback program covering 34 CFM56-5B engines installed on an Airbus A320-family fleet.

The engines were placed under ConstantThrust®, with WLFC providing replacement and standby spare engines and managing associated logistics and transportation.

The arrangement was designed to reduce maintenance-cost uncertainty, improve fleet reliability and optimize cash flow. For WLFC, it demonstrated how leasing, asset ownership, technical expertise and maintenance planning could work together to solve a broader customer problem.

A shop visit, after all, is not only a maintenance event.

For an airline, it is also an availability event, a cash-flow event, a spare-engine requirement and a logistics challenge.

An integrated model creates the possibility of addressing those issues together.

Building the Services Around the Asset

WLFC has continued building businesses and expertise around that strategy.

Willis Mitsui & Co. Asset Management Limited provides technical and fleet-management expertise.

Willis Aeronautical Services, Inc. provides material and end-of-life solutions.

Willis Engine Repair Center® provides engine-maintenance capability through facilities in Coconut Creek, Florida; Bridgend, Wales; and Johor, Malaysia, creating a threelocation MRO footprint across North America, Europe and Asia. The network provides FAA/EASA Part 145 capabilities and supports both WLFC-owned engines and third-party assets with shop visits, inspections, module repairs, lease-return transitions, engine disassembly, storage and preservation. This global footprint strengthens the connection between WLFC's leasing portfolio, technical management, material and MRO services.

Willis Aviation Services Limited (WASL) provides aircraft line and base maintenance, while the broader platform includes aircraft disassembly, storage and related aviation services.

More recently, Willis Aviation Capital added another dimension to the platform, extending WLFC's ability to provide aviation-focused capital solutions alongside its leasing, asset management, material and MRO businesses. Rather than changing the company's strategic direction, the addition broadened the same lifecycle proposition—giving customers and asset owners greater flexibility in how aviation assets are financed, managed, maintained and ultimately transitioned.

Taken together, these businesses increasingly connect three elements aviation has often managed separately: capital, assets and technical services—all organized around the customer's operational requirement.

The significance of vertical integration is not that every customer must use every Willis service.

It is that the platform gives WLFC more options for solving a customer requirement and managing an asset throughout its life.

Teesside: Putting Physical MRO Behind the Strategy

The integrated model is particularly visible in Europe.

Through WASL, WLFC has expanded its MRO presence at Teesside International Airport in Northeastern England.

During 2025, WASL expanded its base-maintenance relationships with major UK operators, including Jet2.com and TUI Airways.

The physical footprint grew with those relationships.

In October 2025, WASL opened its second and third narrowbody hangars at Teesside, adding capacity for Boeing 737 and Airbus A320-family aircraft, including next-generation variants.

WLFC subsequently announced a long-term lease covering an additional 50 acres at the airport to support further expansion.

The significance is greater than additional hangar capacity.

For a company whose story began by leasing an engine to solve a maintenance requirement, WLFC is now putting physical MRO infrastructure behind a business model designed to address a much broader portion of the customer's aviation-asset lifecycle.

It also makes Europe an appropriate setting for the final installment of the Willis story.

Why the Flywheel Matters to MRO

The integrated approach becomes particularly relevant in the current aftermarket.

Airlines are managing expensive engines, shop-capacity constraints, material pressures, turnaround-time challenges and the need to

keep existing fleets productive.

Traditionally, those problems may involve several providers.

One finances the engine.

Another leases the spare.

Another manages the asset.

Another performs the maintenance.

Another supplies the material.

Another handles disassembly at end of life.

WLFC's strategy is not simply to own businesses in each category.

The objective is to connect them.

Consider an engine approaching an expensive shop visit.

It might be repaired.

It might be exchanged.

Another engine might be leased.

Used serviceable material might improve the maintenance economics.

The original engine might be redeployed.

Or at end of life, it might be disassembled and its material returned to the aftermarket.

A decision in one part of the lifecycle can create value somewhere else in the platform.

The more effectively those capabilities connect, the faster the flywheel can turn.

One Willis

WLFC has described the integration of leasing, material supply, asset management, consultancy and MRO as creating a "powerful flywheel of growth and productivity."

That concept arguably describes the company today better than the traditional label of engine lessor.

Leasing remains central.

It provides the assets, customer relationships and market knowledge around which much of the platform revolves.

But the broader Willis model increasingly connects capital, assets and services around the customer.

That distinction is important.

Vertical integration can sometimes mean simply owning more pieces of a supply chain.

The potential advantage of the Willis model lies in whether those pieces actively make one another more valuable.

An owned engine creates a leasing opportunity.

A maintenance requirement creates an MRO opportunity.

A shop visit creates a material requirement.

A retiring asset creates a disassembly opportunity.

Recovered material can support another maintenance event.

Technical expertise can inform the next investment decision.



© WLFC

And the customer relationship can extend across several stages of the asset's life.

The output of one business can become the input of another.

That is what turns a collection of services into a flywheel.

MRO Europe: Where the Model Comes Together

Europe is a natural place to consider where the strategy goes next.

The region brings together many of the forces shaping the modern aftermarket: mature fleets operating longer, next-generation aircraft and engines, large airline and lessor communities, significant MRO demand and continued pressure around asset availability.

Teesside gives WLFC a physical presence inside that ecosystem.

But the larger story is not simply the addition of European maintenance capacity.

It is what that capacity represents inside the Willis Platform®.

MRO is no longer adjacent to the company's core business.

It is increasingly part of the same lifecycle proposition.

That evolution can be understood through three stages.

First, Charlie Willis helped separate engine use from engine ownership.

The customer did not necessarily have to buy the engine it needed.

Then, WLFC expanded from owning engines to managing their technical and economic lives.

Leasing led toward asset management, material and end-of-life solutions.

Today, WLFC is connecting those capabilities with MRO and other aviation services through a fully integrated platform.

Each business can generate demand, knowledge, assets, material or customer relationships that support another.

That is the Willis flywheel.

Back to the Original Idea

There is a direct line from Charlie Willis' first engine lease to the Willis Platform® today.

Willis mortgaged his home to acquire an engine for a maintenance customer because he believed there was a more flexible way to solve that customer's problem. Four decades later, the scale and capabilities are dramatically different, but the underlying idea remains remarkably familiar:

Find a more flexible way to keep the customer flying.

In 1985, that meant challenging the assumption that an airline had to own the engine it needed.

Today, WLFC is challenging another assumption—that leasing, capital, asset management, material and MRO have to be solved separately.

For the MRO industry, that may be the more consequential Willis story today.

The next evolution of engine leasing may not be about the lease itself. It may be about the fully integrated services surrounding the asset—and how effectively those services work together to keep aircraft flying.


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New Trends in MRO Software

Beyond the Hype: Is AI Ready to Transform Aircraft Maintenance?

By David Dundas

Aircraft maintenance, repair and overhaul (MRO) software is undergoing a period of transformation as artificial intelligence, advanced data analytics and digital integration begin to reshape the way aircraft maintenance organisations manage increasingly complex operations. With pressure to improve efficiency, control costs, minimise aircraft downtime and maintain the highest standards of safety, the capabilities expected of MRO software are evolving rapidly. However, all that glitters is not necessarily gold as technological progress brings its own challenges. Integrating decades of maintenance data, connecting disparate systems and ensuring the reliability of digital tools are significant considerations for an industry where accuracy and traceability are non-negotiable. Meanwhile, the growing prominence of artificial intelligence (AI) raises important questions about its practical value, its limitations and the distinction between meaningful and effective innovation, and little more than marketing hype.

The potential implications extend across the maintenance lifecycle, from preparation for heavy maintenance checks and the management of technical records to planning, engineering and the coordination of resources. Understanding how these developments might influence established working practices is becoming increasingly important for airlines, MRO providers and software developers alike. To examine this changing landscape, we asked ten industry professionals to share their perspectives on the emerging trends in MRO software. Their responses explore the opportunities, challenges and future possibilities associated with this evolving technology, offering insight into how digital innovation may influence aircraft maintenance in the years ahead, and what the industry might look like as it approaches 2030.

Where is AI already delivering measurable value in aircraft maintenance software today, rather than simply being tested in pilot projects?

