AviTrader
AVIATION NEWS PUBLICATIONS
avitrader.com | Edition #144
November 2025

MRO 360°

Heavy Checks

Investigating the economics of C- and D- checks

AOG Critical Parts
Reducing the impact of AOGs

Cost Management
Balancing operational reliability and financial discipline

Supply Chain
Nearly new A320neo-family aircraft teardowns

© *Shutterstock*

Dear Industry Colleagues,

An unplanned AOG can cause a whole raft of problems for both carriers and MRO operators. For the carrier, there is the immediate financial cost in terms of having a grounded aircraft while also having to immediately find a suitable replacement. For the MRO, the pressure is on to get the grounded aircraft back in the air as soon as possible. We wanted to learn more about the positioning of critical parts by MROs to mitigate the impact of an AOG incident, so we approached six of the industry's established operators to get their perspective on the challenges faced.

We also wanted to delve deeper into the economics of aircraft heavy checks, and in particular how to ensure their cost-effectiveness, by exploring the areas of cost drivers, operational strategies and also today's hot topic of AI, and what effects they can have on heavy maintenance. We are grateful to AMROS Global, FL Technics, Vallair and VAS Aero Services for their invaluable input.

We were shocked to discover that two six-year-old A321neos had been purchased for teardown. Are aircraft with fifteen years of good service ahead of them really worth more for parts than as serviceable aircraft? We decided to learn more about why nearly new Airbus A321neos are being cannibalised for their engines.

To conclude this issue, we also took a brief overview of effective cost management in aircraft maintenance, primarily looking at how to find the optimum balance between operational reliability, regulatory compliance, and financial discipline.

As always, I hope you enjoy the issue.

Peter Jorssen
Publisher

Willis
Aviation Services
Limited

Delivering Aircraft Solutions

Willis Aviation Services Limited offers extensive aircraft maintenance, storage, and disassembly at our facility at **Teesside International Airport** (UK).

OUR CAPABILITIES INCLUDE:

- AVAILABLE NOW: Aircraft base maintenance | Maintenance slots from April 2026 onwards
- Line Maintenance
- Modifications
- Parking & Storage
- Disassembly
- Full Painting by Airbourne Colours
- Airport FBO & Handling Services
- Approvals: A320 family and B737NG | A320neo Q1 2026
- Authorities: UK CAA, EASA, TCCA, Cayman & 2-Reg

New state-of-the-art twin-bay narrowbody hangars

Aircraft Maintenance | Storage | Disassembly

WLFC
WILLIS LEASE FINANCE CORPORATION

Willis Aviation Services Limited is a subsidiary of Willis Lease Finance Corporation

www.wlfc.global

Teesside International
Airport, Darlington, DL2 1NJ, UK
sales@willisaviation.com

AviTrader Aviation News Publications
MRO 360°

Cover image: © *Shutterstock*

Cost-Effectiveness of Aircraft Heavy Checks

EDITORIAL

Peter Jorssen
Publisher
peter.jorssen@avitrader.com

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

David Dundas
Content Writer
david.dundas@avitrader.com

Volker Dannenmann
Graphic Designer
volker.dannenmann@gmail.com

ADVERTISING & CONTRIBUTION ENQUIRIES

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

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

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

Follow us on LinkedIn

2 **Publisher Page**

5 **News in Brief**

21 **Supply Chain**
Nearly new A320neo-family aircraft teardowns

26 **EPCOR**
25 years of MRO Excellence

31 **Redefining Air Cargo**
IAI's Groundbreaking 777-300ERSF Conversion

32 **AOG Critical Parts**
Reducing the impact of AOGs

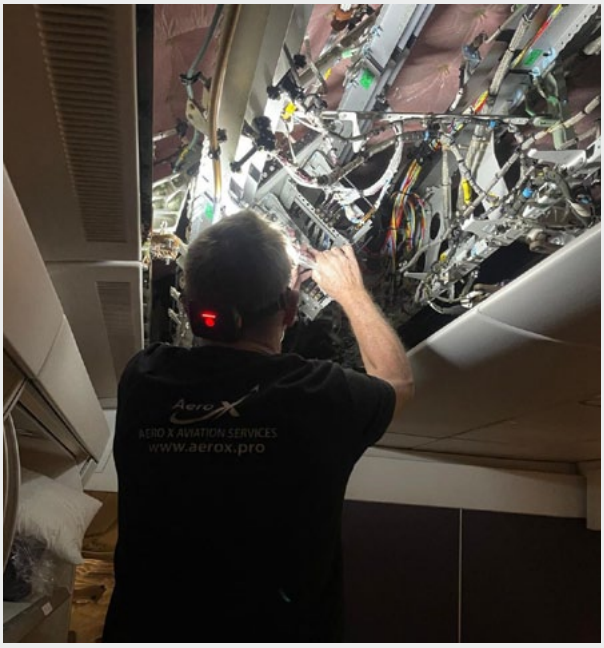
39 **Cost-Effectiveness of Aircraft Heavy Checks**
Investigating the economics of C- and D- checks

45 **Cost Management**
Balancing operational reliability and financial discipline

47 **People on the Move**

Vallair and AeroX launch alliance for rapid Starlink installations

Vallair and AeroX, a specialist in advanced in-flight connectivity solutions, have announced a strategic alliance to accelerate the installation of Starlink satellite communication systems across commercial aircraft fleets. Starlink will enable passengers to access high-speed internet worldwide, including in regions that traditionally lack reliable coverage. As part of the agreement, Vallair will reserve dedicated night-shift modification capacity at its state-of-the-art maintenance centre in Châteauroux, France. This arrangement will allow for the swift installation and integration of Starlink antenna systems on both narrow-body and wide-body aircraft operated by AeroX's customers across Europe, Africa and the Middle East. By carrying out upgrades overnight, airlines can enhance onboard connectivity without affecting scheduled flight operations. AeroX Chief Executive, Aaron Grigsby, said the partnership offers customers a fast, reliable and centralised modification solution located in the heart of Europe. He noted that working with Vallair will enable airlines to adopt Starlink with minimal downtime and improved operational efficiency. The alliance reinforces both companies' commitment to advancing the passenger experience, including uninterrupted streaming, online gaming and cloud-based work capabilities. It also supports the next generation of real-time operational data transfer, enhanced crew communications and improved Electronic Flight Bag (EFB) performance reliability.



Vallair and AeroX have forged a strategic alliance to install Starlink satellite connectivity across commercial fleets *© Vallair*

Dedienne Aerospace scales up Dubai hub for 2026 move

© Dedienne Aerospace

Dedienne Aerospace will significantly expand its Dubai operation in 2026 with a move to a larger site within the Jebel Ali Free Zone. The new 5,000 m² facility is designed to meet rising demand across the Middle East and Africa and aligns with Dubai's fast-developing aviation ecosystem. The expanded hub reflects the company's long-term regional commitment and supports its ambition to serve as a central pillar in the MEA aviation supply and maintenance network. The project centres on delivering greater value to customers by increasing capacity, strengthening on-site resources and broadening inventory levels. The larger site will allow Dedienne Aerospace to maintain a wider, immediately available stock of aerospace maintenance equipment and ground support equipment, ensuring faster access for operators. A substantially expanded service zone, backed by field-service teams positioned across the region, will help reduce turnaround times, improve aircraft availability and create more predictable support for airlines, MROs and lessors. This enhanced capability is expected to drive higher operational efficiency, particularly as regional fleets continue to expand. The new facility will also deepen support for key market growth areas in the Middle East, Africa and Turkey. With fleets ramping up across these regions, operators are seeking reliable, in-region access to specialised tooling and long-term servicing programmes. Dedienne Aerospace, as an official licensee for major OEMs, will strengthen support for programmes such as the GE9X and Boeing 777X, the Rolls-Royce Trent XWB, the LEAP and CFM56 engine families, and additional Boeing and Collins Aerospace tooling that is expected to enter the market in the coming years. The expansion underscores a strong commitment to the UAE and the wider MEA region. The Dubai hub is being scaled for the 2025–2035 horizon, providing localised licensed-tooling coverage, increased technical capability and additional customer-facing teams. Its location within JAFZA ensures direct access to both port and airport infrastructure, while proximity to Dubai South positions Dedienne Aerospace at the heart of the emirate's emerging aviation cluster.

Wizz Air extends line maintenance partnership with FL Technics

Wizz Air Airbus A320neo © FL Technics

Wizz Air has renewed its long-standing cooperation with FL Technics, reinforcing a partnership shaped by consistent performance, trust and shared ambitions for regional growth. The extended agreement secures the continuation of line maintenance services at two of Wizz Air's most strategically important bases: Bucharest (OTP) and Cluj-Napoca (CLJ). These hubs remain central to the airline's operations in Central and Eastern Europe, supporting high-frequency routes and sustained fleet expansion. The renewal signals a clear alignment between Wizz Air's long-term development plans and FL Technics' growing presence across Europe. After more than ten years of collaboration, both companies are preparing for a deeper integration of services, strengthened operational coordination and expanded technical capability. The agreement reflects a mutual commitment to delivering reliable aircraft availability as Wizz Air continues to scale its operations across the region. Saulius Bajarūnas, Chief Operating Officer of FL Technics, noted that the company's decade-long experience with Wizz Air has given it precise insight into the airline's operational needs. He indicated that FL Technics supports the carrier wherever possible and added that both organisations hold a shared view of Romania as a strategically significant market. He suggested that each intends to make substantial investments in future development within the country, reinforcing its status as a vital aviation hub.

Collins Aerospace opens advanced manufacturing hub in Bengaluru

Ribbon-cutting ceremony at the new Collins India Operations Center © *RTX*

Collins Aerospace has inaugurated its new Collins India Operations Center (CIOC) — a 26-acre, state-of-the-art manufacturing facility located at the KIADB Aerospace Park in Bengaluru. The new site strengthens the company's capacity to produce advanced aerospace products for global markets while further expanding its footprint in India. Equipped with cutting-edge technologies including artificial intelligence, additive manufacturing, and robotics, the facility will initially focus on producing a wide range of components such as seats, lighting and cargo systems, temperature sensors, communication and navigation systems, water solutions, and evacuation slides. "The Collins India Operations Center will drive operations and manufacturing for more than 70 Collins products, enhancing worldwide service transformation and delivering operational excellence," said Roy Gullickson, Senior Vice President of Operations at Collins Aerospace. "The CIOC will also have incremental capacity to support future growth opportunities and customer requirements." The facility features an Industry 4.0 Building Management System — a connected ecosystem that optimises speed, precision, and quality in manufacturing processes. It is certified to both LEED Silver and Indian Green Building Council Silver standards, underscoring Collins Aerospace's commitment to sustainability and energy efficiency. By 2026, the site will employ more than 2,200 people across various disciplines. Collins Aerospace has maintained a strong presence in India for nearly three decades, employing over 6,500 professionals across engineering, digital, manufacturing, operations, and supply chain functions. Earlier in the year, the company announced a significant investment in a new Engineering Development and Test Center in Bengaluru, reinforcing its long-term strategy to integrate innovation, sustainability, and advanced manufacturing to serve the global aerospace sector.

Complex MRO vendor network?

We are your one stop shop for repair excellence

AJW®

AJW Group is the world-leading independent component parts, repair, lease, engine, flight hour programme, and supply chain solutions integrator, transforming efficiency in commercial, business and defence aviation.

With hubs and offices on every continent - including AJW Technique, a state-of-the-art component MRO facility in Montreal - nose to tail, we have you covered.

ajw-group.com

HAECO builds on long-term partnership with JAL

HAECO has strengthened its long-standing relationship with Japan Airlines (JAL) through an expanded line maintenance partnership at Shanghai Pudong International Airport. This marks the first time JAL has entrusted an overseas MRO provider with advanced, non-routine maintenance work, including technical inspection, lubrication, testing, and cleaning, at one of its key outstations. Takashi Koimai, Senior Vice President – Aircraft Maintenance Center NARITA of JAL Engineering said, "We are proud to assign our first planned maintenance task entrustment at an overseas station to HAECO, a company with whom we have built a strong relationship over many years. This new collaboration is a major milestone for HAECO and JAL. As an airline committed to the highest standards of flight safety and overall service quality, striving to be the most preferred airline by customers worldwide, we are pleased to have a long-standing partner who can support our service."

© HAECO

Since 2018, HAECO has supported JAL's joint venture, Spring Japan, with routine line maintenance checks across several Chinese Mainland outstations, including Beijing, Dalian, Harbin, Nanjing, Ningbo, Shanghai Pudong, and Tianjin. By 2024, the collaboration expanded further to include JAL's fleet in Beijing, Dalian, Shanghai Pudong, and Tianjin, reflecting JAL's continued confidence in HAECO's technical capability and commitment to quality. As a comprehensive, nose-to-tail MRO services provider with operations in Hong Kong, the Chinese Mainland, Europe, and the United States, HAECO delivers line maintenance services for more than 140 airlines worldwide and operates 19 stations across Hong Kong and the Chinese Mainland. Both HAECO and JAL are actively exploring new opportunities to extend this specialised line maintenance partnership to additional locations within JAL's global network.

EirTrade advances strategic growth at Knock with new A330 services

Lee Carey EirTrade Aviation Chief Investment Officer © *EirTrade*

EirTrade Aviation (EirTrade), the Dublin-based global aviation asset management and trading company, has strengthened its presence at Knock, Ireland West Airport, by achieving three significant milestones. These include a servicing agreement for four Airbus A330 aircraft, the addition of A330 line maintenance approval and the relocation of its AFRA-accredited engine disassembly facility to the same site. The dismantling of the first two A330s, MSN 602 and MSN 607, is under way and will conclude within four weeks. "Dismantling of the first two A330 airframes following redelivery will complete in four weeks' time, however EirTrade will remarket and lease the CF6-80E1 engines to monetise remaining green time," explained Chief Investment Officer Lee Carey. "Once they are unserviceable, the engines will also be disassembled and the components sold to support EirTrade's A330 customers." All inventory removed from these aircraft will be sold, leased, or exchanged to reinforce the company's global A330 customer network. In tandem with this acquisition, EirTrade has added EASA Part 145 line maintenance approval for the A330 (GE CF6), A330 (PW 4000), A330 (RR Trent 700) and A330neo (RR Trent 7000) to its capabilities. Carey verified that the addition of the aircraft type will improve efficiency and the product offering for EirTrade's customers. This latest approval builds on EirTrade's existing maintenance capabilities for multiple Airbus and Boeing types, including the A320 family and 737 series. In a parallel development aimed at cost efficiency, EirTrade has moved its AFRA-accredited engine disassembly operations to Knock. The upgraded facility now handles CFM56-3/-5A/-5B/-7B/-7BE engine types, broadening the company's technical scope. "EirTrade can now provide all maintenance services, aircraft disassembly, and engine disassembly services to customers from our facility at Ireland West Airport," Carey added. "This streamlines EirTrade's operational efficiency across the organisation and supports our wide range of services, including Asset Servicing, Leasing, Maintenance, Disassembly and Component Sales."

StandardAero expands Winnipeg facility

© StandardAero

StandardAero has broken ground on a 70,000-square-foot expansion of its Winnipeg, Manitoba facility, enhancing its maintenance, repair and overhaul (MRO) support for GE Aerospace CF34-3/8 and CFM International CFM56-7B turbofan engines. The new investment will increase the site's capacity for the CF34-3/8 engine, which powers regional aircraft such as the Embraer E175 and MHIRJ CRJ700. It will also allow StandardAero to take on additional work for the CFM56-7B, the engine behind the Boeing 737 Next Generation and its military variants, including the P-8A Poseidon maritime patrol aircraft. The expansion project is being carried out with the support of government partners, including a CA$3 million (US$2.14 million) contribution from the Manitoba provincial government. The investment will reinforce the highly skilled local workforce and strengthen the province's role in the global aerospace industry. StandardAero has been a General Electric Branded Service Agreement (GBSA) partner for the CF34-3 and CF34-8 engines since 2001. Its Winnipeg facility recently celebrated its 4,000th CF34 MRO workscope, while the company also provides authorised CF34 line maintenance from Augusta, Georgia, and engine health monitoring analysis from Gonesse, France.

