

MRO^{360°}



The Smart MRO

**Digital Technologies
Are Changing
Aircraft Maintenance**

The Cash Trap

Surplus Inventory
Solutions

Human Factor

Understanding the
Human Element

Maintenance Mythbusters

"Most Errors Are Technical Mistakes"



Dear Colleagues,

Welcome to the July edition of MRO360!

Is surplus inventory causing you problems? You are not alone if that is the case. However, I hope that our article *Surplus Inventory Solutions* may come up with some ideas or help inspire you to tackle this ongoing problem with greater enthusiasm.

While supply chain problems seem unavoidable at the moment, the digitalisation of the MRO environment is impossible to avoid as well. Our article *MRO and Digitalisation* should provide you with good insight into many of the challenges, and benefits, currently being experienced by many of your counterparts.

Beyond the above, our focus has turned to potential for errors in the MRO environment, whether potential or actual. Our Mythbusters' series this month focuses on the statement: "Most maintenance errors are technical mistakes" and tries to dispel the myth, while we have also written on what we consider to be *The Top 10 Human Factors Behind Maintenance Errors*.

My thanks also goes to all those who have helped contribute to our articles with their thoughts and opinions; it is greatly appreciated.

As always, I hope you enjoy this latest edition of our magazine.

Torsten Tamm
Publisher

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EDITORIAL

Torsten Tamm [Linked in](#)
Publisher
torsten.tamm@avitrader.com

Heike Tamm [Linked in](#)
Editor-in-Chief
heike.tamm@avitrader.com

David Dundas [Linked in](#)
Content Writer
david.dundas@avitrader.com

Volker Dannenmann
Graphic Designer
volker.dannenmann@gmail.com

ADVERTISING & CONTRIBUTION ENQUIRIES

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

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

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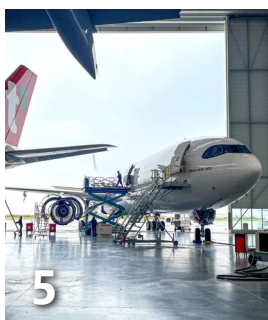
AviTrader Publications Corp.
Suite 305, South Tower
5811 Cooney Road
Richmond, British Columbia
V6X 3M1, Canada
Phone: +1 (778) 213 8543

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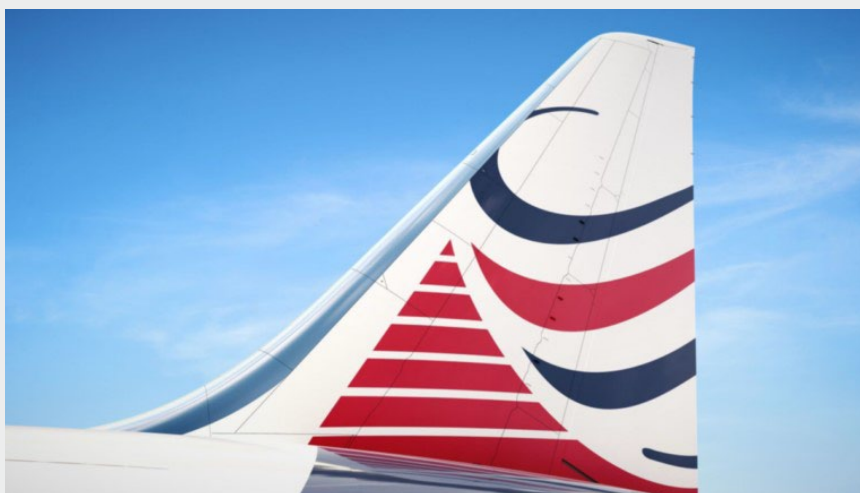
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ACG secures US\$1.48 billion unsecured term loan facility

Aviation Capital Group (ACG) has secured a US\$1.48 billion unsecured term loan facility through its wholly owned subsidiary, ACG Aircraft Financing Ireland DAC, with the facility guaranteed by ACG. The syndicated facility, involving 33 lenders across multiple countries, matures in July 2031. Funds may be drawn until January 2027, although no amounts have been drawn to date. Proceeds will be used by ACG Aircraft Financing Ireland DAC and, through on-lending, ACG Aircraft Leasing Ireland Limited, another wholly owned ACG subsidiary, for general corporate purposes. These include capital expenditure, the payment or refinancing of existing debt, working capital requirements, and costs associated with the facility. The facility was arranged by DBS Bank Ltd., The

Bank of East Asia, Cathay United Bank, China Construction Bank Corporation, CTBC Bank, Industrial and Commercial Bank of China, and Oversea-Chinese Banking Corporation. DBS Bank acted as Global Coordinator, while Wilmington Trust (London) Limited has been appointed as facility agent on behalf of the lenders.