Here we wanted to find out if there was already sufficient confidence in the influence of AI on newly developed maintenance-related software. Immediately Monica Badra, Founder and CEO of Aero NextGen, Inc turns to the benefits already seen in predictive maintenance and inventory optimisation. She informs us that "MROs running modern ERP platforms with AI modules are already seeing measurable reductions in AOG events by correlating fleet utilisation data, shop findings, and OEM reliability reports to flag components before failure. On the records side, AI-powered extraction tools are compressing the time technicians and engineers spend pulling reference data from AMMs and CMMs — not eliminating the human review, but cutting the lookup cycle significantly. For MROs processing high volumes of AD compliance, that is a meaningful labour saving. For Eric Schech, Director of Product Marketing & Digital Media, Ambry Hill Technologies, "The measurable value today is coming from bounded, high-volume work—not from asking a chatbot to diagnose an aircraft or approve maintenance. The strongest production use cases combine AI interpretation with rules-based workflow automation and a human-review path." He then goes on to discuss Vista-Quote as a current example. "Its AI can recognise a personally written, plain-text RFQ email, identify it as a legitimate request, stage it in a standardized format,



Scott Wells, Managing Director, MRO-PRO

> ***"MRO software has been very good at planning known work, but much less capable of anticipating the emerging defects, parts, tools, services and additional labour that can disrupt an inspection."***
>
> *Scott Wells, Managing Director, MRO-PRO*

and connect the company and part numbers to available history. The original email remains accessible for verification. From there, configurable rules—not generative AI—can route the RFQ, check inventory, control quantity handling, apply restrictions, hold exceptions for review, or drive auto-quoting. That creates measurable operational outcomes: fewer manual touches, faster intake, more requests processed, shorter response times, and clear exception rates. Vista-Quote also supports reason-coded fallout reporting and volume monitoring. "He then concludes: "The distinction is important: AI handles a defined interpretation task, controlled automation handles execution, and people retain authority over exceptions. Within aircraft maintenance software, AI-assisted document classification, work-package preparation, record review, and discrepancy analysis represent promising industry applications. These are areas of potential across the industry, not a description of AI maintenance functionality currently offered in Vista-Suite Enterprise."

Scott Wells, Managing Director at MRO-PRO raises a very valid point as he suggests that, historically, "... MRO software has been very good at planning known work, but much less capable of anticipating the emerging defects, parts, tools, services and additional labour that can disrupt an inspection." He then further elaborates: "A major part of the challenge has been data fragmentation. Relatively small differences in task references, terminology or defect descriptions have historically prevented MROs from analysing maintenance outcomes across broader datasets, even where the underlying maintenance activity is effectively the same. AI changes this by allowing us to understand maintenance intent rather than simply matching labels, enabling related activity to be aligned and analysed collectively. This significantly increases the volume of usable historical data and strengthens the probability models behind planning. AI can then learn from actual maintenance execution data and identify relationships between specific maintenance activities and the defects and resources that subsequently arise. MRO-PRO's multi-award-winning MILE™ Maintenance Intelligence & Learning Engine is being developed around this principle, learning from the results of previous maintenance activities and using that information to improve subsequent planning." He concludes by deducing that: "The measurable benefit is therefore not simply a more sophisticated algorithm. It is the ability to make maintenance workload more predictable, reduce avoidable waiting time and improve utilisation of parts, labour, equipment and hangar capacity.

Which MRO processes have the greatest potential for AI—maintenance planning, troubleshooting, technical records, predictive maintenance, inventory management, engineering, or something else?

We felt there might be more to this question than meets the eye, as we wondered if it wasn't just a question of looking at what areas had the potential to benefit from AI, but also wondering if enough was known about the capabilities of AI to know where it had the potential to be applied? This is answered, to a fair degree, by Eric Schech. "From an industry perspective, the greatest near-term opportunity is likely to be in areas where MRO systems already hold structured operational context: technical records, work-order planning, inventory, labour, BOM activity, discrepancies, and transaction history. This is an assessment of potential applications—not a description of current or planned Vista-Suite AI functionality." He goes on to say that: "Technical records may offer the best balance of value and controllability. AI could help find relevant manuals, extract revision and effectivity information, identify missing documentation, compare records,



Eric Schech, Director of Product Marketing & Digital Media, Ambry Hill Technologies

> ***"From an industry perspective, the greatest near-term opportunity is likely to be in areas where MRO systems already hold structured operational context: technical records, work-order planning, inventory, labour, BOM activity, discrepancies, and transaction history."***
>
> *Eric Schech, Director of Product Marketing & Digital Media, Ambry Hill Technologies*

and assemble evidence for review. Today, Vista-Suite provides the underlying document controls: it stores manuals with revision, effective, and expiration dates; associates them with parts, BOM items, and work orders; and signals when documentation is expired. Planning is another promising area. Vista-Suite currently captures task-level planning hours, labour estimates, material, costs, templates, assignments, WIP activity, and actual results. Across the industry, AI could potentially use this type of structured information to help planners identify resource conflicts, material constraints, and differences between estimates and prior work. Predictive maintenance attracts attention, but it requires sufficient, reliable condition and reliability data. For many MROs, practical AI value may arrive sooner through records, planning, inventory, and exception management. Troubleshooting and engineering should initially remain evidence-backed research assistance—not autonomous technical authority."

Scott Wells has an extremely valid point to make in terms of AI's capability for retention of information that can, for example, take an engineer years to acquire, yet because it is individually owned, when that person retires or moves on, the information, the knowledge, moves on with them. He then explains that: "I think the greatest opportunity exists wherever repetitive processes currently depend on the learned knowledge and experience of individuals. MRO organisations accumulate enormous amounts of expertise through their planners, engineers and technical teams, but historically much of that knowledge has remained with the individual. When experienced people leave, retire or simply move into another role, organisations can lose years or even decades of accumulated learning. AI gives us the opportunity to change that by capturing learned knowledge and embedding it into repeatable organisational processes. That could apply across workpack planning, task classification and sequencing, troubleshooting, defect analysis, technical records and many other areas where experienced people repeatedly interpret information and make decisions based on what they have learned throughout their careers. The objective is not to replace that expertise, but to retain it, systematise it and allow the organisation to continuously learn from it. Predictive maintenance planning and dynamic scheduling are particularly powerful examples. A maintenance package may contain hundreds of planned tasks, but these can generate hundreds of emerging defects and additional requirements. If historical learning establishes that a particular maintenance activity has a significant probability of generating a specific defect, and that defect is likely to require particular parts, tools, services or labour, the MRO can prepare before the problem occurs."

Where Monica Badra is concerned, her focus is on technical records management. Her reasoning is as follows: "The volume of documentation an MRO processes; work orders, airworthiness directives, Part M continuing airworthiness records, EASA Form 1s, 8130-3s, back-to-birth traceability, is enormous, largely unstructured, and still predominantly manual at many shops. AI that accurately extracts, classifies, and cross-references this data against approved maintenance data offers compounding efficiency gains across compliance, audit readiness, and CAMO interface." She then adds: "Maintenance planning ranks close behind. AI-driven workscope optimization that accounts for aircraft utilization curves, fleet-specific modification status, and shop capacity can meaningfully reduce TAT and improve hangar throughput — both areas where margins are tight. Troubleshooting is the third high-impact area. A junior technician's diagnostic path is often bounded by experience. AI referencing historical fault data against the relevant troubleshooting tree can close that gap without compromising accountability. When MROs ask how to identify which AI-enabled platform actually fits their operation, the honest answer is to start by mapping their highest-frequency pain points. That is exactly the logic behind Aero NextGen's Solution Finder: a free, vendor-neutral quiz that matches MROs with best-fit software providers based on workflow, operations, and region: aero-nextgen.com/solution-finder. This moves planning from a largely reactive process towards a probabilistic one, where technicians, capacity, parts, tooling and equipment can be planned around the likely workload, with real-time execution data continuously refining that understanding as maintenance progresses. The fundamental shift is that maintenance knowledge no longer has to leave the organisation when the individual does. It can become part of the organisation's accumulated intelligence and improve every time that process is performed."

How do you prevent an AI system from providing plausible-sounding but technically incorrect information in a safety-critical maintenance environment?

We were interested to discover what contributors thought the temptation to assume that AI systems were watertight, when reality suggests that AI still has a lot to learn about MRO operations, in particular, the finer, but still critical details. Scott Wells gives sage advice when he suggests that: "The starting point is to recognise that AI should support maintenance decision-making, not replace the responsibility of experienced and appropriately authorised personnel. In aircraft maintenance, licensing, certification validity, working time and fatigue controls, inspection requirements and approval responsibilities have to remain mandatory constraints. AI therefore needs to operate within a controlled maintenance environment rather than being treated as a general-purpose system that can make unrestricted recommendations. Its role should be to identify patterns, probabilities and relationships within maintenance data, while engineering and airworthiness decisions remain with appropriately authorised people." However, he is certainly of the opinion that we are far from the stage where AI interventions and input require no human supervision. "An important safeguard is confidence-based human intervention. Where the AI identifies a relationship with a very high degree of confidence, the system may be permitted to make that association automatically while still making it transparent to the user. As confidence falls below defined thresholds, the human is brought into the loop to review, confirm or correct the result. Crucially, those human decisions then become part of the learning process, improving the system's ability to make the same assessment in future. In fact, in a safety-critical environment I think we should deliberately constrain AI. There may be situations where the technology is capable of doing more autonomously, but we intentionally choose not to allow it to. The balance between automation and human oversight should be determined by risk and confidence, not simply by what the technology is capable of doing," he comments, ending by saying that: "Ultimately, probability is not the same as engineering approval. AI can tell us what is statistically likely to happen, help us prepare for it and significantly improve decision

support, but accountability for maintenance and airworthiness decisions must remain with appropriately authorised humans."