ST Engineering exits STARCO in RMB680.5 million deal

Singapore Technologies Engineering has confirmed that its aerospace subsidiary, ST Engineering Aerospace (ST Engineering), signed an agreement on November 14, 2025, to divest its entire stake in Shanghai Technologies Aerospace Company (STARCO). The deal transfers all equity interests held by the group — amounting to 49% of the company and its corresponding paid-up registered capital — to China Eastern Airlines Corporation (CEA). Once the transaction is completed, ST Engineering will no longer retain any shareholding in STARCO. CEA, which already owns the remaining 51%, will move to full ownership and take complete control of the joint venture. The sale marks the end of a long-running partnership between the two companies within the Chinese maintenance, repair and overhaul (MRO) market. CEA has agreed to purchase the 49% stake for a cash consideration of RMB680.5 million, equal to approximately SG$124.6 million. The payment will be made across two instalments. The first tranche, valued at RMB506.7 million (around SG$92.8 million), will be settled upon the completion of the divestment. The second tranche of RMB173.8 million (around SG$31.8 million) is due no later than December 31, 2026, and will be backed by a bank guarantee to ensure certainty of payment. The joint venture with CEA was established in 2004 for an initial 20-year term. Following the extension of this agreement in 2024, both partners have now agreed to conclude their partnership to focus on their respective growth plans. This decision brings to a close a successful collaboration that has benefited both companies. ST Engineering values the strong working relationship it has enjoyed with CEA and looks forward to continuing to support the airline as a valued customer in the years ahead.

Pall and Satair deepen aviation aftermarket partnership

Satair has renewed its exclusive worldwide distribution agreement with Pall Corporation (Pall), a pioneer in advanced filtration, separation, and purification technologies. This renewed partnership extends the existing relationship through to 2032, ensuring continued access to Pall's industry-leading filtration solutions for commercial aviation aftermarket customers across the globe. Under this agreement, Satair will remain the exclusive distributor of Pall's filter elements and assemblies for air, hydraulic, water, and engine filtration systems used in commercial aircraft. Having distributed Pall's products since 1991, Satair has built a reputation as a trusted partner in delivering high-performance filtration solutions to airlines and MROs worldwide. "This agreement further solidifies our long-term strategic partnership with Pall," said Thomas Lagaillarde, Vice President Product Management & Business Development at Satair. "Together, we are committed to providing customers with the industry's largest OEM filter portfolio and associated world-class technical support." Pall Corporation's aerospace filtration technologies are designed to protect critical operating systems and improve component reliability. "No one knows filtration technology the way Pall does," said Karmyn Norwood, Vice President and General Manager for the Aerospace Business Unit at Pall Corporation. "We look forward to continuing our collaboration with Satair, ensuring airlines and MROs benefit from the highest-quality filtration solutions available." This renewed agreement reinforces both companies shared dedication to innovation, reliability, and customer service excellence. Moving forward, both companies will continue exploring opportunities for new product development to address the evolving needs of the aviation industry.

24H

AOG doesn’t wait – neither do we!

24/7 AOG solutions

- 100+ supply chain managers
- 7 global warehouses
- Worldwide component delivery

For AOG support, reach out at **AOG@FLTechnics.com**

Satair and GAMECO ink new Airbus material support deal

Satair and GAMECO have signed an LOI to strengthen their strategic partnership © *Satair*

Satair has signed a letter of intent (LOI) with Guangzhou Aircraft Maintenance Engineering (GAMECO). The agreement aims to expand their long-term Integrated Material Services (IMS) programme, including material support for the Airbus A350 platform. This move builds on the successful performance of IMS since its launch in 2022. It also deepens a strategic partnership that began in 2008, when Satair and GAMECO signed their first material support contract. The new LOI will bring all existing support services together under one comprehensive, exclusive IMS framework. This consolidation will improve efficiency and simplify operations across multiple aircraft types. The planned expansion focuses on boosting operational performance and cost control. By upgrading to a unified IMS structure, GAMECO will benefit from faster access to materials and smoother logistics. The service combines locally consigned expendable materials with Satair's global stock network. This ensures immediate availability while reducing overall operating costs and capital expenditure. In addition, a dedicated Satair team will be based on-site to work closely with GAMECO's maintenance, repair, and overhaul (MRO) operations. Andy Lee, Managing Director of Satair China, said: "This LOI is a testament to the long-term strategic relationship we have forged with GAMECO. The planned expansion is a direct result of the strong performance and confirmed savings delivered by our partnership, which has ramped up considerably since the introduction of IMS in 2022." He added: "We are providing GAMECO with a foundation for simplified operations and optimised efficiency, ready to boost their growing A350 support capabilities." The exclusivity of the agreement covers expendable materials for the Airbus A350, A330, and A320 platforms, reinforcing Satair's position as a key global support partner.

Jeppesen ForeFlight takes off as independent digital aviation firm

ForeFlight © *Jeppesen ForeFlight*

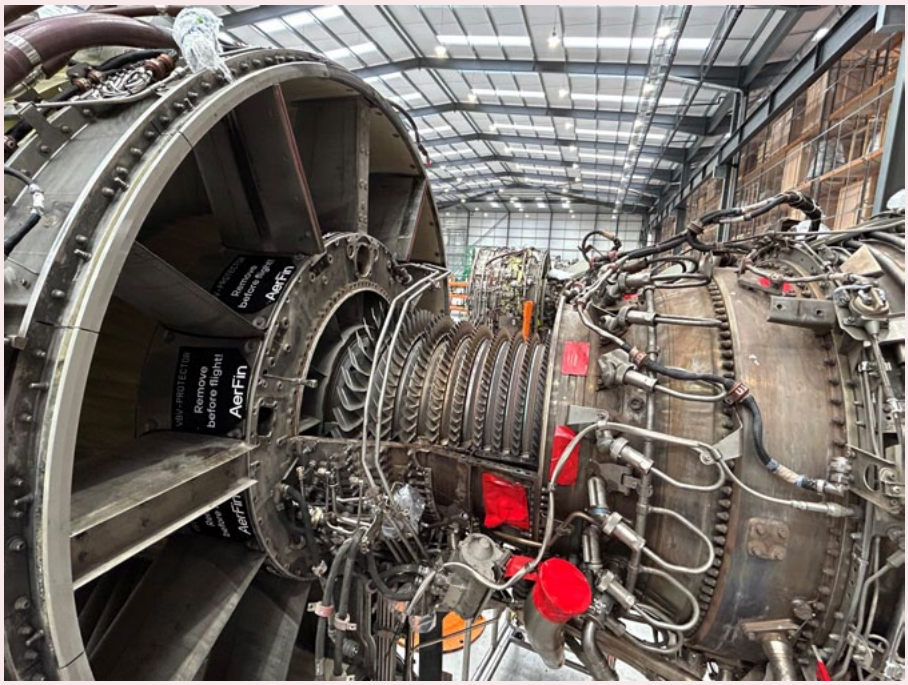
Jeppesen ForeFlight has launched as a new digital aviation company. It follows its split from Boeing and sale to software investor Thoma Bravo. The deal, worth US$10.55 billion in cash, marks a major change in the aviation technology sector. Brad Surak, former head of Boeing's Digital Aviation Solutions, becomes Chief Executive Officer. "Backed by 90 years of Jeppesen's gold-standard data and ForeFlight's relentless spirit of exploration, this combination is building the most unified, intuitive platform in aviation," he said. "As we return to independence alongside a leader in software private equity investing, we're enabled to move faster, think bigger, and innovate." The company will serve four main sectors: commercial, business, military and general aviation. Its products cover flight planning, dispatch, and crew tracking. Together, they create one connected system designed to make flying safer and more efficient. Surak said artificial intelligence will be central to the company's next chapter. "AI is the north-star for our multi-year roadmap," he explained. "Jeppesen ForeFlight is bringing AI to aviation, from the flight deck to the operations control centre, driving increased operational efficiency and bolstering safety." Now independent, Jeppesen ForeFlight begins a new era. Its goal is clear — to transform aviation through technology and exploration. The company draws on Jeppesen's legacy of trust and ForeFlight's record of innovation. Moreover, its team of engineers, data specialists, and customer experts share one mission: to solve aviation's toughest challenges. Step by step, Jeppesen ForeFlight aims to redefine how the world flies. With strong backing and deep expertise, it is ready to lead the next wave of digital transformation in global aviation.

Turkish Technic and Pegasus Airlines sign new maintenance deals

Turkish Technic has further expanded its partnership with Pegasus Airlines through two new contracts for the carrier's Airbus A320neo fleet. The agreements, which cover landing gear overhaul and base maintenance, mark another step in the long-standing cooperation between the two Turkish aviation companies. Under the renewed six-year deal, Turkish Technic will deliver comprehensive landing gear overhaul services for Pegasus Airlines' A320neo aircraft. In addition, its expert maintenance teams will provide continuous base maintenance support on two dedicated lines between autumn 2025 and winter 2026. As a result, Pegasus will benefit from improved fleet efficiency, stronger reliability, and reduced downtime. Moreover, these new contracts build on a partnership that has spanned two decades. Pegasus Airlines continues to gain from Turkish Technic's integrated maintenance solutions, extensive technical expertise, and globally recognised standards. Consequently, the collaboration reflects not only mutual trust but also a shared commitment to advancing Türkiye's aviation industry on the world stage. Commenting on the new agreements, Turkish Technic's Chief Executive Officer and Board Member, Mikail Akbulut, said: "We are delighted to strengthen our partnership with Pegasus Airlines through these new agreements. "For two decades, we have expanded our services to deliver the highest quality maintenance support. We greatly value Pegasus Airlines' trust in our expertise as we continue to strengthen Türkiye's role in the global aviation sector together."

Pegasus Airlines Airbus A320 © *AirTeamImages*

AerFin completes first CFM56 top case repair



CFM56-5B engine top case repair © *AerFin*

AerFin has achieved a key milestone in expanding its maintenance, repair, and overhaul (MRO) operations. The company has completed its first top case repair on a CFM56-5B engine at its in-house facility. The repair followed a bird strike that damaged blades inside the high-pressure compressor (HPC). Instead of replacing the entire section, AerFin engineers removed the compressor top case to access and replace only the affected blades. This targeted method, performed under a precise engine manual procedure, avoided the need for a full overhaul or replacement. The result delivered clear benefits. Costs were reduced, turnaround time shortened, and the aircraft returned to service faster. This latest success builds on another major milestone. In June, AerFin carried out its first engine module swap, replacing a damaged module with a serviceable unit. Together, these achievements show the company's rapid progress in handling complex engine repairs internally. AerFin's move to its 116,000 ft² headquarters at Indurent Park, Newport, in January has been pivotal. The larger site doubled its engine MRO capacity, expanding to 26 bays and supporting up to 200 quick-turn shop visits per year. The facility also underpins AerFin's global growth, following new hubs in Singapore and Miami last year. Chief Operating Officer Simon Bayliss said the top case repair marks "an important step in developing our engine shop capability." He credited the team's expertise and the advanced facilities for enabling smart, cost-efficient solutions that keep aircraft flying.

StandardAero, GMF to strengthen engine support across Asia-Pacific

StandardAero has signed a memorandum of understanding (MoU) with GMF, Indonesia's top provider of aircraft maintenance and repair services. The deal aims to combine both companies' skills to deliver strong on-wing engine support for airlines in Indonesia and across Asia-Pacific. The first phase will focus on the CFM International CFM56-7B engine. This model powers the Boeing 737NG family and remains widely used. Around 270 engines operate in Indonesia and more than 4,200 across the wider region. StandardAero already supports these operators through its overhaul facilities in Canada and the United States. In Indonesia, StandardAero has earned a reputation as a trusted MRO partner. It supports more than 40 local operators and service providers. The company also runs a turboprop overhaul facility in Seletar, Singapore, giving it a base close to Indonesia and faster access to regional clients. This new MoU marks an important step for both firms. It builds on shared goals of efficiency and reliability. By joining forces, StandardAero and GMF aim to raise the bar for engine maintenance and support across Asia-Pacific. The partnership will help airlines operate more smoothly, with better service and faster response times.

© *GMF Aero Asia*

Veryon acquires EBIS to expand aviation maintenance capabilities

Aircraft maintenance repair facility with technicians actively engaged in various tasks © *EBIS*

Veryon, a global provider of aviation software and information services, has announced the acquisition of EBIS from Tronair. The move strengthens Veryon's aviation maintenance portfolio by adding advanced ground support equipment (GSE) asset management tools and a next-generation maintenance management system. These solutions serve Part 145 repair stations, FBOs, charter operators, airlines, and maintenance providers worldwide. Many maintenance providers still rely on outdated or disconnected systems, which create challenges in managing assets both on the ground and in the air. The integration of EBIS into the Veryon platform will deliver a unified, intelligent solution. This platform improves efficiency, boosts uptime, and enhances operational visibility across all maintenance activities. Kris Volrath, Senior Vice President of Product at Veryon, said the acquisition directly responds to market needs. "Aircraft maintenance has become more complex, and ground handling assets have often been overlooked," he explained. "MROs are demanding smarter, easier-to-use systems. By adding EBIS, we simplify maintenance operations, reduce costs, and create greater value for our customers." With EBIS now part of its product suite, Veryon is reshaping the maintenance technology landscape. The new system supports commercial, general, and business aviation operators as well as MROs. It also enables real-time connection between maintenance providers and operators through seamless integration with Veryon Tracking. Moreover, the inclusion of EBIS Ground Support Equipment (GSE) software extends these benefits to ground operations. Maintenance teams can now manage aircraft and equipment within one connected ecosystem.

Willis Mitsui & Co. Engine Support secures US$750 million facility

Willis Lease Finance Corporation (WLFC) announced that its joint venture, Willis Mitsui & Co. Engine Support (WMES), has secured a new US$750 million revolving credit facility. The agreement, signed on October 31, 2025, will remain in place until October 31, 2030. The five-year facility gives WMES greater financial flexibility. The company will use the funds for general corporate purposes and may request an extension beyond 2030, subject to lender approval. Loans under the deal carry a floating interest rate based on Term SOFR plus a margin. Hagen S. Disch, Treasurer of WLFC, said the new credit facility boosts the venture's financial strength and shows lenders' continued confidence in the partnership. "We are extremely pleased with the successful completion of this new revolving credit facility." Akira Kaido, Chairperson and Director of WMES added: "We are thrilled to announce a new credit facility for WMES as we focus on expanding our strategic growth initiatives. This announcement closely follows the close of our acquisition of Willis Mitsui & Co. Asset Management Limited in June. This credit agreement will help us capitalise on new opportunities with agility and strength." WMES, established in 2011 and based in Dublin, is jointly owned by WLFC and Mitsui, each holding a 50% stake. The company provides engine leasing and support services to global airlines and lessors. By securing this US$750 million facility, WMES strengthens its position in the aviation market. The new funding allows the business to respond faster to emerging opportunities and support its customers more effectively. With solid financial backing and a clear focus on growth, WMES is set to expand its global footprint and reinforce its role as a trusted partner in the aviation industry.