© Aviation Capital Group

Setna iO acquires first A320neo for US teardown



Setna iO has acquired its first A320neo for its US teardown programme

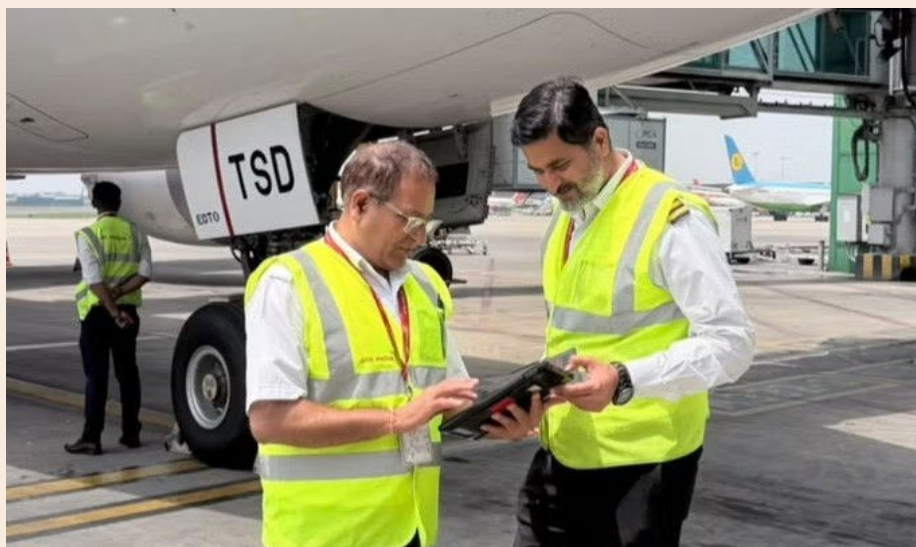
© Setna iO

Setna iO has completed the acquisition of an Airbus A320neo, previously operated by Spirit Airlines, marking the company's first A320neo purchase for teardown in the United States. The aircraft will be dismantled at AerSale's facility in Goodyear, Arizona, further expanding Setna iO's next-generation narrow-body teardown programme. Recovered components will be processed through Setna iO's integrated repair network, including Zulu Global, Landing Gear Technologies (LGT), Setnix, SETNA Parts Lab and a network of trusted MRO

partners. The resulting used serviceable material (USM) and repaired components will support operators, lessors and MROs worldwide. "This acquisition marks our first A320neo teardown in the United States, and another step in our continued investment in the global aerospace aftermarket," said Tom Boulcott, Partner & Chief Strategy Officer. "Building on the knowledge and experience gained from previous A321neo programmes, this project further expands our ability to support operators, lessors, and MROs with high-quality used

serviceable material and freshly repaired components. "It also opens new opportunities across the SETNA Group. Components will feed our specialist repair capabilities through Zulu Global, Landing Gear Technologies, Setnix, SETNA Parts Lab, and our MRO partners. And with J&C Aero now part of the group, we can offer enhanced support for aircraft interiors, seats and other cabin components, sourced directly from these modern A320neo aircraft, broadening the range of product lines we can support."

Air India rolls out digital technical logbooks



Air India goes digital to manage its wide-body Boeing fleet

© Air India

Air India has taken another step in its transformation programme after the Directorate General of Civil Aviation (DGCA) approved the use of electronic technical logbooks (ETL) as the primary technical record for its Boeing 787 fleet and authorised parallel implementation

across its Boeing 777 fleet. The approval makes Air India one of the first airlines to introduce electronic technical logbooks across its entire Boeing 787 fleet, marking a significant milestone in its digital transformation. The airline said the move supports its strategy of using

technology to improve operational performance, safety, reliability and sustainability. The electronic technical logbook replaces traditional paper-based maintenance records with a secure digital platform, enabling faster, more accurate and more efficient management of aircraft maintenance and engineering activities. The system provides real-time information sharing between maintenance engineers and operational teams, improving coordination, speeding up defect reporting and rectification, and enhancing aircraft dispatch reliability. The platform also strengthens data integrity, traceability and regulatory compliance, while providing advanced analytics to support predictive maintenance and engineering decision-making. In addition, the paperless system significantly reduces paper consumption, supporting Air India's sustainability objectives.

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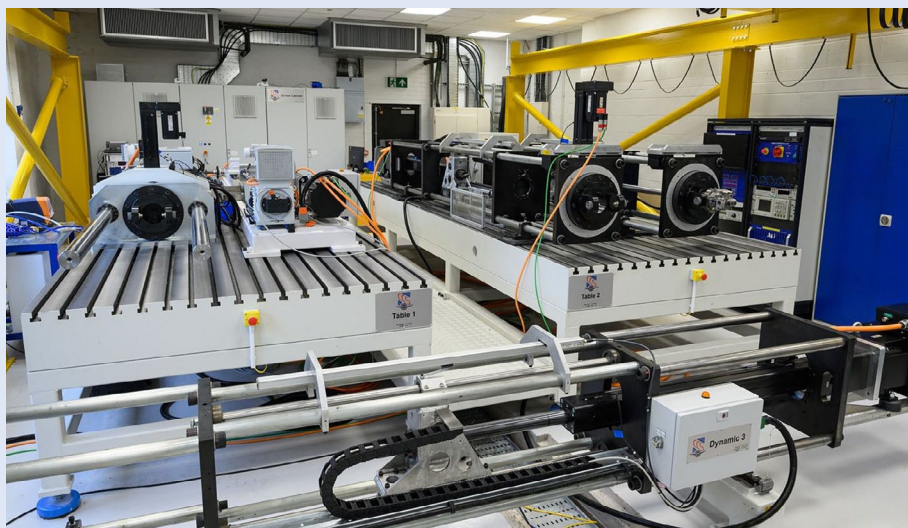
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Collins accelerates electric aircraft innovation



The newly opened elecTRAS™ test lab in Wolverhampton, UK, features a scalable, modular, adaptable test rig that enables precise evaluation of multiple system configurations © Collins Aerospace