Monica Badra gets straight to the point as she responds: "The answer is constraint architecture. Trusting a general-purpose large language model to reason about AMM tasks, CMM limits, or AD compliance without structural guardrails is a safety liability. What prevents hallucination in a safety-critical environment is forcing the AI to operate as a retrieval and synthesis layer over approved, version-controlled documentation, not as a generative inference engine running on training data alone. The model should only surface content it can cite to a specific AMM chapter, task card, or EASA/FAA regulation. If the source does not exist in the approved document set, the correct output is 'no approved data found'." She then adds: "Beyond architecture, human-in-the-loop review remains non-negotiable for any AI output that informs a maintenance decision. Certifying Engineers and Licensed Aircraft Maintenance Engineers working under Part 145 carry personal liability. Software providers building for this environment need to design for verification. The objective is a faster, better-informed human decision. Not an autonomous one." For Eric Schech, putting guardrails in place seems to be the order of the day as he believes that for any AI system used to provide technical maintenance information, the answer is not simply to tell the model to be more careful. He strongly believes that: "The software must limit what AI can see, what it can say, and—most importantly—what it is allowed to do. Such a system should retrieve from a controlled library of approved manuals and procedures associated with the applicable part, BOM item, aircraft, or work order. Every technical statement should cite the exact source and carry its revision, effective date, expiration status, and applicability. If supporting information is absent, expired, or conflicting, the system should stop and say it cannot verify the answer. Critical values should be checked through deterministic validation. AI output should never bypass required checklists, inspector approvals, customer authorizations, or mechanic and inspector sign-offs. Vista-Suite Enterprise's current capabilities are the surrounding workflow and control features—not AI-generated maintenance guidance. Those existing capabilities include expired-manual signals, job-close restrictions when manuals are expired, part-to-manual associations, locked attachments, linked squawks and non-routines, digital signatures, permissions, and time-stamped audit logs. These controls illustrate a broader industry principle: AI retrieves and drafts; software enforces rules; qualified people review and authorise; and the evidence remains available afterward."



Monica Badra, Founder & CEO, Aero NextGen, Inc

Should every AI-generated maintenance answer be traceable back to the approved source documentation, and how can software providers achieve this?

All three of our respondents here are in agreement, while Monica Badra at Aero NextGen is unequivocal in her answer with the aspect of traceability. "Yes, unconditionally," she says. "In a Part 145 environment, every maintenance action has a regulatory basis; AMM, CMM, SRM, AD, Engineering Order, or approved deviation. An AI-generated answer that cannot be traced to one of those sources carries no airworthiness standing. Software providers achieve this through retrieval-augmented generation architectures where the AI's response is explicitly grounded in a curated, version-controlled corpus of approved maintenance data. Each output should carry a citation: document title, revision level, section reference, and effective date. This is what any CAA or EASA audit will expect to see once AI tools become embedded in an approved maintenance organization's quality system. The practical implementation challenge is keeping the document corpus current. AMMs revise frequently; OEM service bulletins accumulate; fleet modifications change the applicable document tree. Providers who solve the version currency problem and give the maintenance organization full transparency into which documents were active in the corpus at the time an AI answer was generated will have passed the quality assurance gate."

Eric Schech is very much in line with Badra as he also agrees with the need for traceability back to approved source documents. He goes a little further though, commenting that: "Traceability must mean more than adding a link. The user should be able to see the exact manual or procedure, page and section, supporting passage, revision, effective date, expiration status, and applicability. If the system cannot produce that evidence, it should not present the response as an authoritative maintenance answer. Vista-Suite Enterprise does not currently generate this type of AI maintenance answer. It does, however, currently provide many of the underlying recordkeeping controls that illustrate what a governed information environment looks like: technical-manual storage, revision and date tracking, part and BOM associations, applicable manuals within work orders, expired-document signals, job-close restrictions, locked attachments, and user- and time-stamped audit history. More broadly, an industry AI system should preserve the question, documents retrieved, passages used, model version, generated response, user changes, and final approval. This is a design consideration for responsible AI across aviation maintenance—not a statement of current Vista-Suite functionality or a product roadmap."

For Scott Wells at MRO-PRO, he believes that "In a safety-critical maintenance

> ***"In a Part 145 environment, every maintenance action has a regulatory basis; AMM, CMM, SRM, AD, Engineering Order, or approved deviation. An AI-generated answer that cannot be traced to one of those sources carries no airworthiness standing."***
>
> *Monica Badra, Founder & CEO, Aero NextGen, Inc*

environment, an AI-generated answer should never be treated as an authority in its own right." He then goes on to say that: "The underlying data, maintenance requirement and, where applicable, approved source documentation must remain identifiable and traceable. That traceability has to be designed into the data architecture from the outset. We should not think of AI as a new source of truth; the structured maintenance data and approved documentation remain the source of truth. The role of AI is to interpret, analyse and identify relationships within that data. Software providers therefore need to structure their systems so that an AI-generated relationship, recommendation or answer can be traced back through the data that informed it. This becomes particularly important because maintenance data is highly fragmented. Different operators may derive their own approved maintenance programmes from the same OEM maintenance planning document, using different references, descriptions and structures. AI and semantic analysis allow us to understand the underlying maintenance intent rather than simply matching labels, but that relationship back to the originating maintenance requirement must be retained. For me, explainability and traceability cannot be features that are added afterwards. If AI is going to operate credibly in a safety-critical environment, they have to be fundamental properties of the underlying data architecture."

Can AI realistically predict non-routine findings before a heavy maintenance check and thereby improve planning, material availability and turnaround times?

One of the major goals and improvements that can be made to any aspect of aircraft maintenance is the transition from being reactive to proactive. AI has the potential to improve the proactive elements of MRO, and we wondered what inroads, if any, had been made in relation to heavy maintenance checks, as outlined by Tom Eskola, Vice President, Panasonic Technical Services at Panasonic Avionics as he confirms that: "Digitalisation in MRO is increasingly about using data- and software-driven insights to move from reactive maintenance towards more proactive and predictive approaches." He then explains further that: "At Panasonic Technical Services (PTS), we have already integrated capabilities including remote diagnostics, real-time monitoring, data-driven troubleshooting and proactive maintenance planning across in-flight entertainment and connectivity (IFEC) systems. AI will improve this ability and anticipate some non-routine findings before a maintenance event, although this will be an improving probability and preparedness rather than predicting every finding with certainty. The value comes from identifying potential issues earlier and connecting that insight to maintenance execution. PTS' Total Care Package can already include use of advanced diagnostics and predictive maintenance strategies as part of proactive IFEC maintenance, while recent PTS investments are designed to translate fleet-monitoring insights directly into real-time maintenance actions. As those predictive capabilities develop, earlier insight will give maintenance organizations more opportunity to plan the people, materials and capacity that's required and ultimately make turnaround times faster and more predictable."

For Guy Danon, Global Head of Sales and Marketing at Pentagon 2000 Software, Inc., much of this question comes down to the word 'predict' and its meaning in this context, though in principle he is inclined to the affirmative to a certain degree. He acknowledges that: "Today, AI cannot reliably tell an MRO that there is corrosion behind a specific panel on a specific aircraft before it is opened. What it can do is look at the history of that aircraft, the fleet and the type, and estimate which areas are likely to generate findings and roughly how much additional work to expect." He goes on to say that "If the history shows that a certain inspection on a certain type regularly leads to the same repairs, the planner can schedule that inspection earlier, and purchasing can check the availability of the parts and materials most likely to be needed before the aircraft arrives. That has a direct effect on turnaround time, because waiting for parts is one of the main causes of delay. The estimate is only as good as the records behind it, and the inspection still has to be done, so AI can support the planning without replacing the check itself." Meanwhile, Erkki Brakmann, CEO of Sky Select, Inc., also feels that "AI can predict many non-routine findings (NRF) before a heavy maintenance check by analysing data from different sources. By reviewing past records and market trends, machine learning models identify likely failure points before the aircraft arrives at the hangar. Although AI cannot predict random physical damage, it helps turn much of the previously unexpected work into planned tasks weeks in advance." He adds that: "This predictive capability improves material availability by generating automated procurement signals for long-lead parts before induction, helping prevent AOG part delays. For maintenance planners, it allows more accurate labour allocation. Ultimately, shifting from reactive firefighting to scheduled, parallelised repair routines can help MRO providers reduce overall heavy check turnaround times. However, AI currently serves as decision support rather than replacing regulatory physical inspections."