WMES has secured a new revolving credit facility © *Shutterstock*

Sigma takes over Nasmyth to power new growth phase

© Nasmyth Group

Nasmyth Group, a front runner in precision engineering, has been bought by Sigma Advanced Systems UK. The deal marks a major step for both companies. It strengthens their position in aerospace and defence technology. Sigma Advanced Systems, founded in 1994, is a global name in defence and security solutions. The company designs and builds advanced systems for air, sea, and land. Its work covers avionics, radar, naval platforms, and communication systems. Sigma also produces counter-drone technology. Every product meets strict standards of quality and reliability. John Rooney, CEO of Nasmyth Group, said: "We are excited to begin this new chapter for Nasmyth. Sigma's vision matches our goals for growth. We are already investing in our sites to boost capacity and meet rising demand. Together, we will build on Nasmyth's strong reputation for quality and innovation." The takeover gives the company a solid base for expansion. Sigma brings financial strength and deep technical knowledge. This support will help Nasmyth innovate faster and serve customers worldwide. The partnership creates a powerful alliance in global engineering. It blends Nasmyth's precision expertise with Sigma's advanced systems know-how. With shared ambition and investment, both firms aim to deliver high-quality solutions and drive progress across the aerospace and defence industries.

STS Line Maintenance earns Colombian aviation certification

STS Line Maintenance has received official certification from Columbia's Unidad Administrativa Especial de Aeronáutica Civil (UAEAC) under Certificate No. 251. The approval recognises the company as an authorised approved maintenance organisation (AMO) and underscores its ongoing commitment to safety, quality, and technical excellence worldwide. The certification follows a detailed review of STS Line Maintenance's structure, quality systems, and maintenance procedures. With this authorisation, the company can now perform maintenance on aircraft registered in Colombia or operated by Colombian carriers. This milestone strengthens its standing as a trusted global MRO provider. "This certification represents more than compliance — it reflects the dedication and expertise of our entire team," said Gary Pratt, SVP and General Manager of STS Line Maintenance. "Each approval we secure enhances our reputation for quality and deepens customer trust in our ability to keep fleets safe and efficient." Moreover,

STS Line Maintenance has earned UAEAC approval

© STS Aviation Group

the UAEAC approval adds to the company's growing list of international certifications. STS Line Maintenance already holds approvals from the FAA, EASA, TCCA, and CAACI. Together, these credentials expand its operational reach and showcase its ability to meet rigorous standards across multiple regulatory systems. With this latest recognition, STS Line Maintenance further strengthens its influence in global aviation maintenance. The company continues to invest in people, processes, and technology to deliver exceptional service wherever its clients operate.

WLFC reports strong Q3 growth as engine leasing demand soars

Willis Lease Finance Corporation (WLFC) reported solid third-quarter results for 2025, reflecting strong momentum in the global aviation market. Total revenue reached US$183.4 million, up 25.4% from US$146.2 million in the same period last year. Core lease rent and maintenance reserve revenues rose to US$152.6 million, an increase of 33.1% from US$114.7 million in 2024. The growth came mainly from higher demand for leased engines and maintenance services, as airlines turned to WLFC's large portfolio to avoid expensive and lengthy shop visits. Lease rent revenue increased by US$11.6 million, or 17.9%, to US$76.6 million. The improvement was driven by a larger portfolio and higher average utilisation of leased equipment. WLFC's operating lease assets, maintenance rights, and related investments also added to the strong performance. Long-term maintenance revenue surged to US$29.5 million, compared with US$1.2 million in the same quarter last year. This revenue is recognised at the end of lease periods when maintenance reserve liabilities are released from the balance sheet. The company also recorded a gain of US$16.1 million from the sale of leased equipment, following the disposal of ten engines, one airframe, and other components. In the Q3 of 2024, WLFC sold 13 engines and related parts, earning a gain of US$9.5 million. As of September 30, 2025, the company's lease portfolio was US$2,888.5 million, consisting of US$2,700.4 million of equipment held in its operating lease portfolio, US$144.8 million of notes receivable, US$27.0 million of maintenance rights, and US$16.3 million of investments in sales-type leases, which represented 354 engines, 20 aircraft, one marine vessel and other leased parts and equipment.

AAR doubles down on MRO power with HAECO Americas acquisition

AAR CORP. has completed the acquisition of HAECO Americas from HAECO Group for US$78 million in cash, subject to standard adjustments. The deal immediately expands AAR's aircraft maintenance network and supports its goal to grow its repair and engineering segment. HAECO Americas is the second-largest heavy maintenance provider in North America, behind AAR itself. It operates two major facilities—one in Greensboro, North Carolina, and another in Lake City, Florida. These sites deliver heavy maintenance, repair, and modification services for leading commercial airlines. "AAR has become the most sought-after heavy maintenance provider in North America, and we are excited to extend our leadership position with the acquisition of HAECO Americas. Over the last few years, we have significantly invested in training, lean initiatives, and proprietary technology to enhance quality and efficiency in our MRO operations. These efforts have resulted in reduced turn-around times for our customers, higher employee retention, and meaningful increases to operating margins. We plan to apply our successful model to the HAECO Americas facilities and expect to significantly improve profitability and operational performance," said John M. Holmes, AAR's Chairman, President and CEO. Holmes added that AAR has secured long-term agreements with key customers worth more than US$850 million in future sales. These contracts will keep both HAECO facilities operating at full capacity. He noted that the expanded footprint will improve efficiency and drive higher margins across AAR's repair and engineering operations. The acquisition also adds over 1,600 skilled employees to AAR's workforce. Many of them bring decades of technical experience in commercial and cargo aircraft maintenance. Around 30% are military veterans, underlining the team's strong discipline and expertise.

Spirit AeroSystems reports higher revenue but wider losses in Q3 2025

Spirit AeroSystems Holdings has reported its financial results for the third quarter of 2025. Revenue rose from the same period in 2024, driven by higher production across Boeing, Airbus, and Defence & Space programmes. Boeing 737 output was much higher, recovering from the 2024 delays caused by Boeing's joint product verification process. Spirit's total backlog at the end of the quarter reached about US$52 billion, covering work across all Airbus and Boeing platforms. However, operating losses deepened. The decline came mainly from higher estimate changes and lower programme margins on Boeing work. These were partly offset by reduced excess capacity charges and a reversal of US$48 million in accrued liabilities after resolving litigation with a former CEO. Total changes in estimates for the quarter included forward losses of US$585 million and unfavourable cumulative adjustments of US$14 million. These were driven by rising production and supply chain costs on the Boeing 737, 787, Airbus A220, and A350 programmes. Excess capacity costs stood at US$55 million, down from US$70 million a year earlier. Earnings per share (EPS) for the third quarter of 2025 were US$(6.16), compared with US$(4.07) in 2024. Adjusted EPS, excluding the deferred tax asset valuation allowance, was US$(4.87) versus US$(3.03) a year ago. Despite the wider loss, cash flow improved. Both operating cash and free cash flow usage were better than in 2024, helped by stronger Boeing 737 deliveries and favourable working capital timing. The company ended the quarter with a cash balance of US$299 million, reflecting steady liquidity and progress in recovering from past production challenges.

Kellstrom Aerospace
A VSE Aviation Company

AVIATION
LIFECYCLE SOLUTIONS

Kellstrom Aerospace Group is uniquely capable of supporting aircraft owners, operators and MROs with cost-saving solutions and value-added services at each phase of the aircraft's lifecycle. We work closely with our clients to provide tailored solutions for their evolving aircraft and engine parts needs, helping them optimize operational efficiency. Our products and services are tailored to the commercial aftermarket enabling organizations to:

- Minimize Aircraft & Engine Downtime
- Improve Maintenance and Operating Cost
- Optimize Asset Value Realization
- Access Highest Quality Genuine OEM Parts & Services

Learn more: www.kellstromaerospace.com/lifecycle-solutions

sales@kellstromaerospace.com | www.kellstromaerospace.com | 24/7 AOG: +1 (847) 233-5800

Two A321neos have been acquired for tear-down

© Shutterstock

Unimaginable and Unpredictable? Nearly New Airbus A321neos Being Cannibalised for Their Engines

Aristotle may no longer be correct when he said: “The whole is greater than the sum of the parts”!

By David Dundas

Some ten kilometres from the eastern coastline of Spain and approximately 30 kilometres north of Castellón de la Plana lies a small and relatively insignificant single-runway airport, Aeroport de Castelló. Until recently it was semi-deserted, but as a result of an ongoing global engine crisis, the airport has become extraordinarily busy, though not with tourists and passengers, no. Operating from a large building half-way along the runway is UK-based ecube, which was recently acquired by Satair, a subsidiary of Airbus. The nature of its work? Aircraft teardowns.

However, what makes this scene remarkable is not its seemingly strange location, but the aircraft themselves. The airport has not become a graveyard for the inevitable dismantling of aged aircraft which have reached the end of the road. Instead, Aeroport de Castelló has become the final resting place for nearly new Airbus A321neo jets. Where once you could expect a commercial aircraft such as the Boeing 737 to remain operational for 20 to 30 years, the aircraft being cannibalised at the airport are Airbus A321neos and they are roughly only six years old.

So, what is going on? How can a perfectly serviceable aircraft with at least fifteen more flying years ahead of it be confined to the scrap heap so early on? There are two very surprising reasons, namely its port engine and its starboard engine. However, it is not that there is anything wrong with them. On the contrary, it is because the engines are in perfect working order that the plane is being torn down.

The seeds of today’s problem were first sown when oil prices had exceeded the US$140-a-barrel mark. This coincided with a period of time when considerable effort was being put into new engine designs. Almost overnight the focus shifted from durability to efficiency. "They went too fast, and the engines had great improvements in efficiency, but they failed on maintenance," a leading aviation economist told Reuters news agency during a recent International Society of Transport Aircraft Trading (ISTAT) event.

Air Astana Airbus A320neo without engine © *Shutterstock*

That has, inadvertently, led to problems being faced by operators of the A321 today.

The A321neo is powered either by two Pratt & Whitney PW1000G (a.k.a. the GTF) engines, or two CFM International LEAP1-A engines, and those operators who opted for the Pratt & Whitney engine are facing several problems which have resulted in a shortage of both engines and parts for repairs. In 2023 Pratt & Whitney disclosed a rare powder-metal defect that could cause cracking, prompting calls for inspections of 600-700 GTF engines through 2026. In addition, there have been ongoing supply chain problems which have resulted in long repair waiting times, while there is currently a severe shortage of these next-generation fuel-efficient engines. The immediate result can be seen in the fact that according to Reuters and Cirium data, one-third of the GTF-powered Airbus fleet or 636 jets are grounded or in storage. The equivalent percentage for planes with engines from competitor CFM is 4%.

As a consequence, the economic basics of supply and demand have seen the value of a single GTF engine soar to the point where the two engines from an A321 alone are worth more than the entire jet in operational condition. "I can't say I remember it happening on this scale before, because we've never had an issue like this on such a popular engine," said Lee McConnellogue, CEO of ecube, advising that the company can release usable parts or recycle virtually the whole jet. This imbalance in supply and demand has led to more than a dozen Airbus jets being dismantled for parts after only a few years in service, while industry insiders believe there are dozens more that may be destined for the same fate. For example, questions are being asked about the future for Airbus jets currently being discarded by Spirit Airlines as it faces bankruptcy proceedings. "I don't think the die is completely cast on what's going to happen to Spirit, but it's inevitable that some of those aircraft will (be broken up)," McConnellogue commented.

To look more closely at the maths and again according to Cirium, a single GTF engine can be rented out for US$200,000 a month, US$400,000 a pair, which is not far off the cost of leasing the whole aircraft. If you then look to strip down the airframe for parts, what ecube is doing makes perfect financial sense. According to Austin Willis, CEO of Willis Lease, "It's a paradox where there's so much demand, why on earth would people be parting out aircraft?" However, airline leaders are now questioning how aircraft built to fly for more than 20 years and to be so fuel efficient are being dismantled at such an early age. "It tells you something is seriously wrong," said Willie Walsh, head of the International Air Transport Association, which recently predicted US$11 billion in costs from supply disruption this year including US$2.6 billion in engines alone.

Today, engine executives argue that the fuel savings benefit airlines on every mile flown, while maintenance delays are temporary. However, Pratt & Whitney have admitted that it will take years to end bottlenecks. Does this mean that more and more MROs who deal in USM will be eyeing up the A321neo with GTF engines for part-out, and is the shortage of engines now being looked upon as a long-term problem?

What do others directly involved with the situation think?

We approached Setna iO, a leading aftermarket aircraft part supplier headquartered in Chicago and who bought the two A321neos referenced above to learn more about the situation on the ground. We have also been fortunate enough to receive feedback from ACC Aviation who are headquartered in London, England.

AviTrader MRO: How did we reach a point where A320neo-family aircraft powered by Pratt & Whitney engines are worth more in parts than as operational assets?

One gets the sense this situation has arisen as the result of 'the perfect storm' where Tristan Brouard, VP Asset Management at ACC Aviation is concerned. He explains that; "We arrived at this point

through a convergence of structural and operational pressures that hit the market simultaneously. The Pratt & Whitney GTF fleet encountered a series of durability and inspection mandates that removed hundreds of engines from service, which in turn grounded a significant portion of the A320neo fleet. What followed was a prolonged period in which demand for engines, modules, and LLPs dramatically exceeded supply. In effect, the market bifurcated: values for complete aircraft softened due to operational uncertainty, while values for part-outs surged because engines and major components became scarce, liquid commodities. When airlines are desperate for lift and lessors are desperate for engines to keep contracted aircraft on lease, the intrinsic value shifts from the platform to the parts that keep the platform flying. That is exactly what happened here. On a slightly different tack, David Chaimovitz, CEO at Setna iO feels there is no single driving factor as he tells us that: "Many factors have made certain very young aircraft are worth more in pieces than as operational assets. The main driver is the poor durability of many GTF engines, which are being removed from wing far earlier than anticipated, causing massive shop backlogs and driving up the prices for serviceable lease engines. There is also airline bankruptcy and the associated transition costs that will drive much of this activity."

Are investors or lessors viewing the P&W-powered A320neo family of aircraft differently from CFM-powered variants?

Tristan Brouard is adamant this is very much the case. "Absolutely. The market now assigns different risk premiums to GTF-powered and CFM-powered A320neos. While the broader A320neo family remains an exceptionally strong asset class, the GTF issues have created a divergence in investor sentiment. Lessors and institutional investor's view P&W-powered aircraft with a more conservative lens due to expected downtime, weaker utilisation profiles, and higher near-term maintenance exposure. CFM-powered aircraft, by contrast, benefit from a more stable operational track record and therefore retain stronger liquidity and lease-rate factors. In practical terms, this means investors are underwriting GTF-powered aircraft with wider stress cases, with potentially higher maintenance provisioning, and more stringent credit requirements for lessees," he tells us. David Chaimovitz seems to sense it is not the engines that are being viewed differently, but that market factors affect our perspective, acknowledging that: "There is strong demand for both GTF- and LEAP-powered aircraft. These early part outs are not a sign of weakness. They are simply a sign that in certain situations, it is more economic to part out airframes and lease the engines."

How are leasing companies recalculating asset values for A320neo-family aircraft equipped with P&W engines?

While David Chaimovitz does not think they are being significantly re-calculated, Tristan Brouard senses that leasing companies are moving away from traditional book-value assumptions and instead are basing their valuations on scenario-driven cashflow models. As he comments, "In effect, the aircraft are being valued more like ageing assets with non-standard risk profiles, despite being relatively young units."

Does this signal a shift toward viewing aircraft as "parts banks" rather than long-term assets?