Collins Aerospace has officially opened its fully operational Engineering Center of Excellence in Wolverhampton, strengthening its capabilities in developing and testing next-generation electric thrust reverser actuation systems (elecTRAS) for commercial aircraft. The UK facility features a new modular and scalable test centre designed to support every stage of aircraft actuation system development, from initial design and validation through to certification. The advanced testing environment enables engineers to assess individual components, actuators, subsystems and complete integrated systems under realistic operating conditions, allowing potential design issues to be identified and resolved earlier in the development process. This is expected to reduce

programme delays, lower development costs and provide greater flexibility for future aircraft applications. Collins said the centre represents a significant investment in more-electric aircraft technologies, which are becoming an increasingly important focus for aircraft manufacturers seeking to improve efficiency and reduce operating costs. The company's elecTRAS system replaces conventional hydraulic actuation interfaces with an all-electric solution, eliminating hydraulic fluids and simplifying the overall architecture. At aircraft system level, this approach can reduce nacelle actuation weight by between 15 and 20 per cent, contributing to lower fuel consumption, improved operational performance and reduced maintenance requirements.

The Wolverhampton centre combines expertise in electric thrust reverser systems with nacelle actuation design, enabling engineering teams to work more closely throughout the product development cycle. Collins said the co-location of specialist skills will accelerate innovation in electric systems, motor control technologies and intelligent control algorithms, while continuing to support existing aircraft fleets already equipped with the technology. The modular design of the new facility also allows testing equipment to be reconfigured for different aircraft programmes and system variants, improving scalability and shortening development times for future products. Collins believes this flexible approach will help meet growing demand from aircraft manufacturers as the aviation industry continues its transition towards more-electric aircraft architectures. The company's elecTRAS technology is already well established in commercial service. It is fitted to the Airbus A350 family and, by 2025, had accumulated more than 15 million flight hours and 2.2 million flight cycles across a fleet of more than 700 aircraft. Collins said the experience gained from those operations is helping to inform the next generation of electric actuation systems, supporting continued advances in efficiency, reliability and aircraft performance as airlines and manufacturers pursue lower operating costs and reduced environmental impact.

Vietjet Qazaqstan completes AMOS roll-out

Vietjet Qazaqstan has successfully gone live with Swiss-AS' AMOS Airline Edition, completing the implementation in April 2026 and now fully utilising the maintenance software following a stable post-implementation phase. The carrier, which operates five De Havilland Canada Dash 8-400 aircraft across 16 destinations in Kazakhstan and the surrounding region, said the system will support the digitalisation of its maintenance and engineering operations. AMOS Airline Edition integrates maintenance planning, engineering, logistics, inventory management, technical records and compliance into a single platform, helping improve operational efficiency, data accuracy, regulatory compliance and aircraft availability while reducing administrative workload. Vietjet Qazaqstan has also adopted AMOS Hosting Services, providing a managed

hosting environment designed to enhance system reliability, security and scalability while reducing internal IT requirements. The implementation marks another milestone in the airline's transformation following its acquisition by Vietnam's Sovico Group, co-founder and owner of Vietjet Air. The carrier has rebranded as Vietjet Qazaqstan as it aligns with the wider Vietjet network and operating standards. The project also extends Swiss-AS' long-standing relationship with Vietjet, which has used the AMOS platform since 2012 and has expanded its fleet from six aircraft to more than 100 during that period. The new system is expected to support Vietjet Qazaqstan's future growth, including the potential introduction of Boeing 737 aircraft.

AFI KLM E&M extends LOT support deal

Air France Industries KLM Engineering & Maintenance (AFI KLM E&M) has extended its long-standing component support agreement with LOT Polish Airlines, expanding coverage to the carrier's fleet of 31 Boeing 737 MAX aircraft through to 2033. The renewed agreement builds on the companies' longstanding partnership and reflects LOT's continued confidence in AFI KLM E&M's Boeing 737NG/MAX component support services. Under the deal, AFI KLM E&M will continue to provide component pooling, logistics and maintenance support to help maximise fleet availability and operational performance.



AFI KLM E&M will extend its service agreement with LOT to include the carrier's fleet of 737 MAX aircraft

© AirTeamImages

Dorota Dmuchowska, Chief Operating Officer of LOT Polish Airlines, said: "In an increasingly demanding environment for the aviation industry, strengthening cooperation with a trusted and experienced partner is more important than ever. Extending our long-term agreement with KLM enables us to build on a proven cooperation model and secure stable component support for our operations. We believe this collaboration will continue to support the safe, reliable and cost-effective performance of LOT's fleet, while creating a strong foundation for its continued growth."

SIAEC, Air India explore MRO partnership

SIA Engineering Company (SIAEC) and Air India have signed a non-binding memorandum of understanding (MoU) to explore opportunities to expand their maintenance, repair and overhaul (MRO) partnership and support India's ambition to become a global aviation MRO hub. The MoU builds on the companies' existing collaboration, including a 12-year Inventory Technical Management agreement signed in February 2024 to provide component support for Air

India's Airbus A320 family fleet, and SIAEC's appointment in May 2024 as Air India's strategic base maintenance partner for the development of maintenance facilities in Bengaluru. Under the new agreement, the companies will assess opportunities to combine SIAEC's MRO expertise with Air India's operational network to develop a world-class MRO ecosystem in India. The collaboration could also lead to the creation of a joint venture to serve the growing maintenance

requirements of the Indian and wider regional aviation markets. SIAEC Chief Executive Officer Chin Yau Seng said the MoU marked an important step in the companies' expanding relationship and would allow both partners to explore opportunities to strengthen Air India's operational capabilities while supporting customers across India and the region. He added that the initiative reflected the country's significant potential to become a leading global MRO centre.