Tom Torosian, Director of Aviation Business Development at TrueVideo, is of a like mind to many others in that "AI can meaningfully improve planning and material

> ***"Digitalisation in MRO is increasingly about using data- and software-driven insights to move from reactive maintenance towards more proactive and predictive approaches."***
>
> *Tom Eskola, Vice President, Panasonic Technical Services, Panasonic Avionics*



Tom Eskola, Vice President, Panasonic Technical Services, Panasonic Avionics

availability, but only to the extent it has real historical data to learn from." He then expands in this. "Most non-routine findings today are documented as free text or buried in photos that were never tagged to a tail number, ATA chapter, or prior work order, so the AI has nothing structured to match against. Where operators have started capturing visual evidence tied directly to the job and asset, we're seeing AI models get far more accurate at flagging likely findings before the check even starts. The prediction problem isn't really an algorithm problem, it's a data-capture problem. Solve the second one and the first one gets much easier." For Bethany Little, Chief Executive Officer at Veryon, there is no avoiding the limitations of AI. As she tells us, "AI can help teams anticipate some non-routine work by identifying warning signs in maintenance history before an aircraft enters the hangar. However, predicting every finding is a different proposition as some issues will only become apparent during a physical inspection. The practical opportunity AI enables is to reduce the number of surprises that teams find by giving planners earlier visibility of emerging problems so they can prepare labour, materials and investigation priorities by the time the aircraft reaches the hangar. Applied to pre-check planning, these insights can help teams identify areas requiring attention and assess likely part requirements earlier. The benefit of this is fewer avoidable surprises and better-informed turnaround planning. It's vital, however, that engineers still assess the evidence, determine the appropriate action and validate findings through the maintenance process. AI should not predict the inspection itself but instead interrogate the maintenance intelligence already available to narrow uncertainty before the aircraft enters the hangar. Our Veryon Defect Analysis solution addresses this by identifying, clustering and analysing recurring aircraft defects. On top of this, Veryon AIRE, our AI-driven intelligence layer embedded across our maintenance software suite, supports the identification and grouping of recurring defects, helping teams investigate patterns that might otherwise be difficult to spot. Fault-data integration and rogue-parts detection add context about recurring problems and potentially troublesome components."



Erkki Brakmann, CEO, Sky Select, Inc

How significant is the data-quality problem? Many operators have decades of maintenance information spread across different systems, formats and free-text records—can AI actually make effective use of it?

As the old saying goes, 'rubbish in equals rubbish out'. The 'problem' with AI is it requires data for training, so the more accurate and complete the data, the better the outcome. Of course, the obverse also applies! All five of our respondents here share the same thoughts in that AI has the potential to maximise the potential of historic data by helping to clean it up.

Guy Danon highlights the importance of complete data. "It is probably one of the biggest issues, because much of that history sits in old systems, or in unstructured formats, such as scanned documents, spreadsheets and technicians' free-text notes, often written differently by various people over many years. AI is good at reading this kind of unstructured information. Language models can interpret a free-text defect description, a scanned certificate or a PDF attached to an email and pull out the relevant details. In our own work with AI agents, the agents read incoming emails with their PDF, CSV or text attachments and turn them into quotes, sales orders and purchase invoices in the system. What AI cannot do is recover information that was never recorded. It can help flag inconsistencies, such as a part number that does not match the rest of the record, but someone still has to confirm the correct one. For that reason, we see two separate jobs: making better use of the history that already exists and, more important in the long term, making sure the records being created today are complete and structured, so the data is in better shape for the years ahead." For Erkki Brakmann, "The data-quality problem is huge because decades of maintenance records are trapped in separate systems, paper forms, and messy handwritten notes. Traditional software struggles with this, but modern AI excels at making sense of historical clutter. AI works like a skilled assistant: it translates mechanic jargon and typos into standard industry codes, scans old paper logs into searchable text, and links isolated databases together. While humans still need to verify critical missing safety information, operators do not need perfect data to get started: AI can deliver immediate insights from recent records while cleaning up decades of history in the background."

Tom Torosian also sees data quality as the biggest constraint to AI's usefulness. "It's the single biggest constraint on AI's usefulness in MRO today. Decades of maintenance history exist, but it's scattered across paper logs, PDFs, and free-text entries with no consistent structure, and a lot of the most valuable context (what a component actually looked like, what a technician saw during troubleshooting) was never captured at all beyond a verbal handoff. AI can help clean up and structure what already exists, but the bigger opportunity is fixing data capture going forward: timestamped, provenance-verified visual records linked to the work order as the work happens. That turns tomorrow's data into something AI can use, instead of creating the same unstructured backlog five years from now"

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>
> *Erkki Brakmann, CEO, Sky Select, Inc*



Tom Torosian, Director of Aviation Business Development, TrueVideo

> ***"In aviation specifically, 'AI' without traceability isn't just a marketing problem—it's a liability problem, since nothing in this industry gets trusted without a clear chain of evidence behind it."***
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he comments. Bethany Little raises an interesting point when she describes how "Two technicians may describe the same underlying issue differently, while evidence of a recurring problem may be spread across logbook entries, aircraft faults, component history and previous corrective actions." She then goes on to explain how the problem was dealt with. "That was the original challenge Veryon Defect Analysis was built to solve — traditional machine learning and natural-language processing, reading "spoiler," "splr" and "spoileron" as the same part instead of three unrelated strings. That approach built something no competitor has: fifteen years of real engineer decisions — approve, split, merge — captured every time a technician reviewed a suggested chronic. What's changed is what sits on top of that foundation. Our Next Generation Defect Analysis pairs that fifteen-year dataset with generative AI through Adaptive Clustering — not a replacement for the deterministic model, but a fusion with it. Generative AI is genuinely better at language: parsing intent, handling variation. The traditional model is still better at holding consistent, repeatable output, which matters in a regulated, safety-first industry. Adaptive Clustering also incorporates ongoing feedback from an operator's own maintenance team, so the system adapts without an engineer having to manually rebuild the math every time — review and confirm, instead of rebuild. Rogue-parts detection adds further context on potentially troublesome components, , and Defect Analysis works alongside third-party maintenance and engineering systems rather than requiring operators to rip and replace. AI can also make fragmented maintenance histories more useful, but it does not remove the need for good data management. It cannot recreate information that was not captured in the first place, or make fundamentally incorrect source information accurate, so the quality of the underlying data still matters."

Tom Eskola is adamant that "Data quality is fundamental to whether AI can provide useful support in a maintenance environment." He then advises that "To produce effective insights, an AI platform needs draw on reliable and traceable information, and maintenance organizations need to understand which data has informed a recommendation, how consistently the system performs and where its limitations lie. This is particularly important in aviation, where strong validation, traceable data, configuration control, cybersecurity and human oversight are essential. AI does not remove those requirements - if anything, it makes strong governance more important. AI will increasingly aid organizations in navigating large volumes of legacy maintenance information, including records held across different systems and formats, but it cannot make poor-quality or incomplete data reliable by simply processing more of it. The value will therefore depend not only on the sophistication of the AI, but on the quality, traceability and context of the information available to it. For maintenance organizations, getting those foundations right is just as important as the technology itself."

How should an airline or MRO distinguish a genuinely valuable AI capability from a conventional software product that has simply added "AI" to its marketing?

Where MRO is concerned, is AI all hype; more a case of style over substance? Have we ended up with software which achieves exactly the same results but comes in a new shiny wrapping? We wanted to hear from the 'shop floor' what the true feeling was now that there has been time to reasonably assess the genuine impact of AI on software used for operational procedures.

"If you want to tell real AI apart from traditional software with a new label, check whether the system can handle unstructured data and improve its predictions over time, rather than just following set rules," says Erkki Brakmann. "Real AI turns data into useful insights on its own, while older software only digitizes fixed processes and needs you to clean the data first. In the end, true AI shows its worth in a proof-of-concept by spotting complex patterns to predict future needs and unexpected results, not just by sorting existing information," he adds. The advice from Tom Torosian is straightforward, with some sound advice. "Ask what the AI's output is actually tied to," he suggests, and follows up with: "Genuine capability produces something explainable and defensible, a recommendation or summary that traces back to specific, timestamped evidence tied to an asset and work order, so a technician or auditor can verify exactly why the AI said what it said. If a vendor can't show you the evidence trail, you're likely looking at a language model wrapped around existing features rather than a tool built for a safety-critical, audit-driven environment. In aviation specifically, 'AI' without traceability isn't just a marketing problem—it's a liability problem, since nothing in this industry gets trusted without a clear chain of evidence behind it."