Here David Chaimovitz is reluctant to agree, seeing this more as a temporary phase. "I doubt this trend will last past all current engines having their first shop visits and associated AD's accomplished. There will always be niche situations where part out provides more value than continued leasing, but I believe this is a special situation that will not be occurring too often a few years from now," he shared with us. Tristan Brouard would seem to be in accord with Chaimovitz in terms of a temporary versus permanent change. He explains: "Not in a structural or permanent sense but in the short to medium term, yes, the market is temporarily behaving that way. When engines become bottlenecks, the asset with the highest marginal utility is the one that can return thrust to an operator today. That makes parted-out engines and modules far more valuable than the aircraft as a whole. However, this is a cyclical distortion, not a fundamental redefinition of the A320neo market. Once supply chains normalise and engine reliability stabilises, these aircraft will once again be treated primarily as long-term revenue-generating assets. For now, the 'parts bank' mentality is a rational response to extraordinary constraints."

David Chaimovitz, CEO, Setna iO

> **"There will always be niche situations where part out provides more value than continued leasing, but I believe this is a special situation that will not be occurring too often a few years from now."**
>
> *David Chaimovitz, CEO Setna iO*

High demand for P&W GTF engines © *Shutterstock*

Have recent Pratt & Whitney repair and recall campaigns improved the situation, or are the shortages still deepening?

In simple terms, Tristan Brouard feels things are going to get worse before they get better. He advises that: "The campaigns have improved transparency and predictability, but they have not yet eased the practical constraints. The capacity of the MRO network remains the limiting factor. Mandatory inspections, coupled with the replacement of powder-metal components, continue to place enormous pressure on turnaround times. While the long-term outlook is improving, the short-term reality is that the shortages are deepening before they get better."

Meanwhile, David Chaimovitz sums up the situation in a nutshell as he tells us that: "34% of the A320neo GTF fleet is currently parked, and shop visits are still taking 300 days. The issues have not been alleviated."

How has the market for second-hand A320 components evolved over the past two years?

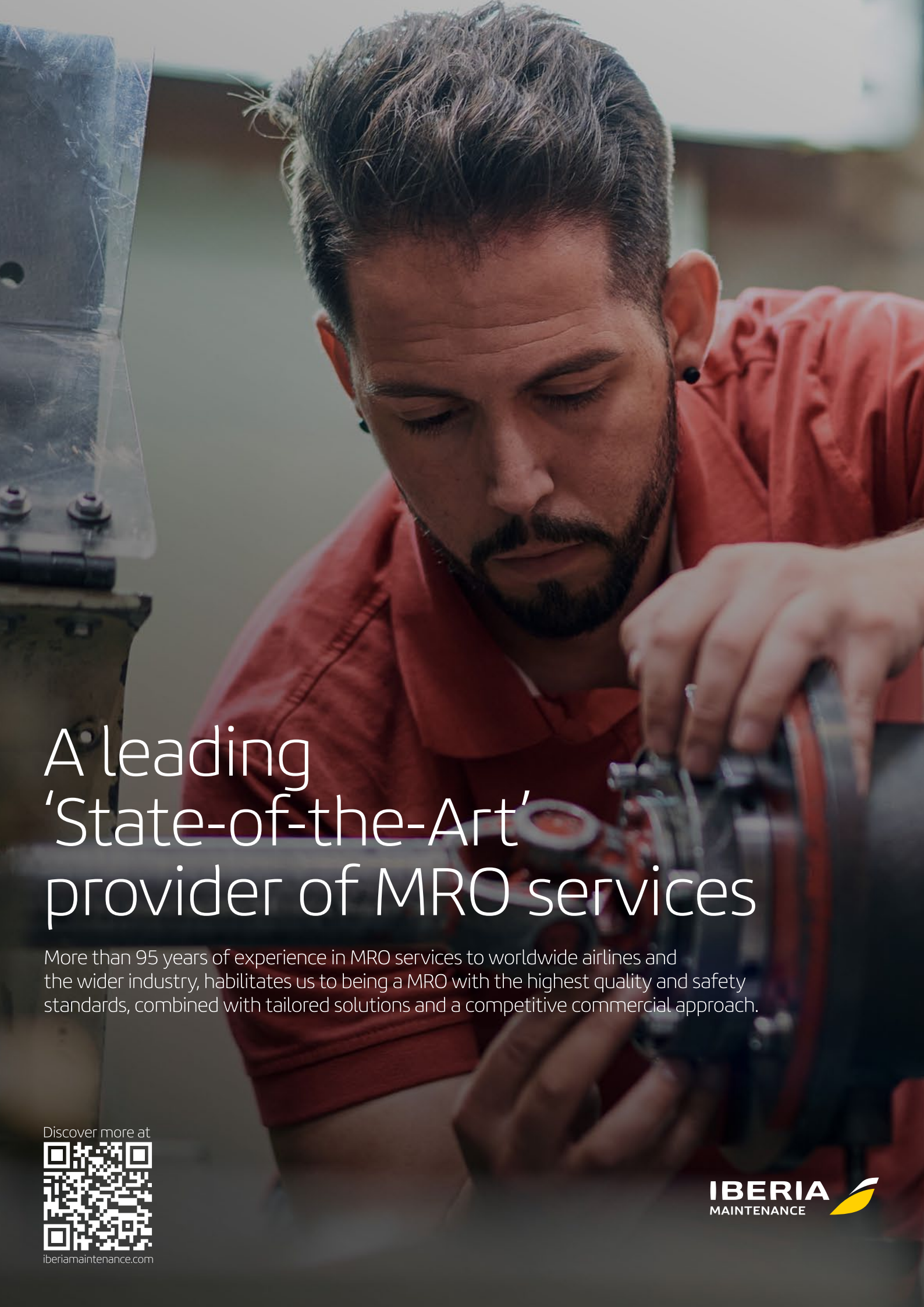
According to David Chaimovitz, "A320neo airframe components are probably 90% interchangeable with older A320ceo components. There is massive demand for components to support the 11,000+ A320s currently operating globally. Supply is stable and prices are steady, without any major increases or decreases over the previous few years, post the massive lockdown induced collapse and subsequent rebound in values." Looking at the situation from a different perspective, Tristan Brouard believes there have been significant changes, advising that: "The second-hand component market has undergone a dramatic transformation. Two years ago, trading activity was modest, largely because the fleet was young and not yet cycling through major maintenance events. Today, it is one of the most liquid and aggressively priced segments in the single-aisle market."

He adds that: "Key trends include:
• Significant increases in pricing for both engine LLPs and high-demand accessories.
• Record-high transaction velocity as operators compete for limited modules to keep their fleets flying.
• Greater participation from lessors who are stripping aircraft to re-deploy components across their portfolios.
• Emergence of specialised funds interested in parts arbitrage rather than whole-aircraft leasing."

He concludes: "In short, the secondary market has shifted from a supplementary ecosystem to a critical lifeline for operators and lessors managing grounded GTF fleets."

> **"The second-hand component market has undergone a dramatic transformation. Two years ago, trading activity was modest, largely because the fleet was young and not yet cycling through major maintenance events. Today, it is one of the most liquid and aggressively priced segments in the single-aisle market."**
>
> *Tristan Brouard, VP Asset Management, ACC Aviation*

Tristan Brouard, VP Asset Management, ACC Aviation



A leading ‘State-of-the-Art’ provider of MRO services

More than 95 years of experience in MRO services to worldwide airlines and the wider industry, habilitates us to being a MRO with the highest quality and safety standards, combined with tailored solutions and a competitive commercial approach.

Discover more at

iberiamaintenance.com

IBERIA MAINTENANCE

© EPCOR

EPCOR: 25 years of MRO Excellence

As the aviation industry continues to evolve, reliability, efficiency, and sustainability have become critical factors for airlines and operators worldwide. EPCOR BV, conveniently located at Amsterdam Airport Schiphol in The Netherlands, stands at the forefront of these developments. As a wholly owned subsidiary of KLM Royal Dutch Airlines and being part of Air France Industries KLM Engineering & Maintenance, EPCOR offers a comprehensive suite of maintenance solutions, leveraging a modern, state-of-the-art facility and a workforce of more than 200 highly skilled professionals. The company's mission is to be the number one MRO partner for flexible maintenance solutions.

World-Class APU Maintenance, Repair, and Overhaul

Auxiliary Power Units (APUs) are essential components that ensure aircraft systems function reliably on the ground and during flight. At EPCOR, we specialise in the maintenance, repair, and overhaul (MRO) of a broad range of APUs including:

- GTCP131-9A for Airbus A320 family
- APS2300 for Embraer 175/195
- GTCP131-9B for Boeing 737 family
- APS5000 for Boeing 787
- GTCP131-9C for Airbus A220
- HGT1700 for Airbus A350
- GTCP331-350(C) for Airbus A330/340
- GTCP331-500 for Boeing 777

Our ultra-modern workshop of 10,000 m^2 is equipped with advanced diagnostic, measurement, and testing facilities, enabling us to carry out efficient and rapid overhaul and maintenance processes without compromising on technical quality and reliability.

Our APU MRO services are designed to maximize operational reliability and minimise downtime. We offer comprehensive inspection, repair, and overhaul programmes tailored to the unique requirements of each customer. With a dedicated team of experienced engineers, EPCOR is able to ensure that every unit leaving our facility meets the highest international safety and performance standards.

Powering the Future with the HGT1700 APU for the Airbus A350

EPCOR has taken a major step in aerospace innovation by adding the HGT1700 APU for the Airbus A350 to its maintenance portfolio. As one of only two MRO shops worldwide licensed to service this advanced unit, EPCOR is able to demonstrate its technical leadership and strategic foresight. The HGT1700 offers enhanced efficiency, lower emissions, and high reliability—aligning with the industry's push for sustainability and performance. This expansion not only strengthens EPCOR's market position but also reinforces its role as a trusted partner for next-generation aircraft support.

The HGT1700 is derived from the GTCP331-500 APU, a model with which EPCOR has over 15 years of experience in maintenance. This longstanding expertise provided a solid foundation for EPCOR to obtain its license for the HGT1700 and underscores the OEM's confidence in EPCOR's technical capabilities.

Comprehensive Component Repair Capabilities

Beyond APU expertise, EPCOR is an important provider of (pneumatic) component repair. Pneumatic systems are critical for vital aircraft functions such as air conditioning and pressurisation. Our in-house capabilities cover the repair and overhaul of air cycle machines, starters, valves, pressure regulators, and other essential components. By managing the entire process within our facility, we deliver shorter lead times, consistent quality, and cost-effective solutions for our clients.

Our component services are supported by a highly skilled workforce and the latest repair technologies. We are committed to keeping the fleet of our customers efficient, safe, and ready for operation at all times.

© EPCOR

Asset Management

Understanding the operational challenges faced by airlines, EPCOR provides a comprehensive range of APU lease opportunities designed to support the operational needs of airlines and aircraft operators worldwide. With a strong and significant inventory of owned APUs, we can offer both short-term and long-term lease or exchange options. This flexibility ensures that our clients always have access to the right auxiliary power unit solution, whether they require a temporary replacement during maintenance or a longer-term lease to optimise the operational performance of their fleet.

By making these APUs readily available, EPCOR helps minimise aircraft downtime and keeps the operations of our customers running smoothly. Our experienced team works closely with customers to understand their specific requirements and deliver tailored leasing solutions that maximise efficiency and reliability. With EPCOR as your partner, you can count on immediate access to high-quality APUs, ensuring your aircraft stay in service and your business remains agile in a dynamic aviation environment.

Driving Innovation: Advanced Maintenance Technologies

EPCOR is dedicated to driving innovation in aviation maintenance through advanced technologies. Our use of Fluorescent Penetrant Inspection (FPI) ensures precise detection of even the smallest surface defects, enhancing safety and reliability. The introduction of 3-D-scanning technology enables accurate measurement and assessment of components, streamlining inspection and repair processes. Additionally, EPCOR is investigating how to apply Cold Spray technology, allowing for efficient, low-heat metal repairs that extend component life. These innovative solutions help reduce turnaround times and maintenance costs that will deliver exceptional value to our customers.

PROGNOS® for APU: Data-Driven Predictive Maintenance

At EPCOR, innovation is at the core of our business. We offer PROGNOS® for APU, a cutting-edge predictive maintenance platform that harnesses real-time operational data to forecast potential issues before they arise. With PROGNOS® for APU, airlines gain valuable insights into the health of their APUs, enabling condition-based maintenance scheduling, minimising unplanned downtime, and optimising the lifecycle of critical assets. This data-driven approach not only saves costs but also enhances safety and fleet reliability.

Sustainability: Shaping a Greener Future for Aviation Maintenance

EPCOR is dedicated to integrating sustainable practices throughout all aspects of our operations. Our modern Schiphol facility is a showcase of environmental responsibility, featuring a range of initiatives designed to reduce our ecological footprint:

Water Waste Treatment System: We have implemented an advanced water treatment system that recycles and treats wastewater generated during maintenance processes, significantly reducing water consumption and environmental impact.

LED Lighting: Our facility is fully equipped with energy-efficient LED lighting, lowering electricity usage and contributing to a reduced carbon footprint.

© *EPCOR*

Thermal Heater & Heat Pumps: By utilising modern thermal heaters and heat pumps, EPCOR efficiently manages its energy consumption for climate control, reducing reliance on traditional heating methods.

Automatic Cleaning Line: Our automated cleaning systems optimise the use of cleaning agents and water, minimising waste and ensuring environmentally responsible operations.

Sustainable Aviation Fuel (SAF) for APU Testing: EPCOR is one of the first maintenance providers to use sustainable aviation fuel in APU testing, further reducing greenhouse gas emissions and supporting the industry's transition to cleaner energy sources.

EV Charging Stations: To encourage the use of electric vehicles among staff and visitors, we offer multiple EV charging stations on site.

Smart Building Lighting and Climate Control: Our facility employs intelligent systems for lighting and climate control, constantly adjusting to occupancy and external conditions to maximise energy efficiency.

Bike-to-Work Incentive Program: EPCOR promotes sustainable commuting by incentivising employees to cycle to work, reducing traffic congestion and lowering our carbon emissions.

Air France Industries KLM Engineering & Maintenance: close to you, wherever you are

As proximity is a key asset for our customers, AFI KLM E&M continues to develop local units comprising subsidiaries and partners all over the world. Our MRO network guarantees our clients local access to the full range of our group services, and to specific complementary solutions, including on-wing services and local parts inventories, wherever their business is located.

EPCOR is proud to be part of Air France Industries KLM Engineering & Maintenance (AFI KLM E&M), one of the world's largest players in aircraft maintenance. Thanks to this collaboration, the group offers a complete range of maintenance services for entire aircraft fleets. From specialized APU and engine maintenance by EPCOR, to engine services, component support, and airframe line maintenance: together we provide reliable, efficient, and innovative solutions.

Customers benefit from the strength, expertise, and global infrastructure of the group, with all disciplines working together. As AFI KLM E&M Group, we can take care of the entire maintenance process for an aircraft, with the goal of maximising fleet availability, safety, and cost control for every airline.

EPCOR, your Partner for Reliable, Efficient, and Sustainable MRO Solutions

EPCOR is 100% committed to providing industry-leading maintenance solutions that ensure the safety and reliability of your fleet while supporting your sustainability goals. By choosing EPCOR, you partner with a forward-thinking organisation that combines technical excellence, operational flexibility, and environmental stewardship.

Discover how EPCOR's expertise and innovative solutions can support your operations now and in the future. For more information or to discuss your specific needs, please contact our team or visit our Schiphol facility. Together, we are powering the future of aviation maintenance.

© EPCOR

Management quotes:

"At EPCOR, our strength lies in the dedication and expertise of our people. Every day, I am proud of our EPCORians, whose unwavering commitment ensures we deliver excellent service to our customers worldwide. Their professionalism and passion drive our reputation for quality and reliability, making EPCOR a highly trusted partner in the MRO industry.