Rcapital completes acquisition of Adams Aviation

Rcapital has completed the acquisition of Adams Aviation Supply Company from Incora, securing one of Europe's leading distributors of parts and accessories for the general and business aviation maintenance sector. Founded in 1968, Adams Aviation has built a strong reputation for rapid parts delivery, industry-leading traceability and technical expertise. Headquartered

in Crawley, West Sussex, the company holds ISO 9001:2015 certification, as well as UK CAA Part 145 and EASA Part 145 maintenance approvals. It also operates a specialist repair centre for aviation headsets, helmets and emergency locator transmitters. As a first-line distributor with direct relationships with major component manufacturers, Adams

Aviation maintains extensive inventory for immediate dispatch to airlines, operators, maintenance providers, armed forces and aircraft manufacturers worldwide. The existing management team will remain in place, with Rcapital providing strategic and operational support to accelerate the company's next phase of growth.

Daher expands aircraft support hub in France

Daher Aircraft has opened a new spare parts, maintenance, equipment overhaul and logistics centre in western France, significantly expanding its support capabilities for a wide range of aircraft, from helicopters and training aircraft to legacy general aviation types produced by its predecessor companies. The purpose-built 6,000 m² facility at Jonzac-Neulles Airport (LFCJ) in the Charente-Maritime department replaces the company's previous operation in Merpins, 25 km to the north. The larger site ensures continuity for Daher Aircraft's



Image of the new Daher Aircraft support and logistics facility in France

© Daher

existing support and services contracts while providing additional capacity for future growth. Its direct access to Jonzac-Neulles Airport's 1,370-metre runway also creates new opportunities for on-aircraft maintenance and technical support. The facility was built by the Communauté des Communes de Haute Saintonge under the leadership of its then-president, Claude Belot, who attended the opening ceremony. Also present were Christophe Cabri, current president of the Communauté des Communes de Haute Saintonge and Mayor of Jonzac, together with other elected officials and government representatives.

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GA Telesis wins first South Korean engine MRO contract



GATES has landed its first engine MRO contract in South Korea

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GA Telesis Engine Services (GATES) has secured its first engine maintenance contract from a South Korean airline

following its recent certification by the Republic of Korea's Ministry of Land, Infrastructure and Transport

(MOLIT). Under the agreement, GATES will provide maintenance, repair and overhaul (MRO) services for CFM56-7B engines operated by Jeju Air, one of South Korea's leading low-cost carriers. The contract marks the company's first engagement with a South Korean operator since obtaining MOLIT Approved Maintenance Organisation (AMO) certification. Earlier this year, GATES received approval to maintain CFM56-5B, CFM56-7B and CF6-80C2 engine platforms, enabling it to offer certified engine maintenance services to airlines in South Korea. Jeju Air said the partnership would strengthen the reliability of its fleet by drawing on GATES' global technical expertise and MRO capabilities, while supporting the carrier's operational performance and service quality.

IATA and IATP partner to strengthen airline supply chains

The International Air Transport Association (IATA) and the International Airlines Technical Pool (IATP) have signed a cooperation agreement aimed at improving airlines' access to aircraft parts and enhancing supply chain transparency. The initiative comes as the aviation industry continues to grapple with supply chain disruption, component shortages and the rising costs associated with delays. Stuart Fox, IATA Director, Flight and Technical Operations commented on the new partnership: "Supply chain constraints continue to create operational and financial pressure for airlines. Addressing these



New agreement signing with IATP

© IATA

challenges requires practical cooperation across the industry. By combining IATP's technical pooling expertise with IATA's technical expertise, we can help airlines access serviceable materials and strengthen maintenance resilience." "For decades, IATP has enabled airlines to share critical technical resources through pooling. The validity of the IATP pool model is even more evident during the current critical situation. This cooperation with IATA recognizes that pooling and digital materials visibility are complementary tools, helping airlines access the parts and support they need to maintain operations during supply chain disruption," said Giorgio Pietra, IATP CEO. The partnership will focus on improving airlines' access to serviceable aircraft parts and strengthening collaboration on technical operations, safety and quality. By combining IATP's materials pooling programmes with IATA's MRO SmartHub, airlines will benefit from greater access to shared components, equipment and maintenance resources, alongside improved visibility of available parts. The two organisations will also expand the exchange of technical expertise and industry best practice. This includes collaboration on safety and quality initiatives, supported by IATA programmes such as the IATA Operational Safety Audit (IOSA) and the IATA Safety Connect community.

FL Technics acquires Sensus Aero to expand MRO software

FL Technics has integrated Sensus Aero into its group, strengthening its aviation software and digital capabilities. Sensus Aero is the developer of Sensus MRO, a software platform designed for MRO providers specialising in base and heavy airframe maintenance. The platform replaces disconnected systems and manual workflows with a single integrated solution, enabling aviation organisations to improve operational efficiency, enhance visibility across maintenance activities and make more informed decisions using real-time data. The integration marks the next phase for Sensus Aero, which has already been supporting aviation maintenance activity across the wider Avia Solutions Group ecosystem. As part of FL Technics Group, the Sensus MRO platform will be developed further and made available to aviation organisations looking to digitalise and optimise their maintenance operations. "Having worked closely with FL Technics from the very beginning, Sensus Aero has developed a deep, practical understanding of the challenges aviation maintenance organisations face in a competitive market. Joining FL Technics Group allows us to build on that experience and bring proven,



Žilvinas Lapinskas, CEO of FL Technics (l) and Paulius Cegis, CEO of Sensus Aero (r)



© Avia Solutions Group

industry-focused technology solutions to a wider market," stated Paulius Cegis, CEO of Sensus Aero. The aviation MRO sector is under growing pressure to improve efficiency, shorten turnaround times and increase visibility across maintenance operations. As organisations accelerate their digital transformation strategies, demand continues to rise for integrated software platforms that streamline workflows, connect

maintenance processes and deliver real-time operational insights. "Sensus Aero combines deep aviation expertise with technology capabilities developed specifically for the needs of the MRO industry. Integrating the platform into FL Technics Group allows us to further develop its capabilities while creating additional value for customers both within and outside our organisation," added Žilvinas Lapinskas, CEO of FL Technics.