"The starting point should be the role the AI plays within the maintenance workflow," is the approach Bethany Little favours. "A valuable AI capability should be to identify useful patterns, bring relevant information together or support the completion of a meaningful task. It should also improve the way a maintenance team investigates an issue or makes a decision," she continues, before adding that "Operators should look closely at the data the AI is built on, how its outputs are validated, and whether it has

been developed specifically around aviation maintenance rather than simply applying a generic AI interface to an existing product. Veryon AIRE is our AI and data intelligence layer, built on a verified foundation: the industry's largest de-identified aviation maintenance dataset, curated maintenance outcomes, and machine learning tuned by aircraft make and model. That foundation runs underneath our full product suite, most recently, Defect Analysis, so the agentic layer sits on top of real maintenance data rather than a generic interface wrapped around an existing product. On top of that foundation, your Veryon AIRE's Assistant gives teams a conversational way to investigate issues and surface recommendations. In Defect Analysis specifically, AIRE now also works behind the scenes to help identify and group recurring defects. Every suggestion, regardless of where it surfaces, still runs through human review before it's actioned. Veryon AIRE enables users to reference information across Veryon products from within their existing workflow, helping teams connect a maintenance issue with relevant information held elsewhere in the platform. The practical test of any AI capability is whether it makes a real maintenance task easier, faster or more informed. If it produces an impressive response without actually improving the underlying workflow, its operational value is limited."

Where Tom Eskola is concerned, he sees "...AI's near-term role as supporting qualified professionals rather than replacing their authority, particularly in safety-critical maintenance. A useful capability needs to operate within a clearly defined use case, be supported by reliable and traceable data, and have clearly understood limitations."



Guy Danon, Global Head of Sales and Marketing, Pentagon 2000 Software, Inc.

He also feels that "The other important test is whether the insight can actually be translated into maintenance action. An AI-generated alert has limited value if it does not reach the right team, is not supported by reliable evidence, or cannot be connected to an appropriate maintenance response. The real opportunity comes from linking data, diagnostics, technical documentation and maintenance execution. Faster fault isolation, more effective access to technical information, and better maintenance planning may be less headline-grabbing than autonomous maintenance, but they can deliver much more practical value. Well-governed AI integrated into existing workflows is likely to create significantly more value than an impressive looking, but ultimately standalone demonstration. For an airline or MRO, the simplest test is therefore whether the AI capability demonstrably improves the maintenance outcome. If it adds complexity without improving the way the work is performed, the label itself has very little value."

Guy Danon makes a very valid point when he clarifies what he feels distinguishes between the two forms of software, in other words: "... whether the software can actually reason, or whether it only follows rules that someone configured in advance." He backs this up by adding that "Many products labelled as AI are still rule-based automation, such as a fixed template, a keyword search or a predefined report, which works until an email arrives in a different format or someone asks a question the report was not built for. A genuine AI capability understands what is being asked in the context of the business, works out which information it needs and how to analyse it, and handles variation without someone setting up a new rule each time. For example, when a manager asks which vendors the company spent the most with last year, the AI has to identify the relevant data, decide how to calculate the answer and explain what it found. Beyond that, ask what the AI actually does in the daily work. A useful AI capability works with the company's own data and completes real tasks, such as creating a purchase invoice from a vendor's email, matching it to the purchase order and receiver where they are available, and passing it to the right person. The next question is whether it follows the same rules as the rest of the system. In aviation, an AI agent should work with the same business logic, approval flags and user permissions as the person who would normally do the task. If a user cannot see or approve something, the AI working on their behalf should not be able to either. Finally, it should be clear what the AI did. When it answers a question, users should be able to see which data it used and the logic it followed. When it creates a document, the team should be able to open the original email and attachment from the record, and when it could not complete a task, the reason should be clear, for example, a customer that does not exist in the system."

If we visited an aircraft maintenance organization in 2030, what task that is routinely performed manually today would you be surprised to still see a human doing?

With a great deal of talk about the potential for AI to make many roles redundant, it would be short-sighted not to look at areas within MRO operations where manual tasks could be superseded by AI-driven software solutions. We wanted to know if any particular roles have already been identified as being vulnerable from those involved at the rock face.

Guy Danon at Pentagon 2000 Software looks at the situation from two different perspectives. First, he comments that: "I would be surprised to still see the same information being written several times by different people. Today, when a technician raises a finding, they describe it on a card. A planner then turns that description into a parts requirement, someone in the commercial team rewrites it as a quote for

> ***"We do not want AI to replace people, but rather to support them and their productivity. Moreover, the industry is already short of experienced maintenance staff. With the expansion of the drone and space sectors, the demand for skilled employees will only grow."***
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> *Guy Danon, Global Head of Sales and Marketing, Pentagon 2000 Software, Inc.*

the customer, and the customer often asks for more detail before approving. Each step is a person re-reading and re-entering what someone else already wrote. By 2030, I would expect the finding to be captured once, with the technician's notes, photos and measurements, and for AI to prepare the parts request, the customer quote and the explanation of the work from that single record, for the right people to check and approve. We already see this approach with our own AI agents in PENTAGON AVENTUS, which read customer and vendor emails and prepare quotes, orders and invoices in the ERP for the team to review, and we expect the industry to extend it to the hangar floor over the next few years." He then adopts a very logical approach to the situation as he concludes that "We do not want AI to replace people, but rather to support them and their productivity. Moreover, the industry is already short of experienced maintenance staff. With the expansion of the drone and space sectors, the demand for skilled employees will only grow. The technician, the planner and the commercial team should be able to spend their time making smarter, AI-enabled decisions that need their know-how and technical expertise." By 2030 Sky Select's Erkki Brakmann feels that "... most manual airframe inspections and routine maintenance planning will be automated, but people will still play a key role in both the hangar and the back office. AI will collect data and create work packages, while technicians will handle complex repairs and tech ops leaders will keep making strategic decisions. Since regulations require clear accountability, AI will support the process, but certified engineers will still have the final legal responsibility for safety sign-offs and airworthiness approvals."

Tom Torosian at True Video has exactly the same opinion as Erkki Brakmann when it comes to the irreplaceability of experienced technicians, though he acknowledges that some processes will become easily streamlined. "I'd be surprised if remote troubleshooting were still happening primarily over a phone call or a Teams chat with no retained record. Today, a technician on an AOG event describes what they're seeing to an SME verbally, a decision gets made, and then the entire exchange. The visual evidence, the reasoning, the fix evaporates the moment the call ends. By 2030 that should be unthinkable; it's one of the easiest gaps to close with existing technology. What won't go away by 2030, and shouldn't, is the hands-on judgment of an experienced technician. AI will get better at flagging patterns, but the physical diagnosis and final call will still belong to a person—AI's job is making sure that person's expertise gets captured and reused instead of walking out the door when they retire," he says. Where Bethany Little at Veryon is concerned, she sees one of the influences of AI as being on the actual role of individuals and how they carry out their tasks. She tells us that: "In 2030, it would be surprising to still see skilled technicians spending significant time manually piecing together the evidence around a recurring aircraft defect – scrolling through logbooks, cross-referencing parts history, trying to remember if they've seen this one before. That work shouldn't belong to a person anymore. Software should be doing the preparation: retrieving the relevant records, assembling a draft summary, populating the routine documentation for a technician to review rather than build from scratch. Technicians should be spending that reclaimed time evaluating evidence and doing the actual maintenance – not transcribing it. The human role will always remain essential. By 2030, engineers should spend less time gathering and typing up information, and more time on diagnosis, judgement and verification. Maintenance decisions and sign-off stay exactly where they belong – with appropriately authorised personnel. The goal was never to remove people from maintenance decision-making. It's to build the technology that supports them – cutting the time spent manually gathering information, so teams have more of it to apply their judgement, experience and expertise."

It seems that Tom Eskola at Panasonic Avionics shares similar thoughts with other contributors in terms of how AI can help existing employees and how job roles may change as a result. However, rather than concentrating on redundancies, he sees AI helping to improve the quality of information available to decisionmakers. "By 2030, it would be surprising to see a qualified maintenance technician spending significant amounts of time manually searching through multiple maintenance manuals, service bulletins and troubleshooting procedures simply to locate the information relevant to the task in front of them. We already see a clear opportunity for AI-supported systems to make technical information easier and faster to navigate. An engineer should be able to ask a direct question and receive a focused response linked to the relevant approved documentation, including the source and current revision. The aim is not to replace the source material or the engineer's judgement, but to put the right information in front of the technician when it is needed. What should not disappear is human judgement. Physical maintenance, complex troubleshooting and safety-critical decisions will continue to require qualified professionals working within approved procedures. With this in mind, AI's immediate role should be supporting those professionals rather than replacing their authority, with the greatest value coming from improving everyday maintenance execution. By 2030, we should therefore expect machines to be doing much more of the searching, sorting and prioritizing of information, allowing technicians to spend more of their time on the work that genuinely requires engineering experience, judgement and accountability."