Our team continuously strives for improvement, innovation, and operational excellence to meet the evolving needs of our clients. It is their collaborative spirit and relentless pursuit of the highest standards that enable us to provide solutions our customers can depend on, now and in the future.

Furthermore, we are deeply committed to sustainability, and our ambition is to become 'The most sustainable MRO in the world', delivering exceptional results for our customers while caring for our planet."

Heidi Haveman, Managing Director

"At EPCOR, our customers are at the heart of everything we do. With our broad portfolio of auxiliary power units (APUs) installed on modern commercial aircraft, we are committed to providing flexible and tailormade solutions as well as exceptional customer support service to help our clients maximize their performance in a competitive market.

By staying ahead of industry trends and truly understanding the diverse needs of our global partners, we ensure our commercial approach is always proactive, customer-focused, and designed to drive lasting success for every operator we serve."

Rob van de Graaf, Commercial Director

"At our facility, we combine technical expertise with a passion for precision to ensure every auxiliary power unit and (pneumatic) component we maintain, repair, or overhaul meets the highest standards of reliability and safety. Our team is dedicated to leveraging the latest technologies and industry best practices, delivering solutions tailored to each client's unique requirements. By investing in training and continuous improvement, we guarantee that every component leaving our facility performs at its best, supporting your operations with confidence and maximum dependability."

Antoine van Doorn, Manager Engineering

The IAI B777 300 ERSF

More of Everything

EXCLUSIVE STC APPROVAL 100 TONS

The Game Changer

IAI's 777-300ERSF "Big Twin" is reshaping the cargo world - delivering greater volume, allowing operators to enjoy exceptional fuel efficiency, and achieving lower operating costs compared to older freighters.

As the world's only STC approved conversion of its kind, this next-generation cargo aircraft delivers unmatched capacity, sustainability, and value.

The future of air cargo - ready for takeoff.

www.iai.co.il • Aviation_Group@iai.co.il

Discover More

Redefining Air Cargo: IAI's Groundbreaking 777-300ERSF Conversion

A quiet revolution is taking place in the skies, reshaping the global air cargo industry and redefining the future of aviation logistics. At its center is Israel Aerospace Industries (IAI) and its innovative 777-300ERSF, known as the "Big Twin" – an aircraft that is transforming the cargo sector by delivering unprecedented efficiency, capacity, and sustainability.


Credit: IAI

From Vision to Reality: The Big Twin's Impact

Air cargo has always been the backbone of global trade, enabling the rapid transport of perishable goods, high-value items, and critical supplies. However, in today's fast-paced world, where demand for e-commerce and time-sensitive logistics continues to grow, the industry faces increasing pressure to deliver more for less.

IAI's 777-300ERSF addresses these challenges head-on. According to Yaacov Berkovitz, EVP & GM of IAI's Aviation, "The Big Twin delivers 25% more cargo volume compared to its predecessor, all while burning 21% less fuel per ton than older freighters like the 747-400." This makes the 777-300ERSF an ideal solution for operators seeking to expand capacity without incurring the costs of purchasing new aircraft.

Efficiency and Sustainability at the Core

The Big Twin is designed with operators in mind, combining cost-effectiveness with operational versatility. Its reduced fuel consumption not only lowers operational costs but also aligns with the aviation industry's commitment to sustainability.

"This aircraft represents the perfect balance between capacity and efficiency," Berkovitz explained during an IAI interview. "It integrates seamlessly into existing fleets, allowing operators to maximize uptime and minimize costs while extending the useful life of their aircraft by up to 20 years."

The process of converting a passenger 777-300ER into a cargo aircraft involves removing passenger cabins, reinforcing the fuselage, and installing large cargo doors, among other modifications. The result is an aircraft capable of carrying massive payloads over long distances with minimal environmental impact.

A Unique Advantage: STC Approval

A key milestone in the Big Twin's development was receiving Supplemental Type Certificate (STC) approval, a rigorous process that certifies the safety and performance of aircraft modifications.

"Achieving STC approval was critical," Berkovitz noted. "It positions IAI as the only provider with such a certification for the 777-300ERSF, giving our customers unparalleled confidence in the aircraft's capabilities." This exclusivity underscores IAI's leadership in aircraft conversions, a field in which the company has completed over 300 conversions across multiple platforms.

Driving Global Connectivity

The importance of air cargo became especially evident during the COVID-19 pandemic, when the need for rapid transport of medical supplies, vaccines, and e-commerce goods surged. IAI was at the forefront of meeting these demands, securing agreements with airlines and governments worldwide to convert passenger aircraft into freighters.

"Our partnerships with global operators showcase the trust placed in IAI's expertise," Berkovitz remarked. "The 777-300ERSF is not just a product; it's a solution that enables clients to adapt to shifting market dynamics and growing logistical demands."

Innovating for the Future

As geopolitical tensions and economic shifts continue to influence global trade, the flexibility and efficiency of converted freighters like the Big Twin are more vital than ever. Whether supporting humanitarian missions, just-in-time manufacturing, or high-value e-commerce deliveries, the 777-300ERSF is poised to become a cornerstone of modern air cargo fleets.

Mr. Berkovitz summarized it best: "IAI's strength lies in its ability to innovate and deliver solutions that meet the evolving needs of the market. The Big Twin is a testament to our commitment to excellence, ensuring operators remain competitive and capable in an ever-changing world."

For airlines and cargo operators seeking to extend the life of their aircraft, reduce costs, and enhance operational efficiency, the 777-300ERSF stands as the ultimate choice – a true game-changer in the skies.

For more information, contact IAI's conversions global experts at Aviation_Group@iai.co.il


© Shutterstock

Unplanned Events

Positioning of Critical Parts to Reduce the Impact of AOGs

By David Dundas

An unplanned aircraft on the ground (AOG) event causes a whole raft of problems for both carriers and MRO operators. For the carrier, there is the immediate financial cost in terms of having a grounded aircraft and depending on the estimated time to repair the fault(s), rearranging alternative aircraft as substitutes. For the MRO, the pressure is on to get the aircraft back in the air as swift and efficient service leads to renewal of maintenance contracts in a competitive environment. We wanted to learn more about the positioning of critical parts by MROs to mitigate the impact of an AOG incident, and we approached six of the industry's established operators to get their perspective on the challenges faced.

From your experience, what are the most common causes of Aircraft on Ground (AOG) situations related to parts availability?

Mark Shimizu, SVP EMEA at AerFin cuts to the chase with a clear indication that the most common causes of AOG situations stem from insufficient coverage of operationally critical parts in the right locations. He explains further: "Operators need dependable access to a broad network of inventory, whether through owned stock, leased solutions, or pool provider support. At AerFin, we deliver tailored services that give operators immediate access to the critical inventory they need, wherever they need it. Our goal is simple: to keep our customers flying by minimising the risk of AOG events worldwide." At FI Technics, Victor Bulanov, the company's Head of Sales and Customer Support Unit goes a bit deeper, suggesting that AOG situations arise from three primary causes that require specific crisis management strategies. He tells us that "Component failures constitute the first major cause, ranging from complex

> ***"Operators need dependable access to a broad network of inventory, whether through owned stock, leased solutions, or pool provider support."***
>
> *Mark Shimizu, SVP EMEA, AerFin*


Mark Shimizu, SVP EMEA, AerFin

> ***"An AOG will not only impact an airline's commercial operations, but also their reputation, given that aircraft will not leave when it needs to. Because of this, airlines will know that the cost of an AOG will far outweigh the cost of the part itself."***
>
> *Craig Skilton, Vice President - Components, APOC Aviation*

systems to individual sensors. These failures occur through both anticipated wear patterns and unexpected events, including premature deterioration, manufacturing defects, and external incidents such as bird strikes. When critical "no-go" components involving essential flight system components malfunction, immediate action becomes essential to maintain airworthiness. Supply chain complexities represent the second major cause, encompassing interconnected operational challenges. Extended OEM lead times and shop backlogs create critical component shortages across aircraft platforms. Manufacturing constraints affect both raw materials and subcomponent availability, while freight capacity limitations and stringent customs protocols delay time-sensitive shipments. These supply chain disruptions significantly impact piece parts procurement, causing repair times to exceed standard maintenance windows. The third significant cause involves geographical and logistical challenges. Airlines face mismatches between parts storage locations and failure points, complicated by limited freight options and customs barriers. Economic constraints prevent comprehensive inventory positioning, while strict quality requirements limit qualified supplier options at remote stations."

Jordan Greenberg, Senior Component Trader at Setna iO provides us with a concise opinion, suggesting that: "Typically, what we see when it comes to true AOGs are a lot of smaller piece parts that are easily replaceable during routine service. Seals, brackets, O-rings, etc.. Now, this can vary if we widen our idea of what an AOG is, if you are grounded at the gate waiting to taxi to the runway, normally something like this noticed on initial checks and you are waiting for it to be fixed, generally quickly." Inaccurate planning and poor order management are significant causes of AOG, often stemming from the use of static data rather than real-time information about the expected arrival time of parts. Additionally, a lack of consistent follow-up with suppliers to confirm shipment and delivery status can result in parts not arriving on time, directly contributing to an AOG event, Erkki Brakmann, CEO and Co-Founder of SkySelect, Inc. advises. He goes further to say that: "Manual processes for managing routine orders can create significant backlogs. When a large volume of orders is handled manually, it becomes difficult to track and prioritise them effectively. This inefficiency can lead to delays in receiving even standard parts, which can quickly escalate into an AOG situation. Automating these processes can streamline the supply chain and reduce the risk of delays."

Over at VAS Aero Services, Michael DeMicco, Sr. Vice President of Sales and Material Management considers there to be a variety of factors that "can contribute to extended AOG times, including supply-chain-induced shortages and delays, erroneous inventory data and inaccurate forecasting. The impact is especially severe on components with long lead times or that are no longer in production. Minimising the effect of the availability of parts on AOG times requires a proactive inventory management system that anticipates these situations and a close relationship with a responsive supply partner who possesses visibility into parts and components across the global aftermarket. A partner who can work with you to locate, stage and deliver parts whenever and wherever you need them."

How does an AOG due to parts shortage typically impact airline operations — both operationally and financially?

Craig Skilton, VP Components at APOC Aviation looks at the problem from a supplier's perspective, noting that APOC always appreciates the potential impact than an AOG can have to on airline customer and this is always in the forefront of their minds when trying to rectify situations. He adds that: "Typically, cost and reliability would

Craig Skilton, Vice President - Components, APOC Aviation

be the first two priorities when sourcing a part. In these situations, however, these priorities are quickly replaced by availability and location. An AOG will not only impact an airline's commercial operations, but also their reputation, given that aircraft will not leave when it needs to. Because of this, airlines will know that the cost of an AOG will far outweigh the cost of the part itself. Therefore, it is common to pay a premium for a required part, as well as an additional fees to get it quicker, such as the fastest transport to specific locations at specific times." Jordan Greenberg equates an AOG incident almost having a virtual ripple effect, as he explains: "An airline grounding and flight cancellation due to an AOG is detrimental to an airline. These companies are working on very slim margins and, as we saw in Covid and afterwards. Small disruptions can cause lasting issues. cancelling one flight causes a domino effect where it can take up to 5 or 10 routes to catch up to their initially planned route. Expanding on this idea, it leaves a negative taste with their customers which can cause customers to move to other similar options."

AOG situations immediately trigger crisis management protocols with cascading operational and financial consequences. Operationally, airlines enter crisis mode, simultaneously managing flight cancellations, passenger rebooking, and cargo rerouting. This creates a complex web of disruptions affecting crew duty times, maintenance scheduling, and network connectivity. Airlines must rapidly evaluate multiple solutions - from replacement aircraft deployment to network schedule adjustments - while working every available


© Shutterstock

channel to restore service, suggests Viktor Bulanov. He expands on this by noting that: "The financial impact compounds hourly through multiple cost streams. Beyond direct revenue losses from the grounded aircraft, airlines face substantial premium charges for urgent logistics, last-minute parts sourcing, and mandatory passenger compensation under various regulations. Remote station AOGs particularly escalate costs through complex logistics requirements and limited support options, often doubling standard procurement expenses."

Both Michael Demicco and Erkki Brakmann are of a like mind in relation to the consequences of an AOG event. An AOG caused by parts' shortages significantly disrupts airline operations and impacts finances. AOG down-time triggers flight delays and cancellations, logistical complications with crews and passengers, and adds costs through compensation, expedited shipments, and labour. Grounded aircraft result in lost revenue, while penalties for poor on-time performance and reputational damage can diminish future earnings. DeMicco makes it abundantly clear when he tells us that: "The potential impact of extended AOG times underscores the importance of proactive supply chain management, close collaboration with parts supply and logistics partners, and inventory strategies to minimise operational disruptions and financial losses related to AOG events," while Erkki Brakmann feels that: "AOG situations directly impact airlines' operational efficiency and financial stability, and can also have long-term negative effects on their reputation. To avoid these issues, airlines must find a balance between having sufficient spare parts and managing the high costs associated with maintaining an inventory."

To round off this section, Mark Shimizu has provided a comprehensive overview of the impact of an AOG event. "Any prolonged AOG situation is very serious for an airline. Operationally it can lead to flight delays and cancellations as the essential maintenance can't be carried out due to lack of available material. This increased maintenance downtime can affect the customer experience and ultimately confidence in the brand. Financially there are direct costs associated with expediting the shipping of material, additional labour and potential compensation to customers. This situation has been exacerbated by the global supply chain challenges that the industry has been experiencing for the last few years. While there are early signs recovery, persistent shortages of piece parts continue to disrupt repair timelines, extending turnaround times and creating operational challenges across the industry. Operators often have to invest in larger volumes of critical parts across multiple locations. These shortages not only disrupt operations but also drive up the market value of parts, creating additional financial strain. The result is delayed schedules, increased costs and operational inefficiencies — all of which highlight the need for a trusted partner with ready-to-deploy inventory."

What role does demand forecasting play in preventing parts-related AOGs?

Demand forecasting serves as the primary tool in transforming AOG response from

reactive to proactive. By analysing usage patterns, reliability data, and maintenance schedules, airlines can identify potential failures before they ground aircraft. This predictive approach is particularly crucial for "no-go" items and high-failure-rate components where immediate availability is essential for maintaining operations. Viktor Bulanov explains: "FL Technics implements this preventive approach by analysing parts performance data. We track failure patterns across our global customer base to identify and pre-position critical components where they're most likely to be needed. This data-driven approach shapes our inventory decisions for A320, Boeing 737, and Embraer fleets, ensuring parts availability before AOG situations occur. Our forecasting methodology translates into tangible operational benefits through optimised supply chain efficiency. We analyse customer-specific consumption patterns to maintain appropriate stock levels across our global network, focusing particularly on emergency-critical parts. This proactive positioning, combined with pooling arrangements and exchange programmes, significantly reduces AOG risk while optimising inventory investment. The result is a shift from emergency response to planned availability, particularly for components with historically high failure rates or extended lead times."