Airbus, Safran take full control of Aubert & Duval

Airbus and Safran have agreed to acquire Tikehau Capital's stake in Aubert & Duval, with each company taking an equal share, subject to regulatory approval. The move will give Airbus and Safran full ownership of the French metals specialist, which supplies advanced steel, titanium, aluminium

and superalloys for the aerospace, defence, energy and healthcare sectors. Since acquiring Aubert & Duval in 2023 alongside Tikehau Capital, the partners have overseen a major transformation of the business, strengthening its role in securing critical material supplies for Europe and supporting industry

decarbonisation through initiatives such as titanium recycling. The transaction will not affect the company's operations, with Aubert & Duval continuing to operate independently and maintain its existing workforce and customer relationships.

FTAI, AEI team-up on 737-800 freighter solution

FTAI Aviation and Aeronautical Engineers, Inc. (AEI) have formed a partnership to offer a lower-cost Boeing 737-800 freighter solution for airlines worldwide by combining engine maintenance and passenger-to-freighter conversion services. The collaboration brings together FTAI's CFM56 engine maintenance capabilities with AEI's expertise in cargo conversions to deliver customised freighter aircraft with lower

operating costs and improved long-term economics. The companies said the partnership is designed to support growing demand for narrow-body freighters, with the Boeing 737-800 expected to play a leading role in the global cargo market. FTAI will provide and maintain lower-cycle CFM56 engines tailored for cargo operations, while AEI will contribute its established conversion expertise. The Boeing

737-800 is the world's most-produced narrow-body aircraft, with nearly 6,000 deliveries, providing a large platform for future freighter conversions. AEI has developed more than 130 Supplemental Type Certificates (STCs) and has completed over 625 aircraft conversions, making it the industry's largest passenger-to-freighter conversion provider.

Aviation Technology launches interiors division

Aviation Technology has launched Aviation Technology Interiors following the acquisition of a turnkey aircraft interiors facility at Anderson Municipal Airport in Indiana. The move marks one of the company's biggest expansions to date and its flagship growth initiative as it celebrates its 25th anniversary, broadening its capabilities beyond aircraft maintenance and inspections. The new division enables Aviation Technology to offer a full range of interior refurbishment and customisation services for business aircraft operators, corporate flight departments, charter companies and private owners. Interior work can also be coordinated with maintenance projects at the company's headquarters in Louisville, Kentucky, allowing customers to complete



Aviation Technology launches Aviation Technology Interiors

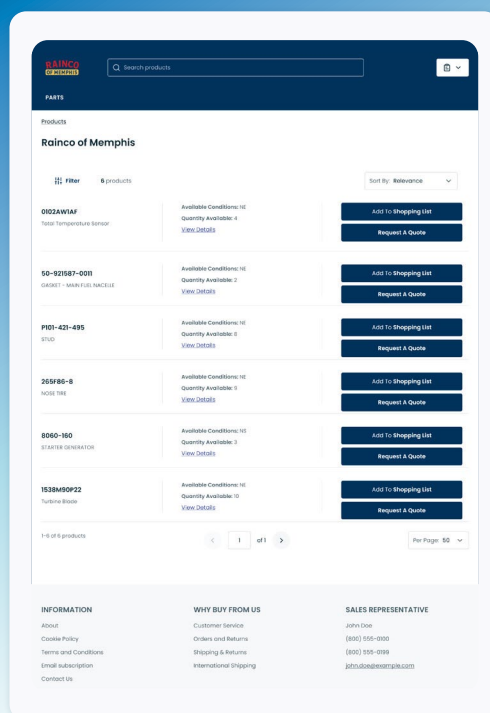
© Aviation Technology

multiple tasks during a single maintenance visit and reduce aircraft downtime. The acquisition expands the company's presence into the Indianapolis market and includes a fully operational 10,000 ft² facility equipped with specialised production equipment, woodworking and finishing capabilities, a paint booth, inventory and an experienced workforce. The new division is led by General Manager Gary Lykins, who has 19 years of aircraft interiors experience, supported by a team with nearly 50 years of combined expertise. By acquiring an established operation rather than building a new business from scratch, Aviation Technology said it can enter the market immediately while supporting regional job creation and future growth.