> ***"The goal was never to remove people from maintenance decision-making. It's to build the technology that supports them – cutting the time spent manually gathering information, so teams have more of it to apply their judgement, experience and expertise."***
>
> *Bethany Little, Chief Executive Officer, Veryon*



Bethany Little, Chief Executive Officer, Veryon


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"Visibility and Transparency Are the Key"

Talking to Scott Butler, Chief Commercial Officer, Airside MRO

Airside MRO delivers dependable component repair solutions with a focus on quality, speed, and customer satisfaction. Our skilled technicians combine industry expertise with advanced repair capabilities to provide efficient, high-quality service that helps minimize aircraft downtime.

As an FAA Part 145 Repair Station with EASA and UK CAA approvals, Airside MRO supports commercial and cargo operators around the world with maintenance, repair, and overhaul (MRO) services that meet internationally recognized regulatory standards.

Whether responding to scheduled maintenance or time-critical AOG requirements, Airside is committed to providing responsive communication, reliable turnaround times, and repair solutions customers can count on.

AviTrader MRO: Airside currently offers more than 5,000 capabilities across component and structural repairs. Which product families or ATA chapters represent the greatest opportunities for expansion over the next few years?

Scott Butler: As a newer venture to the component market, Airside is focused more on becoming a best-in-class service provider for the capabilities that we do have. In conjunction with KP Aviation, Airside is working very closely with our operator, MRO and leasing company on exchange pools, AOG needs and heavy maintenance packages that keep aircraft in the air.

Airside recently received an FAA Limited Engine Rating. What does this approval enable you to do, and how does engine-related MRO fit into your longer-term growth strategy?

Partnering with KP Aviation, who acquires nearly 50 engines per year, is key to ensuring we offer world-class service to our customers. The Limited Engine Rating allows us to break down the powerplant even further, remove serviceable material and quickly put it back into service. Airside is able to test / inspect exhaust, TR assemblies, engine mounts and more and issue a tri-party release (FAA, EASA, UK CAA) in an AOG environment or exchange pool.



Scott Butler, Chief Commercial Officer, Airside MRO

Airside offers core exchanges and pooling programs alongside repair services. Are customers increasingly looking for integrated solutions rather than conventional repair-and-return transactions?

Pooling programs are the best way to serve tight turnaround times associated with AOG & heavy maintenance environments. Coupled with one of the largest USM inventories in the world which KP Aviation maintains, Airside provides a high-quality, logistical solution that can meet any timeline.

How important is real-time repair-status visibility to customers? Do you think greater digital transparency between airlines and repair shops will become a standard expectation?

Visibility and transparency is the key to the success of Airside. Being able to consistently deliver on-time performance is the reliability our customers demand in the market. If we have any supply chain or technical issues, the best way to tackle them is together with our customers.

Looking toward 2030, which changes do you believe will have the greatest impact on component MRO: fleet growth, aging aircraft, new-generation platforms, OEM strategies, supply-chain localization, sustainability requirements, or consolidation?



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Next-generation platforms are going to be paramount to keeping new aircraft in the air. That, coupled with onshoring and localization of repair capabilities and inventory. Airside and KP Aviation are together striving to provide material as close as possible to the point-of-use (Base Operations, MRO, etc.) We see strong demand for new platforms and have already begun to add additional capabilities to support our customers.

As A320neo and 737 MAX fleets mature and generate increasing aftermarket demand, how is Airside preparing its capability portfolio for newer-generation aircraft?

Airside has already begun to add next-generation capabilities to support KP Aviation and other customers' recent NEO & MAX acquisitions. As these new fleet types hit critical operational & heavy maintenance milestones, the need for repaired material is principal in securing narrow maintenance windows. We are already looking at preparing exchange pools in several key chapters to support our large base of Next Generation operators.



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AIRSIDE MRO
A KP AVIATION COMPANY

Airsidemro.com
sales@airsidemro.com
(480) 524-0822
1503 W. San Pedro St.
Gilbert, AZ 85233



Personal vs. Company-Owned Toolboxes: What Works Best in Aircraft Maintenance?

By David Dundas

Introduction

For aircraft mechanics, a toolbox is more than a collection of equipment. It represents professional pride, efficiency, and responsibility. Few items are more closely associated with an aircraft mechanic than their toolbox. More than simply a container for spanners, screwdrivers, sockets and specialist equipment, it is a holder and representation of years of experience, personal investment and professional identity. For many aircraft technicians, knowing exactly where each tool is and how it performs is an essential part of working efficiently and confidently.

Today, many aircraft MROs have adopted different philosophies. Some expect mechanics to provide and maintain their own tools, while others supply standardised toolboxes and manage equipment centrally. Each approach has its potential benefits, but also presents challenges relating to cost, availability, standardisation, calibration and, critically, tool control.

The issue has become particularly relevant as MROs adopt increasingly sophisticated digital systems for tracking and controlling equipment. The problem is the traditional personal toolbox still remains an important part of the working culture in many aircraft maintenance environments.

Ultimately, however, toolbox ownership is not really about who pays for the tools. It is about ensuring that the right equipment is available, serviceable, properly controlled and accounted for whenever maintenance is performed. This article examines the strengths and weaknesses of personal and company-owned toolboxes, and considers whether a hybrid approach could offer the best solution.

So, should mechanics own their tools, or should employers provide them? Both approaches have advantages and disadvantages.

In the United States, personally owned toolboxes have a long tradition among aircraft mechanics. Many technicians invest thousands of dollars in professional tools throughout their careers. In Europe and parts of Asia, company-provided toolboxes and centrally managed tool systems are also well established, particularly within larger airlines and Maintenance, Repair and Overhaul (MRO) organizations.

Both approaches have their strengths. The right choice depends on working conditions, company policies, financial considerations, and, most importantly, safety requirements.

Personal Toolboxes: Freedom and Familiarity

For the majority of aircraft mechanics, owning their tools is an important part of their professional identity. A personal toolbox allows technicians to choose their preferred brands, designs, and configurations. One mechanic might prefer Snap-on ratchets, another Stahlwille wrenches or Knipex pliers. Such preferences are often developed through years of practical experience. One major advantage is familiarity. Mechanics know exactly where their tools are located

and how they perform. This can improve efficiency, particularly when working in confined spaces or carrying out repetitive maintenance tasks.

In addition, personal ownership offers independence. Mechanics have the opportunity to create their own collection of tools based specifically on their personal needs rather than relying entirely on company purchasing decisions.

Another benefit of having your own toolkit is personal manoeuvrability. When technicians change employers, move between maintenance facilities, or if they work as independent contractors, they can take their tools with them. Additionally, because high-quality hand tools can last for decades, this turns them into a long-term professional investment.

However, personal ownership is not a win-win situation and there are certainly specific disadvantages for the technician or engineer. To begin with, the most obvious drawback is the cost of the tools. Building a professional aircraft mechanic's toolbox requires a substantial financial commitment, and this is a major challenge for apprentices and technicians entering the industry.

Another challenge is standardization, or lack of. When every mechanic uses different tools, this makes it appreciably harder for MROs to manage a variety of brands, specifications, and inventories. This becomes particularly important for tool accountability and Foreign Object Debris (FOD) prevention. A personally owned socket left inside an aircraft presents exactly the same safety risk as a company-owned one. This means that irrespective of ownership, personal or company owned, all tools must be integrated into the MRO's tool-control procedures.

Company-Owned Toolboxes: Standardisation and Control

Company-owned toolboxes offer a different working practice: the employer provides the tools, while mechanics are responsible for using and accounting for them correctly. This automatically overcomes one of the major problems for personally owned tools, and that is the lack of standardisation. With MROs in charge of providing the workforce with its tools, technicians will be equipped with identical or similarly configured toolboxes, making inventories, inspections, and replacements easier to manage.



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When tools are provided by one company rather than individuals, they can be more easily identified through engraving, serial numbers, shadow-foam inserts, or electronic tracking systems. Beyond this, missing equipment becomes easier to recognise, thus supporting efficient and effective FOD prevention. Company ownership can also simplify calibration management. Torque wrenches, precision measuring equipment, and other calibrated instruments can be controlled through centralised systems that track calibration intervals and equipment condition.

Another significant benefit for mechanics and engineers is the cost factor. They will not need to invest heavily in tools before starting their careers, which can be extremely attractive to younger technicians and therefore may help companies recruit and retain skilled personnel.

However, like personally owned tools, company-owned tools also come with disadvantages, in this case for the company. To begin with, the MRO has to finance the initial purchase of tools, along with their maintenance, replacement, and administration. For larger MROs, this can represent a very substantial investment. Standardisation can also reduce personal choice while mechanics and engineers may find certain company-selected tools less practical than their preferred, personal alternatives.

Shared toolboxes introduce another potential problem: availability. If tools are being used by another technician, then misplaced, or stored elsewhere, maintenance work may be delayed, while the risk of a foreign object incident (FOI) also increases.