The Material Planning division is obviously a key cog in the operations when it comes to avoiding AOGs. Jordan Greenberg suggests that: "A well balanced and properly allocated forecast will drastically reduce not only the occurrence, but also the severity of AOGs. Knowing within a reasonable margin of error how many of a certain part is going to be used daily/weekly/monthly will give airlines a clean look at what parts could potentially cause on AOG and clear line of sight to what they need." Over at SkySelect, Erkki Brakmann has helped us by identifying three key areas where forecasting is next to impossible: "Unknown or First-Time Use Materials: When a new or unexpected part is required for the first time, forecasting can be challenging and may not yield accurate results. In such cases, data from the manufacturer (RSPL) can be helpful. This data can assist in making forecasts or, at the very least, in mitigating the risks associated with high-impact parts. Issues at Remote Stations: When a part is required at a remote station, even with an accurate forecast, it may not be financially or practically sensible to send the part there. Financially, this could be due to a low "local forecast" for demand, and practically, it might be because there aren't enough personnel available to handle the task. In such cases, it may be more efficient for the team to take the part with them instead. Supplier Issues: As mentioned above, while forecasting can inform decisions about suppliers, it cannot address a supplier's internal problems that cause delivery delays."

"Demand forecasting is essential for preventing parts-related AOG events. Without solid forecasting, organisations risk overstocking some items and understocking essential ones, increasing AOG risk and operational costs. Thus, analysing historical data, LLP schedules, maintenance cycles and failure trends helps operators anticipate parts needs, resulting in accurate inventory planning and management." Michael Demicco further tells us: "At VAS, we work with customer partners on maintaining a detailed inventory profile, one than anticipates parts replacement, and a right-sized level of inventory." Accurate forecasting is vital to reducing the risk of AOGs, but as Mark Shimizu explains, it must be dynamic. "Forecasts need to be constantly updated with real-time variables, such as turnaround times, live fair market values, upcoming maintenance events, variations in utilisation, inventory levels, consumption trends, and vendor performance." He then adds that: "At AerFin, we work closely with our customers to ensure their forecasts remain agile and informed, helping them anticipate challenges and secure the right inventory ahead of time."

To conclude, Craig Skilton senses that we are entering a time where technology, especially analytical orientated solutions around predictive maintenance, can help mitigate the risk around high-failure-rate components before they lead to AOG situations. "Rather than simply having awareness of high-failure-rate components, those companies, like APOC, that effectively leverage modern technology can benefit through detailed trend analysis and statistical models that correlate failure events. Those inputs can be translated into fully optimised stock levels, ensuring that airlines maintain the right stock based on actual usage and predicted failures. The output of which, can be provided to suppliers ahead of time, enabling the sourcing event to be focused on finding the best price, rather than price being pushed down the priority list when an AOG comes along," he informs us.

AOG often requires the immediate availability of spare parts at a remote location. Within an airline operation, who is now in the driving seat to make the parts available?

The most important way this industry can collaborate is with transparency, i.e., if airlines give their vendors, MROs, and OEMs a view into what is most troublesome for their sourcing team and the most common and preventable causes of AOGs. Consequently, as Jordan Greenberg suggests, "We can all work together to

Michael DeMicco, Senior Vice President Sales & Material Management, VAS Aero Services

> ***"Demand forecasting is essential for preventing parts-related AOG events. Without solid forecasting, organisations risk overstocking some items and understocking essential ones, increasing AOG risk and operational costs."***
>
> *Michael DeMicco, Senior Vice President Sales & Material Management, VAS Aero Services*

Viktor Bulanov, Head of Sales and Customer Support Unit, FL Technics

> ***"Our role as an integrator focuses on creating tangible benefits through resource optimization. We manage pooling agreements and exchange programs that have demonstrated success in reducing AOG response times by sharing resources across partners."***
>
> *Viktor Bulanov, Head of Sales and Customer Support Unit, FL Technics*

make sure these parts are always ready to go for the end user. This goes both ways, listing the correct condition and parts that are ready to go on ILS, Partsbase, and any other platform can create the clarity needed for airlines. At Setna we update our ILS listing every morning to correctly show all of our available inventory." MROs, OEMs, and airlines need to move beyond isolated planning and engage in a collaborative demand forecasting process. For example, airlines could share their upcoming maintenance plans, operational data, and demand forecasts. This transparency enables OEMs to more accurately predict component wear and tear, while MROs can anticipate the need for specific repairs and parts. As SkySelect's Erkki Brakmann also suggests: "Securing access to critical parts, especially those with long lead times or a high risk of stock-outs, requires innovative contractual arrangements that balance cost and reliability. These arrangements often come at a higher expense, as OEMs may charge a premium of 5-20% above market rates to mitigate risk. However, this trade-off can provide airlines with greater peace of mind, knowing that critical parts are readily available."

"Sharing real-time data on inventory and maintenance schedules and history increases transparency and supports proactive planning. Forecasting based on historical and predictive data helps streamline parts procurement," Michael DeMicco advises, adding that: "And long-term supplier partnerships are critical for securing priority access to essential components. VAS works closely with customers to analyse parts needs and develop solutions that encompass everything from forward staging of critical parts to asset pooling arrangements to exchange programmes. The key for us is early involvement in the strategic planning process to assure a responsive and resilient inventory management programme." Mark Shimizu at AerFin is of a similar mind when stating that: "Collaboration is most effective when there's transparency and early communication. By sharing advanced notifications of upcoming events — such as potential part shortages or maintenance peaks — MROs and OEMs can help operators and suppliers prepare proactively. Providers with strong teardown pipelines, like AerFin, play a key role in creating flexible, collaborative solutions that ensure operators have the parts they need without delay." Meanwhile, at APOC Aviation, Craig Skilton believes that: "The onus initially is on the airline's supply chain team to give visibility around what parts are needed in those critical locations, even outside of contract situations, suppliers are generally receptive to place stock in remote warehouses. For suppliers like APOC, if there is known and repeat demand, then the cost of moving stock remotely can be offset by the customer requirements they know they will soon be servicing. Without that demand visibility, then suppliers will be more comfortable holding stock at the main hubs to support the wider customer demographic."

Ultimately, effective collaboration between MROs, OEMs, and airlines requires transforming traditional transactional relationships into long-term strategic partnerships. By sharing maintenance forecasts, inventory data, and usage patterns, stakeholders can prepare for demands before they become urgent. This partnership approach extends to sharing specialized tools and test equipment, reducing individual investment needs while maximising resource utilization. As Viktor Bulanov expands: "FL Technics enables these partnerships through practical collaboration tools and established industry relationships. Our platform processes over 50,000 parts requests monthly, connecting 1,000+ suppliers with airlines and repair stations. We combine this extensive network with flexible tool sharing options and joint planning initiatives, helping partners reduce capital investments while maintaining operational readiness. Our role as an integrator focuses on creating tangible benefits through resource optimisation. We manage pooling agreements and exchange programs that have demonstrated success in reducing AOG response times by sharing resources across partners. This collaborative approach, supported by our established relationships with OEMs and repair stations, creates measurable efficiency improvements while reducing individual stakeholder costs."

How should airlines prepare for the event that a critical part is missing at a remote long-haul destination?

This has to be the most challenging scenario and a nightmare for many MROs, although it is clear there are mitigating options and effective solutions to the problem. "Airlines should proactively establish partnerships in various destinations to ensure access to critical parts. This includes participating in airline inventory pools, where member airlines share access to a collective stock of parts and materials," suggests Erkki Brakmann, adding that: "To go beyond their default set of suppliers, airlines should invest in a tool that provides market insights. This technology allows them to search for and locate parts in real-time, identifying available stock at the closest destination. This capability is crucial for identifying alternative sources when a primary supplier is unable to deliver, enabling a more agile and responsive supply chain." He concludes that: "Good preparation depends on planning and forecasting based on real-time market availability. Rather than relying on static or

historical data, airlines should use real-time inventory tracking to optimise their stock level. This means stocking critical parts not just at home bases but also at strategic, long-haul destinations where they are most likely to be needed." It's all about readiness, being in position to respond when an emergency arises according to Michael DeMicco. "Assuring critical parts availability entails a variety of strategies: inventory pooling programmes for shared access to key components, establishing loan or exchange agreements with partner airlines and local MROs, and working closely with a supply and logistics partner, like VAS, who can expedite shipments and forward-position high-failure parts at strategic locations, based on mutually determined demand data. Contingency planning ensures an operator can respond quickly and efficiently to parts shortages, even when far from their home base," he further advises.

Mark Shimizu feels that there are several strategies which could be adopted to mitigate risk. "Holding inventory at remote destinations isn't always the most efficient use of capital, but International Airlines Technical Pooling offers a cost-effective safety net by sharing resources between airlines. Another effective approach is to work with suppliers who operate a truly global footprint. AerFin holds substantial inventory across four strategically located facilities — Gatwick, Newport, Miami, and Singapore — giving airlines immediate access to the parts they need, backed by local support from our teams," he suggests.

Remote station AOG preparation demands comprehensive advance planning and tested response procedures. Airlines must identify critical network points, validate local support capabilities, and establish contingency plans before emergencies arise. This preparation includes testing customs clearance processes, confirming handler capabilities, and establishing multiple transport options for each route. Viktor Bulanov tells us that "FL Technics supports airlines through proven fast-reaction processes at major long-haul destinations. Our network combines warehouses and technical stations across Europe, Asia-Pacific, Americas, and the Middle East with established local partnerships. We maintain ready-response arrangements with customs authorities and handlers, regularly testing these processes to ensure reliability when urgent clearance is needed. Our 24/7 AOG desk coordinates multiple response options simultaneously, from dedicated onboard couriers to expedited air freight. We maintain alternative routing plans and backup transport modes for each major route, enabling quick shifts between solutions if initial options face delays. This multi-layered approach, supported by local partnerships and tested procedures, consistently delivers parts to remote stations within critical response windows."

Jordan Greenberg is happy to share the strategy adopted by Seta iO, telling us that: "... we have strategic locations to lessen the lift on operators in need of parts all over the world. Now there are still locations that exist where many distributors may not have stock, but a concentrated pool of vendors that have reach, globally, is critical to getting the best service and quickest action to AOGs. Outside of that an airline inventory pool or partnership with airlines that run similar routes can be effective in joint action with quality vendors."

Should airlines keep critical, high-failure-rate components on board the aircraft as a flight kit or operate a warehouse at remote destinations?

The choice between flight kits and remote warehousing represents a critical balance of operational insurance versus cost efficiency. Flight kits function as immediate insurance for critical, lightweight components but add fuel burn costs and require regular updates. Like any insurance policy, the key is determining the right coverage level - carrying only those items whose immediate availability justifies their weight penalty and inventory costs.

Viktor Bulanov at FL Technics informs us that the company's experience: "... shows the most efficient solution combines minimal onboard inventory with strong regional support networks. Small, frequently needed components like specific sensors or avionics cards may justify onboard carriage, while larger items are better accessed through regional warehouses and pools. This approach considers both usage frequency and local support infrastructure, ensuring critical parts remain accessible without unnecessary weight or inventory burden." He then adds that "We support airlines in optimizing this balance through regional hub networks and pooling arrangements. Our analysis of component usage patterns, weight impacts, and carrying costs helps determine which parts belong onboard versus in regional stock. This strategy has proven particularly effective for remote operations, where the right mix of onboard spares and regional pool access provides cost-effective insurance against AOG situations." In turn, Michael DeMicco suggests that: "The best approach is probably a mix of flight kits, remote warehousing and collaboration with a global parts supply and logistics partner. Onboard flight kits for high-failure, lightweight components can minimise downtime at remote destinations, but there are weight and space limitations. On the other hand, setting up a warehouse at a busy remote location carries with it added expense. Partnering with a parts supply and logistics partner, such as VAS, with global reach provides flexibility and coverage while minimising risk and expense."

> ***"To go beyond their default set of suppliers, airlines should invest in a tool that provides market insights. This technology allows them to search for and locate parts in real-time, identifying available stock at the closest destination."***
>
> *Erkki Brakmann, CEO & Co-founder, SkySelect, Inc.*

Erkki Brakmann, CEO & Co-founder, SkySelect, Inc.

In accord with Bulanov and DeMicco, Mark Shimizu suggests that: "Flight kits and remote warehouses can provide some assurance, but they are often capital-intensive solutions. A more efficient approach is to work with a supplier that offers extensive global coverage and rapid response capabilities. AerFin's network allows operators to avoid tying up capital in flight kits or remote stock, while still having confidence that critical parts are accessible whenever and wherever they're needed." Clearly Viktor Bulanov feels that the solution to this problem is a careful balancing act between availability and cost. As he explains:

Jordan Greenberg, Senior Component Trader, Setna iO

"The idea of keeping extra weight on every flight as assurance would scare most every airline executive I believe. When thinking about opening up a warehouse there is more than just the cost of the warehouse or the cost of the parts to consider. Overhead cost of employees, keeping the parts in proper storage temperature and the necessary maintenance of parts over time, if some of these parts are safety related then there is normally an expiration date or recertify date adding even more complexity and cost. Keeping these parts or kits in their main warehouse or with consignment would be the most effective way to have constant access and monitoring without too much added cost."

It seems that there is no single operative solution and that a mix of options will always be the best way to mitigate for problems directly related to arts' availability. As Jordan Greenberg tells us: "Airlines must weigh the continuous cost of carrying a flight kit against the high but infrequent cost of a flight cancellation. The on-board flight kit strategy provides immediate access to critical, high-failure-rate components, saving millions in recovery costs for non-deferrable failures. However, it incurs a constant fuel cost from the added weight. The remote warehouse strategy avoids this continuous cost but risks significant delays and expenses if a part is needed immediately at a remote location. The best solution is a hybrid model, using flight kits for small, critical parts and remote warehouses for heavy or deferrable components, based on a detailed cost-benefit analysis of each part and route. Another factor to consider is whether the crew at the remote destination is capable of installing the component or executing the task. If not, then the best strategy may be to always keep it with the engineer, typically at the base station."

"Airlines must weigh the continuous cost of carrying a flight kit against the high but infrequent cost of a flight cancellation. The on-board flight kit strategy provides immediate access to critical, high-failure-rate components, saving millions in recovery costs for non-deferrable failures."

Jordan Greenberg, Senior Component Trader, Setna iO


© Shutterstock

Ensuring the Cost-Effectiveness of Aircraft Heavy Checks

Investigating the economics of C- and D- checks

By David Dundas

There is no question that in the field of MRO, aircraft maintenance checks present an opportunity to streamline processes in order to both reduce costs and also time aircraft spend on the ground. Add questions surrounding scheduling and availability of parts through the seemingly constant bugbear of supply chain problems, and all of a sudden these checks, and especially C- and D-checks require the same degree of choreography as a performance of Swan Lake!

When it comes to cost efficiencies, it is obviously more difficult to make major savings on A- and B-checks when compared to heavy checks, and that is as a consequence of their nature and the time involved. Admittedly A-and B-checks are carried out appreciably more frequently than their bigger relatives, but even then the total hours throughout the lifetime of an aircraft still don't come close when you consider an A-check usually takes, say, around 50 man hours and is performed roughly every 500 flight hours. Even a B-check only takes 160-180 man hours and is carried out every six to eight months. A D-check, on the other hand, may be performed just once every six to ten years, but it will consume over 50,000 man hours and will likely last for around a two-month period.

Logically, there are going to be more opportunities for significant cost savings for heavy checks, so we decided to delve deeper into the field of C- and D-checks. In particular, we wanted to explore the areas of cost drivers, operational strategies and also today's hot topic of AI, and what effects they can have on heavy maintenance. We are grateful to AMROS Global, FL Technics, Vallair and VAS Aero Services for their invaluable input.