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Bristow lands US\$105m Berry Aviation takeover

Bristow Group (Bristow) has agreed to acquire Berry Aviation from Acorn Capital Management for US\$105 million in an all-cash transaction, subject to customary purchase price adjustments and closing conditions. The acquisition will strengthen Bristow's Government Services business by adding specialist mission capabilities and long-established relationships with US defence and government customers. The company expects the deal to improve the quality and resilience of its earnings through greater exposure to contracted government services and multi-mission aviation operations. Based in San Marcos, Texas, Berry Aviation operates a fleet of more than 20 aircraft, primarily supporting government and defence customers in multiple countries. Around 72% of its revenue is generated from Government Services activities, including special missions, intelligence, surveillance and reconnaissance (ISR) operations, maintenance, repair and overhaul (MRO)



Bristow bolsters government services with the acquisition of Berry Aviation

© Bristow Group

services, training, mission support, and unmanned aerial systems (UAS) design and development. The remainder of Berry Aviation's revenue comes from on-demand cargo logistics services and aftermarket aviation supply chain solutions. Bristow expects Berry Aviation's leadership team to remain in place following completion

of the transaction and plans to maintain operations across the company's existing facilities. The acquisition is expected to close in the third quarter of 2026, subject to customary approvals and conditions. Bristow intends to fund the purchase using existing cash reserves.

Vallair cleared for A330neo base maintenance at Châteauroux facility



Vallair has attained A330neo maintenance approval at its Châteauroux facility in France

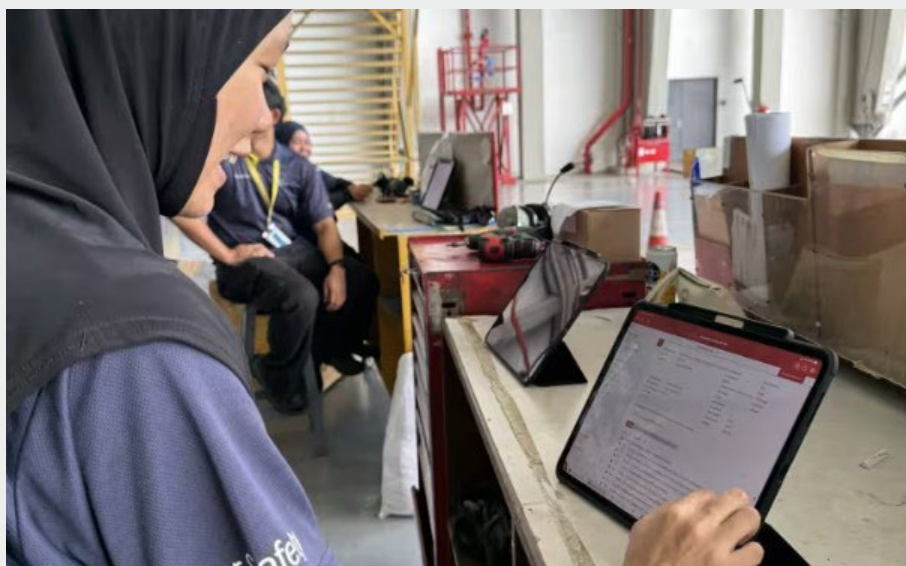
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Vallair has secured regulatory approval to perform base maintenance on the Airbus A330neo at its advanced maintenance facility in Châteauroux, France. The approval marks a key step in the company's ongoing expansion of its wide-body maintenance capabilities, positioning Vallair to

support the growing global fleet of next-generation A330neo aircraft. As airlines continue to adopt the A330neo for its fuel efficiency, extended range and operational flexibility, demand for approved maintenance providers is increasing. The new certification enables Vallair to deliver scheduled

heavy maintenance checks, structural inspections, modifications and related technical services for both the A330-800 and A330-900 variants. Grégoire Lebigot, President and CEO of Vallair Group said: "This approval reflects our continued investment in technical expertise, training and infrastructure. It reinforces our position as a trusted maintenance partner for airlines operating modern wide-body fleets. Adding A330neo capability broadens Vallair's service offering and creates new opportunities to support existing customers while attracting operators seeking approved maintenance capacity for the aircraft type." Vallair's 8,500m² facility in Châteauroux is dedicated to Airbus aircraft support and can accommodate up to five A321-sized aircraft, or a mix of A330s and A321s. The site provides a comprehensive range of maintenance services, including non-destructive testing (NDT), lease transitions, LOPA modifications and cabin refurbishments. These services complement Vallair's existing aerostructures, engine repair and teardown, logistics, parking and storage capabilities.

Royal Brunei Airlines goes live with AMOSmobile/EXEC



The implementation of AMOSmobile/EXEC supports Royal Brunei Airlines' vision of fully paperless maintenance operations
© Swiss-AS

This June, Royal Brunei Airlines successfully went live with AMOSmobile/EXEC from Swiss-AS. This marks another big step in the airline's digital transformation

journey and supports its ambition to remove paper-based workflows from all maintenance activities. As a long-standing AMOS user, Royal Brunei Airlines

has continued to invest in modernising its maintenance and engineering operations. With a young fleet of Airbus A320neo and Boeing 787 Dreamliner aircraft, the airline identified mobile maintenance execution as a key driver of operational efficiency and improved data quality. With AMOSmobile/EXEC, technicians can now execute and document maintenance tasks directly at the aircraft. This reduces reliance on paper-based processes, helps minimise manual data entry and ensures that maintenance records are available in AMOS without delay. "We are pleased to mark this important milestone in Royal Brunei Airlines' digital transformation journey with the successful implementation of AMOSmobile/EXEC. This project reflects our continued commitment to embracing smarter ways of working that support both operational excellence and our broader sustainability goals.