Ultimately, company ownership only delivers its intended benefits when tool distribution, maintenance, and accountability are properly organised.



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At a Glance: Personal vs. Company-Owned

Factor	Personal tools	Company-owned tools
Purchase cost	Mechanic pays	Employer pays
Brand preference	Individual choice	Company selection
Tool familiarity	Usually high	Depends on allocation
Standardization	More difficult	Easier
Calibration control	Requires coordination	Easier to centralize
Career portability	High	Limited
Tool accountability	Requires formal procedures	Requires formal procedures

Safety: The Most Important Consideration

Regardless of ownership, tool control is essential in aircraft maintenance as a forgotten screwdriver, missing socket, or incorrectly calibrated torque wrench can create serious safety risks. Both FAA and EASA maintenance frameworks require all organisations such as MROs to ensure that appropriate tools and equipment are available and properly controlled, including calibration where applicable. Neither of the frameworks establishes a universal rule requiring every ordinary hand tool to be company-owned.

Therefore, the critical question is not who purchases the equipment, but how effectively it is managed. Tool inventories, identification procedures, missing-tool reporting, and appropriate maintenance checks must apply, regardless of whether it is company or individually owned.

However, it is fair to say that a well-controlled personal toolbox can be far safer than a poorly managed company toolbox—but the inverse also applies.

Can a Hybrid Approach Offer the Best of Both Worlds?

An alternative to individual or company ownership of tools is a hybrid model combining the use of personal company-provided equipment. Under such an arrangement, mechanics might own their preferred everyday hand tools, including ratchets, wrenches, screwdrivers, and pliers. However, the employer would provide specialized aircraft tooling, calibrated instruments, borescopes, and other expensive equipment.

This approach has big advantage as it enables technicians to retain the familiarity and flexibility of personal tools while the MRO maintains centralised control over critical and likely more costly equipment.

A good alternative to this is a company-provided basic toolbox which can be supplemented by approved personal tools. However, a hybrid system requires clear procedures as every tool used on an aircraft must fall within the MRO's tool-control arrangements, regardless of who owns it.

The Future of Tool Ownership

Today, digital tool-management systems are slowly but surely changing how MROs approach tool accountability. RFID technology, electronic tool cabinets, and digital inventory systems can certainly improve tracking, reduce administrative work, as well as effectively help identify missing equipment. As a result, these developments may favour centrally managed tool systems, especially in large maintenance operations. However, digital solutions do not automatically make company-owned tools superior. Smaller MROs may achieve equally effective accountability through well-managed personal toolboxes and established procedures.

The best approach ultimately depends on operational scale, maintenance activities carried out, workforce structure, and company culture.

Conclusion: Ownership Matters Less Than Accountability

Both personal and company-owned toolboxes have a legitimate place in aircraft maintenance. While personal ownership offers independence, familiarity, and professional flexibility, company ownership provides opportunities for standardisation, centralised calibration, and reduced financial pressure on mechanics.

Because nether option provides the perfect solution, a hybrid arrangement will very likely provide a practical compromise that suits everyone. Of course, the ownership model becomes almost irrelevant if the principal tenet is changed – every tool must be suitable for its intended task, properly maintained, and accounted for.

In aviation maintenance, the most important question is not who owns the toolbox. It is whether every tool is where it belongs when the aircraft is returned to service.


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Maintenance Mythbusters: "More Inspections Always Mean More Safety"

By David Dundas

Introduction

In aviation, the word safety is closely associated with thoroughness. Inspections, checks and scheduled maintenance are fundamental to ensuring that aircraft remain airworthy, and the instinct to increase inspection activity when seeking greater safety makes a lot of sense, in theory. In truth, one of the most persistent assumptions in relation to maintenance is that more inspections must automatically result in better results and safer aircraft. If we look deeper, we may well find that reality is considerably more nuanced.

Every inspection is itself a maintenance activity, requiring time, resources and, in some cases, the opening, removal or disturbance of components and systems. Are further inspections really a sensible and effective use of manpower? Each intervention, after all, can introduce its own opportunities for error. At the same time, excessive or repetitive inspections can place additional demands on technicians, increase workload and potentially reduce the attention given to detecting and dealing withgenuinely critical findings.

This edition of Maintenance Mythbusters examines the belief that "more inspections always mean more safety" and considers why inspection frequency alone is not a reliable measure of maintenance effectiveness. It explores the importance of targeted inspections, risk-based planning, condition monitoring and human factors, while highlighting the potential consequences of unnecessary maintenance intervention. Ultimately, effective aviation safety is not about doing more for the sake of it—it is about ensuring that every maintenance action has a clear purpose, maximises efficiently and delivers genuine safety value.

The Intuitive Belief in "More Is Better"

In the sphere of aviation maintenance, safety is built on rigor, discipline, and thoroughness. Inspections are among the most visible displays of that rigor, ensuring that defects are identified, corrective actions are taken, and aircraft remain airworthy. Because of this, it is easy to assume that increasing the number of inspections will automatically increase safety. The belief that "more inspections always mean more safety" feels intuitive: if inspections catch problems, then additional inspections should catch even more problems. However, this assumption overlooks an important reality of maintenance operations. Safety is not simply a matter


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of quantity, but of effectiveness, targeting, and the balance between prevention and unintended consequences. If it were true that increased inspections identified further problems, that can only mean that the original maintenance schedule and procedures are inadequate. It is not a case of how many; it is more a case of how. Surely it is how inspections are performed that is more important than how many are performed over the same period of time.

Inspections Are Powerful, But Not Risk-Free

Inspections are essential, but they also create their own set of problems. Every inspection requires time, labour, access, and often disassembly. Opening panels, removing components, or disturbing systems introduces opportunities for human error, collateral damage, and mistakes in reinstallation. Maintenance itself is an intervention, and each intervention carries risk. Excessive inspection can therefore create a paradox: in trying to improve safety through the implementation of more frequent checks, an MRO could inadvertently increase exposure to maintenance-induced errors and consequent failures.

Aviation safety depends not on inspecting everything endlessly, but on inspecting the right things at the right time, and the right way.

The Limits of Inspection Effectiveness

Inspections are only valuable when they are meaningful. Repeated inspections beyond what is necessary can lead to inefficiencies. If technicians are required to perform excessive checks with little operational justification, inspections may become routine box-ticking exercises rather than focused safety actions. Attention can decline, complacency can grow, and the inspection process may lose its sharpness and effectiveness. In such cases, additional inspections do not equate to better outcomes and increased safety—instead they are very capable of diluting the effectiveness of critical inspections.

Quality of inspection is more important than sheer frequency, in other words ‘quality, not quantity’.

Maintenance-Induced Errors and Unnecessary Disassembly

One of the most significant risks of over-inspection is the increased likelihood of maintenance-induced error. Each time a component is removed and reinstalled, there is potential for incorrect torque application, misrouting of wiring, improper sealing, or missed fasteners. Even small installation errors can have serious consequences. Beyond this, unnecessary disassembly also increases wear on connectors, fittings, and structural interfaces.

This is why modern maintenance philosophy emphasises minimising unnecessary disturbance of systems. In simple terms, sometimes leaving a properly functioning component untouched is a safer option than repeatedly opening it for inspection without cause.

Balancing Safety With Operational Practicality

Aircraft maintenance operates under a blanket of finite resources: namely technician availability, hangar capacity,

and operational schedules. Excessive inspection demands can place a strain these resources, diverting attention away from higher-risk tasks. When MROs become overloaded with inspection requirements, prioritisation becomes harder, and critical work has to compete, timewise, with low-value checks.

When you look at the overall situation more carefully, it becomes logical that true safety improvement comes from intelligent risk-based planning, not simply from increasing inspection workload.

The Shift Toward Targeted and Condition-Based Maintenance

The aviation industry has increasingly recognised that maintenance must evolve beyond purely time-based or inspection-heavy models. Condition-based maintenance, predictive analytics, and health monitoring systems enable operators to focus more attention where it is most needed. Instead of inspecting components repeatedly on a fixed schedule, modern predictive approaches aim to identify early indicators of degradation and automatically schedule intervention before failure occurs.

This shift does not reduce safety standards; it enhances them by aligning maintenance effort with actual risk. Done correctly, smarter inspections are often safer than more inspections.


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Human Factors and Inspection Fatigue

Human factors also play a critical role both in terms of spotting risk, but also adding to risk factors. Excessive inspection requirements can contribute to fatigue, reduced concentration, and procedural overload. Technicians working long shifts under a pressurised high workload may be more likely to miss subtle findings, particularly if inspections feel repetitive or low in value. Inspection fatigue is a real phenomenon: when everything is treated as equally urgent, focus placed on truly critical items can suffer.

Safety depends on maintaining technician effectiveness, not exhausting it.