The main cost drivers during a typical C- or D-check

Unlike components or engines, where material often represents more than 70% of the total invoice, our contributors all agree that base maintenance primarily involves highly skilled labour. According to Pascal Parant, Chief Commercial & Marketing Officer, Vallair Group, this is " ...typically split between: B1 Licensed Aircraft Maintenance Technicians who are responsible for the mechanical and structural aspects of the aircraft: airframe, engines, landing gear, fuel systems, hydraulics, and pneumatics. They perform inspections, troubleshooting, repairs, replace components, and certify the aircraft for return to service for mechanical systems; B2 Licensed Aircraft Maintenance Technicians who are specialised in avionics and electrical systems. They work on navigation, communication, flight

management, autopilot, electrical power systems, and related troubleshooting and testing. They certify the aircraft for return to service for avionics and electrical systems, and sheet metal / composite technicians, who handle structural repairs, corrosion treatment, and repairs on skins and frames." Parant adds that in addition to direct labour costs, engineering hours are also incurred when faults are found during the check such as corrosion, dents, cracks, etc. while also pointing out that there are, of course, materials involved, but those generally represent a minor part of the final invoice. "We must also consider hangar fees. Vallair's large hangars - capable of accommodating aircraft worth several hundred millions of dollars -are extremely expensive to operate. Hangar fees are charged in addition to labour. In case of "zero-stress" waiting periods (e.g. waiting for OEM repair instructions), technicians cannot work, but the aircraft still occupies the hangar. Hangar fees help offset the financial impact of these non-productive periods," he concludes

Juozas Lapeika, Deputy CEO Base Maintenance, FL Technics

Juozas Lapeika, Deputy CEO for Base Maintenance at FL Technics advises that: "On the surface - the main cost drivers during a typical C- or D-check include man hours (labour costs), materials, and spare parts, encompassing the replacement of consumables, rotables, and expendables. In addition, non-routine findings - such as defects or unplanned repairs - can substantially increase total maintenance costs." However, he also points out that: " ...if we dig deeper - delays in material deliveries, OEM responsiveness, and problematic repairs can extend the turnaround time (TAT), leading to higher indirect costs for both MROs and airlines. Low workload periods during maintenance, often caused by such delays, further contribute to overall cost escalation." Giovanni Renga, Chief Technical Officer at AMROS Global sees additional problems beyond the obvious, pointing out that: "On well-maintained aircraft, an additional 10–20% of costs typically arise from findings discovered during routine checks once the aircraft is accessed. For poorly maintained or older aircraft, this can increase significantly — it's not uncommon to see even 100% of the routine labour in NRCs! In addition, if the aircraft requires repainting or a cabin refurbishment, these elements can quickly add considerable expense. Even minor cabin brush-up activities tend to accumulate costs once combined with the labour hours and material they require."

Kevin Ferreiro, Sr. Director Business

> ***"...if we dig deeper - delays in material deliveries, OEM responsiveness, and problematic repairs can extend the turnaround time (TAT), leading to higher indirect costs for both MROs and airlines."***
>
> *Juozas Lapeika, Deputy CEO Base Maintenance, FL Technics*

© Shutterstock

Development, VAS Aero Services, LLC suggests that "The main cost drivers during a typical aircraft C- or D-check include labour, replacement components and piece parts. Ongoing market pressures for parts supply chain and labour availability are negatively impacting the scheduling and performance of these major maintenance checks. Specialised inspections, structural repairs, and system overhauls require skilled technicians and precise tools. Regulatory compliance and certification processes also add time and cost. And the extended aircraft downtime required is increasing indirect costs, such as lost revenue and hangar fees. These factors make C- and D-checks the most resource-intensive and financially significant events in an aircraft's maintenance lifecycle." He concludes that: "Efficient planning and resource management are essential to controlling these costs."

The criticality of long-term maintenance planning in controlling costs during heavy checks

"Long-term maintenance planning is absolutely essential for keeping heavy check costs under control," says Giovanni Renga. "A solid and accurate mid- and long-term plan helps prevent a range of unforeseen actions once the aircraft enters the hangar. Effective planning means you can avoid last-minute AOG material orders, ensure the maintenance slot runs as scheduled, and prevent additional operating costs that might arise from delays, such as flight cancellations, schedule disruptions, or ACMI wet lease aircraft resulting in revenue loss." He then advises us further that: "Experience plays a big factor — knowing what the physical processes of aircraft maintenance look like helps a planner to determine what makes sense to include in a work package, and save time and costs. Mere scheduling may not provide the desired outcome, as it often lacks experience values such as those described above that can generate cost savings." In relation to planning, Juozas Lapeika likes to adopt a proactive approach: "If MROs know in advance which aircraft and work packages (WPs) will be delivered, and have access to a statistical database, they can prepare by preloading critical materials and adjust milestone plans to perform inspections as soon as possible in zones that are statistically identified as potential bottlenecks. This proactive approach helps to reduce turnaround times (TATs) and control overall maintenance costs. Additionally, low workload periods can be effectively utilized for supplementary activities such as aircraft painting, storage and periodic checks, or minor modifications for other customers, ensuring continuous productivity and optimized resource use throughout the maintenance cycle," he says.

Pascal Parant suggests that: "Securing the right slot at the right time is essential. Base MROs, like Vallair, operate much like airlines: during peak seasons, prices are higher, and more competitive during low demand periods. Airlines that can schedule heavy checks during traditionally quieter periods usually obtain better pricing. He sees long-term planning ahead as a means of combatting supply chain problems, advising that it: "... is also critical due to ongoing supply chain constraints and long lead times. Pre-ordering parts before the aircraft enters the hangar can reduce TAT and avoid AOG or stop-work delays. If the airline has several aircraft scheduled for

maintenance back-to-back, there is also a volume effect, which can reduce costs since most procured parts have a higher chance of being used across multiple checks."
To round off this section, Kevin Ferreiro helpfully suggests ways of reducing labour costs, pointing out that: "By forecasting maintenance needs in advance, airlines can optimize scheduling, staffing, resource allocation, and parts procurement, thereby reducing downtime and labour expenses. Strategic planning also involves combining inspections, repairs, and upgrades to minimize disruptions, and includes close collaboration with parts supply and repair partners, such as VAS Aero Services, to assure ready availability of parts and specialty repair services. In contrast, poor planning inevitably leads to delays, part shortages, and higher costs."

Operational strategies or process changes which have proven most effective in reducing turnaround time and costs

The most effective strategies for reducing turnaround time (TAT) and controlling costs are centred on strong teamwork, proactive planning, and effective communication. Close cooperation with the client and predictive preloading of materials are key factors in ensuring smooth workflow and minimising delays. However, beyond this, Juozas Lapeika makes it clear that: "In addition, prioritising critical inspections and maintaining proactive communication with OEMs, even before structural damage evaluations, are essential for avoiding unnecessary downtime. A deep understanding of nacelle component repairs and familiarity with previous OEM repair proposals also play an important role. Ensuring that repair materials are available in stock, even those with short shelf life, helps MROs respond quickly to findings and maintain schedule efficiency." Pascal Parant sees the key area of manpower as critical to success, and forward planning in this area vital to future operations. He explains: "Running two shifts, six days a week requires many skilled technicians, but the industry currently faces a global shortage. Estimates suggest over 700,000 new maintenance technicians will be needed globally over the next 10–15 years. However, becoming fully proficient takes time: around three years of study, five years to be autonomous, and seven years to become highly skilled. Therefore, one of the most effective improvements is to develop integrated training academies to train the next generation which we are doing at Vallair. Increasing workforce availability allows more shift rotations, improves TAT, and ultimately returns aircraft to revenue service sooner — even if the MRO labour line item appears higher.

As is a continual theme throughout, planning well in advance in order to mitigate supply-chain problems is relevant here as well, as Giovanni Renga advises. "Accurate mid- and long-term maintenance planning is key to maintaining control over both cost and timing. Another important factor is the early definition of materials required for specific cabin tasks, such as brush-ups, relining, or carpet replacements, as well as for major component changes, including landing gears, heat exchangers, and fuel or oil coolers — parts not easy to get!" Beyond this, he also suggests that: "In addition, regular aircraft and cabin condition checks before the maintenance slot allow long lead-time parts to be ordered in advance and manpower to be planned precisely. Together, these measures help avoid unforeseen expenses and ensure on-time completion of heavy checks, which is crucial for revenue generation." To finish off this section, Kevin Ferreiro focuses on operational strategies, especially those "...that effectively reduce aircraft maintenance turnaround time and costs, focusing on efficiency, planning, and technology. Lean maintenance principles streamline workflows and eliminate bottlenecks, while predictive maintenance using real-time data prevents unplanned repairs. Standardised procedures, modular component replacement, and cross-skilled technicians enhance flexibility and speed. Integrated scheduling and supply chain coordination ensure timely parts availability. Therefore, third-party parts supply and repair partners such as VAS Aero Services also play a key role in controlling costs. Together, these process improvements minimise downtime, optimise labour and resources, and deliver significant cost savings while maintaining high operational reliability."

How digitalisation—such as using AI, digital twins, or maintenance software— is changing the economics of heavy checks

Digitalisation is reshaping the economics of aircraft maintenance heavy checks by enabling predictive, data-driven operations. AI and digital twins help detect potential issues early, reducing unplanned repairs, parts procurement delays and downtime. Maintenance software enhances planning, inventory management, and workforce utilisation, improving efficiency and resource use. Additionally, as Kevin Ferreiro tells us, "Digital integration with parts vendors like VAS Aero Services enhances parts availability status, limiting out-of-stock delays and reducing down time. These technologies transform maintenance from reactive to proactive, lowering labour and material costs, extending asset life, and significantly improving cost predictability and operational reliability across the

> ***"Running two shifts, six days a week requires many skilled technicians, but the industry currently faces a global shortage. Estimates suggest over 700,000 new maintenance technicians will be needed globally over the next 10–15 years."***
>
> *Pascal Parant, Chief Commercial & Marketing Officer, Vallair Group*

Pascal Parant, Chief Commercial & Marketing Officer, Vallair Group

maintenance lifecycle." However, Juozas Lapeika at FL Technics makes it clear it is not all plain sailing at the moment, explaining that: "Currently, the lack of real-time online data is the main challenge preventing AI, digital twins, and other digital tools from delivering their full value. However, the future is promising, as data availability and system integration are improving rapidly. These technologies are expected to transform maintenance economics by enabling predictive planning, reducing non-routine work, and lowering turnaround times and overall costs."

At AMROS Global, Giovanni Renga sees digitisation not just increasing efficiency, but also a means to improve process coordination and optimisation. "With adequate software-based check planning, both coordination and efficiency of maintenance processes can be significantly improved. Digitalisation helps synchronise multiple jobs that depend on the same aircraft condition: for instance, when the aircraft is on jacks, fuel tanks are defueled, engines are running or shut down, and electrical or hydraulic power is off. Performing these activities in coordinated blocks avoids repeated setups and saves considerable time. Digital tools also enable better process coordination and optimisation. For example, by grouping all tests that require the same conditions, such as pre-input and post-check tests, they can be executed together and then removed from the AMM sequence. Furthermore, digitalisation supports job coordination, such as aligning planning or adding IDG oil cooler cleaning with engine shop visits, or combining landing gear swing tests, freefall checks, and locking mechanism verifications. Lastly, records digitalisation can help swiftly identify maintenance documentation errors and inconsistency – often a mere afterthought that can lead to heavy financial impact," he explains. Finally, at Vallair, Pascal Parant succinctly tells us that: "These technologies increase speed, traceability, safety, and efficiency. However, adoption is progressive and cost remains a barrier. A few years ago, an inspection drone could cost over US$1 million, but prices are decreasing. The challenge is the rapid obsolescence cycle: technology evolves faster than amortisation periods, which may pressure financial structures."

Giovanni Renga, Chief Technical Officer, AMROS Global

Potential for measurable savings through adopting paperless documentation or real-time progress tracking systems

Kevin Ferreiro and Pascal Parant are both adamant and crystal clear when it comes to creating critical savings. Ferreiro explains that: "... adopting paperless documentation and real-time progress tracking systems generates measurable savings in aircraft maintenance. Digital tools reduce printing, storage, and administrative costs while minimizing human error and delays. Real-time tracking improves task visibility, enabling faster decision-making, better resource allocation, and reduced turnaround times. These systems also streamline regulatory compliance and record-keeping, enhancing accuracy and traceability, and the quality of documentation. Digital tools also allow for integration with third-party vendors like VAS Aero Services, enabling streamlined parts procurement and specialty repair scheduling. Overall, digital maintenance management significantly boosts efficiency, lowers operational costs, and improves aircraft availability and reliability." Parant is very succinct as he advises that: "Paperless systems enable real-time progress monitoring, augmented reality or video-supported task guidance, faster invoicing and documentation closure, better visibility on tasks that risk delaying TATs. However, implementation costs are significant, and not all MROs can transition immediately. But within three to five years, Vallair believes, digital documentation will likely become standard practice across the industry." Giovanni Renga is equally concise, as he point out that: "Going paperless reduces printing, scanning, and paper costs, while also saving time through faster information access and fewer administrative tasks. In some cases, it can reduce headcount needs, making the entire process leaner and more cost-efficient."

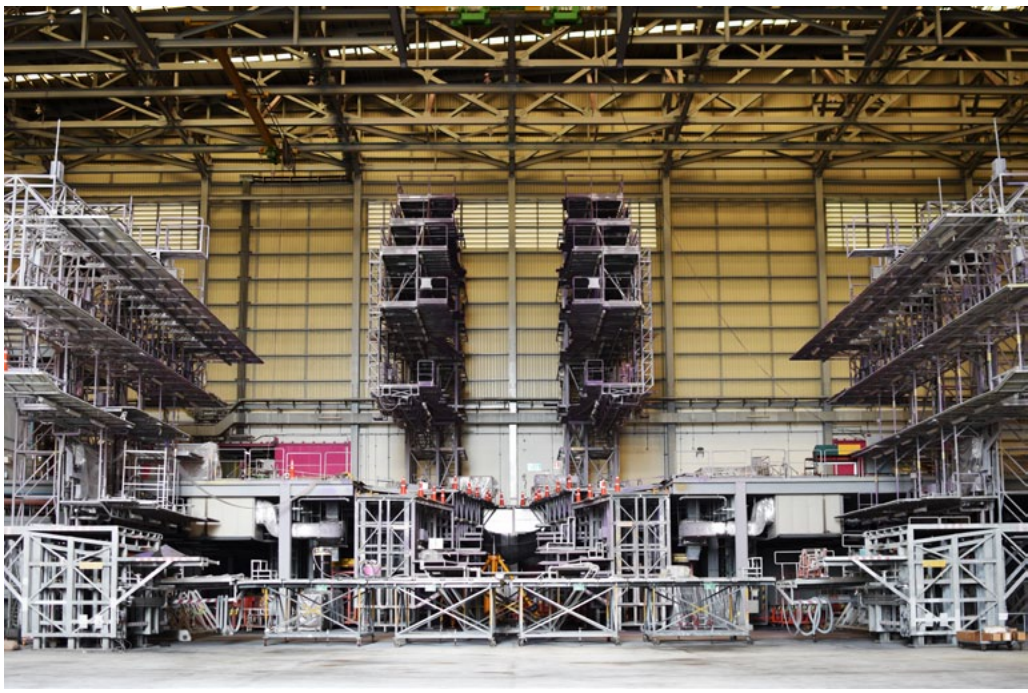
Juozas Lapeika sees the greatest potential for savings is when it comes to turnaround time. He explains that: "... there are measurable savings from implementing paperless documentation and real-time progress tracking systems. The main benefit is a reduction in turnaround time (TAT), driven by faster information flow and improved task coordination. This is closely followed by lower consumption of paper, printing, and recycling resources, contributing to both cost efficiency and environmental sustainability. However, these benefits are fully realised only when the digital documentation process is designed to be more efficient than traditional paper-based methods and does not add administrative complexity or additional time to daily operations."

If you could change one aspect of the heavy check process to improve cost efficiency, what would it be?