Aquila expands credit facility to US\$400 million

Aquila Air Capital (Aquila), the Ireland-based aircraft lessor backed by funds managed by global alternative asset manager Wafra Inc., has announced the successful refinancing and expansion of its warehouse facility with ATLAS SP Partners (ATLAS), the warehouse finance and securitised products business majority owned by Apollo funds. The facility has been increased to US\$400 million. The expanded financing strengthens Aquila's capacity to grow

its diversified engine portfolio and capitalise on new market opportunities, including commercial aircraft powered by its target engine types. ATLAS acted as structuring agent and lead lender. "We are delighted to significantly expand our existing facility as we accelerate our growth alongside our trusted partners at ATLAS," said Gary Lew, Chief Financial Officer of Aquila Air Capital. "The increased capacity, flexible structure and competitive pricing reflect our lender's

confidence in both our existing portfolio and the long-term strength of our platform." Aquila owns more than 130 assets leased to 25 customers worldwide. Its portfolio includes both wide-body and narrow-body commercial aircraft and engines, supported by a high-quality customer base with strong credit profiles. By focusing on in-demand asset types, Aquila is well positioned to capture opportunities in aircraft and engine leasing, trading and remarketing.

Sentry bolsters regional parts business

Sentry Aerospares (Sentry), a portfolio company of Acorn Capital Management, has acquired Canadian aircraft components distributor AirStart Inc., broadening its position in the regional aviation aftermarket and expanding its presence in North America. AirStart is an independent stocking distributor of rotatable aircraft components, with a strong focus on regional aircraft platforms and an established position in the Canadian market. Founded by Robert Wills, who will continue to lead the business alongside Anne Vinet,

the company has built long-standing relationships with airlines, maintenance, repair and overhaul (MRO) providers, and aviation parts distributors in Canada and internationally. Like Sentry, AirStart specialises in supporting aircraft-on-ground (AOG) requirements by maintaining extensive stocks of certified components ready for immediate dispatch. The acquisition enhances Sentry's inventory portfolio, broadens its customer base and strengthens its capabilities in the regional aircraft sector. It also expands the company's

global distribution network with AirStart's new facility near Toronto Pearson Airport, complementing Sentry's existing hubs in London, the New York metropolitan area and Dallas, and further strengthening its 24/7 AOG support services. The combined business is expected to generate commercial synergies through cross-selling opportunities, greater inventory availability and an enhanced ability to provide rapid, reliable aftermarket support to customers worldwide.

Honeywell Aerospace completes spin-off, begins new chapter

Honeywell Aerospace has officially begun trading as an independent, publicly listed company on the Nasdaq following the completion of its spin-off from Honeywell Technologies. The company launches with more than 36,000 employees serving over 10,000 customers worldwide, building on more than a century of aerospace innovation dating back to the invention of the first autopilot in 1914. Honeywell Aerospace develops mission-critical systems and technologies for the aerospace and



Honeywell Aerospace's spin-off from Honeywell Technologies is completed

© Honeywell Aerospace

defence sectors, applying a "develop once, deploy everywhere" approach across multiple platforms and markets. The spin-off was completed through the distribution of Honeywell Aerospace shares to Honeywell Technologies shareholders, with eligible investors receiving one Honeywell Aerospace share for every two Honeywell Technologies shares held as of June 15, 2026. Jim Currier, Chief Executive Officer of Honeywell Aerospace, said: "Today marks the start of a new era for Honeywell Aerospace. As an independent aerospace and defence company, we are fully focused on protecting and advancing the promise of flight. Backed by a strong balance sheet, we are well positioned to strengthen our market leadership, invest in innovation and our supply chain, and deliver long-term value for customers and shareholders alike."

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CNC Swiss machining

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Greybull Stewardship (Greybull), a private investment firm focused on helping established small businesses grow and scale, has acquired Genesys Industries, Inc., a leading manufacturer and supplier of aerospace, commercial aviation and specialist industrial products. Genesys Industries brings together three long-established American manufacturing brands under a single platform. Avia Marine Company has supplied aircraft interior hardware, latches, handles and electromechanical products to the

commercial aviation sector since 1960. Latrobe Foundry, founded in 1933 and one of the oldest aluminium foundries still operating in the United States, produces cast and machined aluminium fittings and hardware. Sterner Screw Machine, established in 1986, manufactures high-volume precision fastener components for the aviation, fluid power, hydraulic and industrial automation markets. Together, the businesses form a growing manufacturing platform producing a wide range of specialist components, from raw aluminium

castings to certified flight hardware and proprietary product lines. Their products serve customers across aerospace, power generation, data centres, medical, maritime and emerging industrial sectors. Genesys Industries also holds sole-source positions for many of its components. The acquisition comes amid sustained demand across the aerospace and defence sectors. Airbus and Boeing currently hold aircraft order backlogs stretching to around 12 years, while supply chains continue to face pressure to increase production capacity. At the same time, domestic sourcing remains a strategic priority for manufacturers throughout the industry. Founder and CEO Tony Lyons has steadily developed the platform to meet these market requirements, and Greybull plans to build on that foundation. The firm is also actively pursuing further acquisitions of US-based precision manufacturers and suppliers to support its long-term growth strategy.

AACS expands A330 component portfolio with airframe acquisition

AMTRA Aero Component Solutions (AACS), a US-based aircraft component supplier headquartered in Tulsa, Oklahoma, has acquired an Airbus A330-200 airframe, MSN 529, from Cargo Aircraft Management (CAM). The aircraft will be dismantled and harvested for serviceable material to support the growing global fleet of Airbus A330 operators. The acquisition marks a major expansion of AACS's wide-body component

portfolio and reinforces the company's commitment to supplying high-quality used serviceable material (USM) to airlines, maintenance organisations and aviation asset owners worldwide. Components recovered from the aircraft will be added to AACS's inventory and distributed through its global sales network. "The Airbus A330 remains one of the most widely operated wide-body aircraft in commercial service today," said Pablo Aguirre, Chief Commercial

Officer of AMTRA Aero Component Solutions. "This acquisition reflects our continued investment in high-demand aviation assets and strengthens our ability to support operators with reliable, fully traceable material that helps reduce maintenance costs and improve fleet availability. We are delighted to add a substantial inventory of A330 components to our expanding product offering."