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Conclusion: Safety Comes From Smart Maintenance, Not Maximum Inspection

The myth that more inspections always mean more safety reflects a natural desire for thoroughness in a safety-critical industry. There is no question that inspections remain a cornerstone of aviation maintenance, but they must be carried out both efficiently and intelligently. Excessive or poorly targeted inspections can introduce new risks through unnecessary disassembly, maintenance-induced error, resource strain, and human fatigue. The future of maintenance safety lies not in inspecting more, but in inspecting better—using risk-based planning, advanced monitoring, and disciplined procedures to ensure that every inspection adds real value to airworthiness. In aviation, safety is better achieved through smart maintenance, not maximum maintenance.

PEOPLE

on the move




Johannes Rotter (l) and Blanca Burgos (r) © *LHT*

Lufthansa Technik (LHT) has made two leadership changes across its global base maintenance network, appointing **Blanca Burgos** as Managing Director of Lufthansa Technik Puerto Rico and **Johannes Rotter** as Managing Director of Lufthansa Technik Budapest. Blanca Burgos has led Lufthansa Technik Puerto Rico's Aguadilla-based operations as Managing Director since September. She joined from FEAM Aero, where she served as Director of Account Management, and brings more than 30 years of MRO experience, including technical and leadership roles at Delta Air Lines and FEAM Aero. She succeeds **Joerg Speri**, who has joined Austrian Airlines as Vice President Technical Division. Johannes Rotter became Managing Director of Lufthansa Technik Budapest in August, following more than 20 years at Austrian Airlines, where he most recently served as Head of Maintenance. He has led numerous operational excellence and digitalisation initiatives, building extensive expertise in aircraft maintenance, engineering and international project management. He succeeds Thoralf Wagner, who has taken up the role of Head of Technical Fleet Management at SWISS.



David Crull

Aquila Air Capital, an Ireland-based engine lessor backed by funds managed by global alternative asset manager Wafra Inc., has appointed **David Crull** as chief financial officer. Crull brings more than 25 years of experience across the airline, aviation aftermarket and aircraft-leasing sectors. He will join Aquila's leadership team with expertise spanning the financial and operational management of aviation businesses. "I am pleased to welcome David to the Aquila team. He brings deep financial expertise and experience from both the operator and investor perspectives," Chief Executive Officer **Al Wood** said. "David knows how to effectively engage with executive teams, investors and commercial partners to scale and transform businesses. He will enhance our platform's strategic decision-making and accelerate our growth trajectory." Crull has held senior roles across aviation finance, operations, commercial leadership and investing. Most recently, he was Executive Vice President and Chief Financial Officer of Jackson Square Aviation. Earlier, he served as chief investment officer of KP Aviation and chief financial officer of Aero Capital Solutions and AeroTurbine. He also held senior finance roles at Spirit Airlines and began his aviation career in maintenance and engineering at American Airlines and Delta Air Lines. Crull holds an MBA from the University of Dallas and a bachelor's degree in professional aeronautics from Embry-Riddle Aeronautical University. He is a former US Marine.



Amy Comer

Pratt & Whitney has named **Amy Comer** President of its Military Engines business, effective January 1, 2027, as the RTX unit prepares for a leadership change. Comer will succeed **Jill Albertelli**, who was recently named Pratt & Whitney President following **Shane Eddy's** retirement at the end of the year. Pratt & Whitney is part of RTX. Comer has more than 20 years' experience in engineering and programme management, supporting the development and sustainment of military and commercial product lines. She currently serves as Vice President of Pratt & Whitney's GTF engine business. "Amy is a trusted leader with deep technical expertise and a proven track record of disciplined execution for our customers," Eddy said. He added that she would build on Albertelli's work and help ensure Pratt & Whitney continues to provide advanced propulsion systems for the US services and allied forces.



Matt Hoesley

Aircraft leasing and asset management company Altavair is reshuffling its senior leadership, with CEO **Steve Rimmer** set to become executive chairman from January 1, 2027. **Matt Hoesley**, who joined Altavair in 2005, will succeed Rimmer as CEO and President. **Dimitrios Kotinis** will become Chief Commercial Officer, overseeing marketing, trading, pricing, risk and capital markets. Rimmer founded Altavair in 2003 and has led its expansion from an aviation investment business into a global aircraft leasing, financing and asset management platform. He will remain involved in strategic leadership, customer and investor relationships and work with the board and shareholders. Hoesley has spent more than two decades at Altavair, helping build its commercial operations and serving customers, investors and business partners. Kotinis joined Altavair in 2020 and has held a key role in developing its investment platform. In his new position, he will oversee the company's commercial and capital-markets activities while contributing to its broader strategy.

PEOPLE

on the move



Stuart G. Weinroth

Contrail Aviation Support (Contrail) has appointed **Stuart G. Weinroth** as Chief Executive, succeeding founder **Joe Kuhn** as the commercial jet engine trading and leasing company seeks to build on more than two decades of growth. Weinroth brings more than 30 years of experience across the commercial aviation asset lifecycle, including roles with airlines, aircraft and engine lessors and suppliers to airlines and maintenance, repair and overhaul providers. He joins Contrail from Air Transport Services Group, where he was global head and vice president of commercial operations and acquisitions. He led the expansion of the company's freighter and engine portfolio. Earlier in his career, Weinroth held senior investment and finance positions at Metolius Aviation Capital, GA Telesis, GMT Global Republic Aviation and Atlas Air Worldwide Holdings, with experience in aircraft and engine trading, leasing and capital markets across Boeing and Airbus platforms. Contrail said the appointment builds on the 26-year foundation established by Joe Kuhn and **Miriam Cohen-Kuhn**, who founded the company in 2000 and developed it into a global player in narrow-body aircraft and engine trading. The company said its existing management team would provide continuity for customers and partners as it expands its market position. Weinroth's appointment is also expected to strengthen cooperation among the aviation businesses within Contrail's parent company, Air T Inc., the company said. Air T is a diversified aviation group whose shares trade on Nasdaq under the ticker AIRT.



Vittorio Lorenzo Della Bella

ATR has released that Leonardo Helicopters U.S. President **Vittorio Lorenzo Della Bella** will become its new Chief Executive, effective November 1, succeeding **Nathalie Tarnaud Laude**, the regional aircraft maker said. Della Bella previously served as Senior Vice President for customer support, services and training at Leonardo Helicopters, where he led a global organisation of about 2,500 employees supporting more than 4,500 helicopters and 1,300 customers. He has held senior roles in programme management, business development, customer support and international industrial cooperation, including as managing director of NHIndustries. ATR, a joint venture between Airbus and Leonardo, also appointed Airbus executive **Patrick Bergues** as Senior Vice President of Finance and Chief Financial Officer, effective November 1. Bergues, who will succeed **Andrea Coccetti**, most recently served as CFO of Airbus in the United States and CFO of Starlab Space. He has more than three decades of experience in aerospace finance, including roles in corporate finance, aircraft financing, insurance and risk management, financial analysis and business control. Coccetti is moving to a new role within the Leonardo group, ATR said.



Paul McElhinney

StandardAero has named **Paul McElhinney** Chief Executive Officer, succeeding **Russell Ford**, who will remain executive chairman of the board through year-end. McElhinney brings more than three decades of aerospace and industrial leadership experience to the role, including senior positions at GE Aviation Services and GE Power Services. He has also served on StandardAero's board since 2019, giving him extensive knowledge of the company's strategy, customers and operations. Ford, who has served as chairman and CEO for 13 years, will continue on StandardAero's board after year-end. During Ford's tenure, StandardAero expanded its global footprint, capabilities and customer relationships and completed its initial public offering in 2024, positioning the company among the world's leading independent providers of aerospace engine aftermarket services.



Eléonore Tramus

Air France Industries KLM Engineering & Maintenance (AFI KLM E&M) has selected **Eléonore Tramus** as Chief Executive of CRMA Aero Repair, effective immediately, as the engine component repair specialist looks to expand its capabilities. CRMA is one of AFI KLM E&M's centres of excellence for engine component repair. Tramus began her career at Safran Aircraft Engines and joined the Air France-KLM Group in 2010. She has since held leadership roles across the group's airline and maintenance, repair and overhaul (MRO) operations. At AFI KLM E&M, she served as director of Engines Product Network and Development, where she worked on engine repair development and product strategy, including projects involving CRMA. She later held strategic, commercial and operational positions within Air France-KLM's airline operations, including director of Asia MEGI network planning. Most recently, she was general manager for the East Mediterranean region, covering Italy, Greece, Turkey and Israel, based in Rome. In her new role, Tramus will work with CRMA's teams to expand the company's repair capabilities, with a particular focus on industrialising repair solutions for LEAP engine components and responding to customer demand. The expansion supports AFI KLM E&M's strategy of reducing engine maintenance costs by increasing the use of repair solutions as an alternative to replacing components.

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malte.tamm@avitrader.com
+49 (0) 162 8263049

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