We thought this the best question to ask as we bring this topic to a close, and the answers we received showed us just what a dynamic and fluid environment the

> ***"Digitalisation helps synchronise multiple jobs that depend on the same aircraft condition: for instance, when the aircraft is on jacks, fuel tanks are defueled, engines are running or shut down, and electrical or hydraulic power is off. Performing these activities in coordinated blocks avoids repeated setups and saves considerable time."***
>
> *Giovanni Renga, Chief Technical Officer, AMROS Global*

MRO sector has to be in order to adjust to ever-changing requirements, supply chain pressures and advancements in materials and technology. As Juozas Lapeika tells us: "From an MRO perspective, one of the most impactful improvements would be for airlines to maintain larger stocks of spare parts. While this requires significant investment, having a broader and better-managed parts inventory - along with reduced fleet type variety would greatly enhance efficiency across the market. Ryanair serves as a good example of how such an approach contributes to highly efficient heavy maintenance operations. Ideally, the OEMs should also play a greater role in improving supply chain efficiency. In a perfect scenario, repair instructions would be issued within 24 hours, accompanied by immediately available part numbers (P/Ns) from OEM stock for next-day delivery. Currently, delayed repair instructions and unavailable or obsolete part numbers often cause significant inefficiencies. Streamlining these OEM processes would substantially reduce turnaround time (TAT) and improve cost efficiency for both airlines and MROs." Over at AMROS Global, Giovanni Renga chooses different areas for improvement, pointing out that: "Improving maintenance planning would have the greatest impact on cost efficiency. Involving experienced maintenance professionals who understand the inspection process first-hand significantly enhances planning accuracy and reduces ground time. Establishing a dedicated planning project manager, defining cabin standards, and introducing aircraft condition checks before major visits help optimise preparation and parts lead times. A JPM helps establish clear documentation and communication standards agreed between the MRO, CAMO, ground time manager, and technical records, including data quality, job card content, quality requirements, cost handling, and acceptance checklists to ensure alignment and transparency. Furthermore, clear onsite role assignments, together with structured kick-off and debrief meetings, support consistency and continuous improvement throughout the entire heavy check process. Lastly, never forget the invoice review, where substantial cost savings can be achieved – trust is good, but control is better in such costly endeavours."



© Shutterstock

Kevin Ferreiro, Sr. Director Business Development, VAS Aero Services, LLC

Where Kevin Ferreiro is concerned, he has his eyes focused on the one key area, sharing with us that: "If one aspect of the aircraft maintenance heavy check process could be changed to improve cost efficiency, it would be adopting predictive, data-driven maintenance planning. By using real-time aircraft health monitoring and analytics, maintenance teams can better anticipate component failures, schedule work more efficiently, and reduce unnecessary inspections. Our experience at VAS Aero Services has been that when we're incorporated into this planning, we become an integral part of the process, delivering critical parts and repair services wherever and whenever needed. Without a doubt, predictive planning minimizes downtime, optimises labour and parts usage, and transforms heavy checks into proactive, cost-effective operations that enhance both reliability and overall fleet efficiency." And to draw this topic to a close, we leave it to Pascal Parant to provide another concise insight as he suggests he would " ... create a full-airframe scanner capable of identifying corrosion, structural issues, and impact repairs months before the check, allowing optimal planning and provisioning. I would also deploy robotic assistants, like a fleet of R2-D2-style support units, to assist technicians."

> ***"By using real-time aircraft health monitoring and analytics, maintenance teams can better anticipate component failures, schedule work more efficiently, and reduce unnecessary inspections."***
>
> *Kevin Ferreiro, Sr. Director Business Development, VAS Aero Services, LLC*

© Shutterstock

The Art of Effective Cost Management in Aircraft Maintenance

How to find the optimum balance between operational reliability, regulatory compliance, and financial discipline.

By David Dundas

As many of you no doubt know, cost management in aircraft maintenance remains one of the most persistent challenges for airlines, MRO providers, and operators. Maintenance, Repair, and Overhaul (MRO) activities involve a frustrating combination of strict safety regulations, volatile parts prices, skilled labour shortages and unpredictable fleet utilisation. As a direct consequence, controlling expenditure requires a careful balance between operational reliability, regulatory compliance, and financial discipline. The problem is that costs often rise due to fragmented procurement processes, urgent component replacements, inconsistent inventory planning, and limited visibility across maintenance systems. Many MRO operators currently purchase parts from several suppliers, which subsequently weakens leverage and contributes to irregular pricing. On top of this, unplanned maintenance events can trigger expensive AOG situations, fast-track freight, and overtime labour charges, which quickly increase overall spending. Weak stock accuracy and unreliable supply chain forecasting add further pressure, because the bugbear of excess inventory is that it ties up valuable capital while a lack of parts lengthens aircraft turnaround times and disrupts schedules. Beyond this, limited transparency across maintenance, finance, and supply chain systems also prevents teams from understanding true lifecycle cost structures.

For the situation to improve, better data quality is essential. Standardised part descriptions and accurate ATA chapter coding can certainly help to reduce errors, prevent duplicate orders, and support stronger traceability, while unified digital platforms that integrate maintenance, inventory, and procurement data offer full visibility of expenditure. They allow planners and engineers to track component performance, warranty status, and contract terms in real time. While advanced analytics can help identify high-cost systems, recurring defects, and ageing component trends. The result? These insights can facilitate more accurate budget planning and fleet-wide cost optimisation.

One thing is certain, and that is procurement strategy has a major impact on aircraft maintenance expenses. A focused supplier base which is supported by strategic partnerships and long-term agreements can result in stabilised pricing and ensures more efficient and faster parts' availability. Beyond this, category management also simplifies sourcing for common component groups and strengthens negotiation positions, while digital procurement tools streamline approvals, reduce off-contract purchasing, and support compliance with regulatory and quality requirements. As a result, procurement teams have the opportunity to maintain cost control without slowing down operational needs.

Of course, inventory planning is equally vital in aviation, where availability drives dispatch reliability, predictive demand forecasting maintains balanced stock levels and reduces the need for costly AOG orders. Vendor-managed inventory and power-by-the-hour arrangements shift part-availability risk to suppliers, and thus lower capital requirements for operators. Additionally, criticality analysis helps classify components by operational impact and consequently high-criticality parts

© Shutterstock

will remain available at strategic locations, while less essential items will follow leaner stocking rules. The outcome of this approach is the protection of schedule integrity while preventing unnecessary inventory growth.

We can then turn to reducing unplanned maintenance events as this has a major influence on aircraft operating costs. Preventive maintenance tasks, aligned with OEM recommendations and fleet-specific reliability data, help detect issues early, while condition-based monitoring, enabled by modern aircraft sensors and digital tools, allows engineers to intervene before failures disrupt operations. It is more geared towards a proactive as opposed to reactive process. Beyond this, clear and well-structured work orders improve labour efficiency and reduce repeat findings, while effective planning also shortens maintenance intervals and ensures the availability of technicians and engineers. It is an inescapable fact that workforce productivity has a direct impact on MRO efficiency. However, continuous technical training will ensure that engineers maintain competence across new aircraft types, digital systems, and complex repair procedures. To further this, mobile maintenance tools now provide improved access to manuals, service bulletins, and component histories, which helps to reduce administrative delays. And then we have smart scheduling, which aligns labour resources with high-priority tasks, minimises overtime, and enhances hangar throughput.

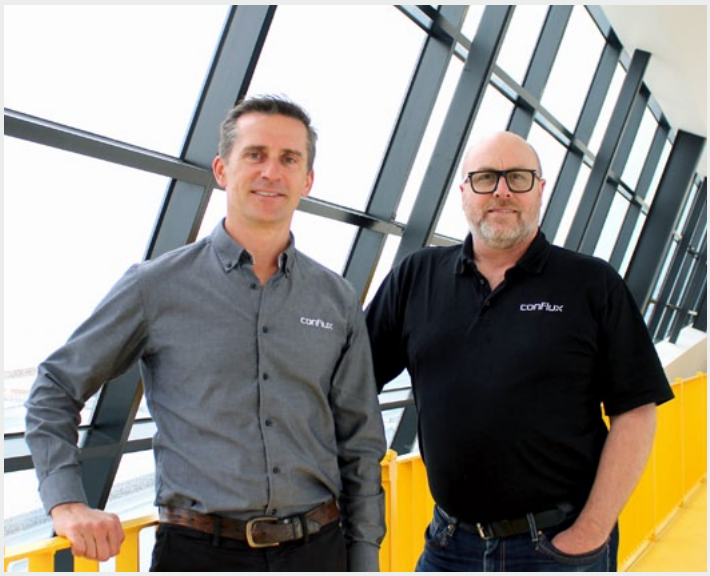
Because technology now plays such a central role in aircraft maintenance cost management, today's MRO or EAM systems now consolidate asset histories, track component cycles, and support accurate cost attribution. Such automation helps to reduce manual workload through digital inspections, automated procurement triggers, and streamlined documentation, while IoT sensors, combined with machine learning, enable predictive maintenance models that reduce unscheduled events and improve reliability across the fleet.

It is clear that cross-functional collaboration ensures long-term cost discipline in aviation, so maintenance, operations, finance, and supply-chain teams should review cost drivers together and align decisions with regulatory and safety requirements. Clear governance structures define rules for purchasing, inventory management, and maintenance planning and, combined, these frameworks help to support consistent financial behaviour across all fleet operations. There is then the case of measuring performance through aviation-specific KPIs as this confirms whether cost-saving initiatives are effective. Metrics such as cost per flight hour, component removal rates, maintenance labour efficiency, AOG duration, and inventory turnover highlight strengths and weaknesses and the continuous monitoring enables rapid adjustments and supports ongoing optimisation.

In conclusion, effective cost management in aircraft maintenance demands precise data, strategic procurement, smart inventory planning, and proactive maintenance techniques. Digital tools and strong teamwork reinforce these foundations and create long-term financial and operational stability, and with a disciplined approach, operators and MRO providers can reduce expenditure, improve reliability, and maintain the highest safety standards across the fleet.

PEOPLE

on the move



Dan Woodford (l) and Michael Fuller (r)

Conflux Technology, a global specialist in advanced heat-exchange innovation, has announced that **Dan Woodford**, formerly Chief Commercial Officer, assumed the role of Chief Executive Officer on 7 November 2025. On the same date, founder and long-standing CEO **Michael Fuller** moved into a full-time position as Executive Chairman, where he will concentrate on governance, corporate strategy and the company's technical roadmap. "Elevating Dan Woodford to CEO builds on our international strategy and positions Conflux for its next phase of growth," said Michael Fuller. "As Executive Chairman, I will continue to guide our long-term strategy and ensure continuity of our technical direction." The transition supports Conflux's broader growth strategy as it scales production to meet rising global demand for its advanced heat-exchange solutions. Customers across aerospace, energy, automotive and industrial sectors are seeking faster delivery, greater efficiency and superior thermal-management capability—areas where Conflux continues to push the boundaries of performance through additive manufacturing and proprietary design expertise. During his tenure as Chief Commercial Officer, Woodford delivered sustained commercial acceleration, achieving 100% annual sales growth for three consecutive years in key target markets. He expanded the company's order book, secured major production programmes and led the establishment of Conflux's operations in the United Kingdom, strengthening its position in Europe and broadening its global footprint. Founder Michael Fuller transformed Conflux from an ambitious concept into an advanced manufacturing enterprise recognised internationally for its breakthroughs in thermal management. Under his leadership, the company evolved from a bootstrapped start-up to a profitable, fast-growing innovator backed by multiple rounds of growth capital. The leadership shift marks the beginning of a new chapter, built on a strong foundation of technical excellence and commercial momentum.

David Hooke © *WLFC*

Willis Lease Finance Corporation (WLFC) has appointed **David Hooke** as Senior Vice President, Mergers and Acquisitions, with immediate effect. Hooke will lead the company's global mergers and acquisitions strategy, drive portfolio growth and supporting the expansion of WLFC's leasing, trading, and services platform. "Having worked with David for many years, I trust his integrity and admire his relentless pursuit of excellence and opportunities in the aerospace and defence industries," said **Charles F. Willis**, Executive Chairman of WLFC. "His strategic insight, leadership, and investment banking experience make him an outstanding addition as we pursue continued growth." "I am honoured to be joining the WLFC leadership team," said Hooke. "I look forward to collaborating with Austin and the team to accelerate growth through thoughtful acquisitions and partnerships that strengthen our global platform." Hooke joins WLFC after more than a decade at Bank of America, where he served as Managing Director of Investment Banking, advising clients, including WLFC, on mergers and acquisitions, public offerings, and capital markets transactions.

PEOPLE

on the move

Jim Currier

Honeywell has named **Jim Currier** as President and Chief Executive Officer of Honeywell Aerospace. The business will become an independent, publicly traded company after a planned spin-off expected in the second half of 2026. This marks a major step in Honeywell's long-term growth plan. At the same time, Honeywell announced **Craig Arnold** as Chairman of the new Honeywell Aerospace Board of Directors. He will become non-executive Chair once the spin-off is complete. Until then, he will serve on Honeywell's main Board of Directors with immediate effect. Once separated, Honeywell Aerospace will rank among the world's largest pure-play aerospace suppliers. It reported over US$15 billion in sales in 2024. The company provides propulsion, cockpit, navigation, and auxiliary power systems. Its technology features on nearly every commercial and defence aircraft worldwide. The new business will be based in Phoenix, Arizona. Jim Currier joined Honeywell nearly two decades ago. He became president and CEO of Honeywell Aerospace Technologies in 2023. Before that, he led several divisions, including Electronic Solutions and the Aftermarket organisation across Europe, the Middle East, Africa and India. He also served as vice president of Airlines, North America. Under his leadership, the aerospace business has grown stronger and more competitive. **Vimal Kapur**, Honeywell's Chairman and CEO, said: "As a Honeywell veteran, Jim's unmatched knowledge of our aerospace and defence business, our global customer base and our vast supply chain make him exceptionally well-suited to drive Honeywell Aerospace's accelerated growth while unlocking further scale and efficiency." With experienced leadership and a clear focus, Honeywell Aerospace is ready to take flight as a powerful new force in the global aviation industry.

Richard Milne

Britten-Norman has appointed **Richard Milne** as its new Chief Operating Officer (COO). The newly created role focuses on boosting delivery performance, accelerating growth and scaling engineering operations. Milne joins the British aircraft manufacturer with over 30 years of aerospace leadership. Most recently, he served as manufacturing engineering director at GKN Aerospace. He began his career as an aircraft fitter at Marshalls of Cambridge and has since held senior roles across design, maintenance, and manufacturing. His diverse background gives him deep insight into every stage of aircraft production. As COO, Milne will oversee all daily engineering operations. His remit includes design, manufacturing, supply chain, and aircraft maintenance. By integrating these areas, he aims to improve efficiency, ensure timely deliveries, and enhance customer support. Moreover, Milne will focus on maintaining Britten-Norman's renowned safety standards and the exceptional build quality that define its Islander aircraft. He plans to drive operational excellence while supporting the company's broader ambition to expand production and meet rising global demand. With this appointment, Britten-Norman reinforces its commitment to modernisation and growth. The company continues to invest in people, technology, and processes to secure its position as a leading name in British aviation. Milne's experience and leadership are set to play a key role in shaping that next chapter.

AviTrader
AVIATION NEWS PUBLICATIONS

Reach tens of thousands of industry professionals instantly every month with MRO360

Industry-leading MRO publication

Trusted by aviation professionals for 20+ years

12 digital & 4 print editions annually

Get your customized advertising quote *today!*

Sales: Central, North & South America

Tamar Jorssen
tamar.jorssen@avitrader.com
+1.788.213.8543

Sales: Asia, Europe & the Middle East

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

2026 Media Pack