Setna completes acquisition of majority stake in J&C Aero

Setna iO (Setna), a Chicago-based global supplier of aftermarket aircraft parts, has completed its acquisition of a majority stake in J&C Aero (J&C), a Vilnius, Lithuania-based specialist in cabin interior engineering. First announced in February, the transaction strengthens Setna's global maintenance, repair and overhaul (MRO) network and adds J&C's certified cabin interior design, manufacturing, maintenance and continuing airworthiness capabilities

to its portfolio. J&C provides certified design and modification services under EASA Part 21J, manufactures proprietary OEM and aftermarket cabin interiors under EASA Part 21G, delivers cabin interior maintenance, repair and overhaul services under EASA Part 145, and manages engineering and regulatory compliance through its EASA Part CAMO continuing airworthiness organisation. "We are proud to partner with a founder-led company that shares our passion for the aviation

industry," said David Chaimovitz, Founder and Chief Executive Officer of Setna. "J&C brings a rare combination of engineering expertise, production capability and certification know-how in cabin interiors. As Setna continues to grow, these are exactly the MRO and proprietary engineering capabilities we want to add to our platform. Together, we can offer customers a broader, more integrated aftermarket solution across the aircraft lifecycle."

BeauTech and Lufthansa's GEM sign engine leasing deal



BeauTech and GEM have signed a ten-year engine leasing framework agreement
© BeauTech

BeauTech Power Systems (BeauTech), a provider of aircraft engine leasing, asset management and trading solutions, has signed a ten-year engine leasing framework agreement with Group Engine Management GmbH (GEM), the Lufthansa Group's dedicated

engine management company. GEM oversees engine allocation, maintenance coordination and lifecycle management across the Lufthansa Group's airline portfolio. Under the agreement, GEM will gain access to BeauTech's engine leasing capabilities as part of its strategy to secure dependable engine availability and maintain fleet flexibility. The framework is expected to create future leasing opportunities across a range of commercial aircraft engine platforms, including CF34, CFM56, GTF and LEAP engines. The agreement establishes a long-term foundation for future engine lease transactions and reflects both companies' commitment to supporting airline operations in an increasingly demanding aviation market. "This agreement marks an important milestone in the relationship between BeauTech and GEM," said Tobias Konrad, Chief Operating Officer at BeauTech. "The Lufthansa Group has been a valued partner since our early years and has played a key role in the growth of our business. We are proud to support GEM with flexible, reliable engine leasing solutions, and this agreement reflects the strong trust built between our organisations through many years of successful collaboration."

Ontic signs lease on new Florida facility

Ontic has strengthened its manufacturing footprint with the signing of a long-term lease for a 100,000 ft² facility in Weston, Florida, its tenth site worldwide. Located less than 20 miles from the company's Miramar facility, which opened in 2025, the new site will provide additional capacity for original equipment (OE) production, while Miramar remains focused on maintenance, repair and overhaul (MRO) activities. The expansion supports Ontic's growing portfolio of licensed product lines and increasing demand for manufacturing space as the company continues to acquire new licences. The move follows Ontic's recent investment in a new MRO facility in Tewkesbury, UK, which is expected to become fully operational by September 2026. Chief Operating Officer Brian Sartain said the Weston facility would provide the capacity needed to support future growth while maintaining the



Ontic's new Weston, Florida facility

© Ontic

availability and reliability customers expect. The site will undergo significant upgrades ahead of operations beginning in 2027.

Werner Aero acquires A321ceo for asset recovery



Airbus A321ceo

© Werner Aero

Werner Aero has acquired an Airbus A321ceo (MSN 544) from FTAI Aviation, further expanding its portfolio of Airbus assets for the global aviation aftermarket. The aircraft is currently at Tarbes-

Lourdes Airport in France, where TARMAC Aerosave will carry out disassembly and asset recovery. TARMAC Aerosave is a leading provider of aircraft storage, maintenance and recycling services. The acquisition reinforces Werner Aero's commitment to supplying high-quality Airbus material and components to airlines, MROs and leasing companies worldwide. The teardown of MSN 544 will recover a broad range of serviceable airframe and engine components, providing reliable, cost-effective replacement parts for customers across the industry. "We are pleased to add this Airbus A321ceo to our growing portfolio of aviation assets," said Tony Kondo, President and CEO of Werner Aero. "This acquisition strengthens our ability to deliver valuable Airbus material to the market while supporting sustainable aircraft lifecycle management." Werner Aero continues to grow its commercial aircraft component inventory through strategic acquisitions and partnerships, ensuring comprehensive support for operators throughout the aviation sector.



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Surplus Inventory Solutions

Supply chain challenges have led to a raft of inventory problems, including holding too much inventory. However, is this the only cause of a hugely costly problem?

By David Dundas

For any MRO set-up, lacking parts for an unexpected repair is a nightmare and can lead to a costly AOG incident. While that cost could be financial, it could also cost you the renewal of a maintenance contract, especially if it is not a one-off occurrence. While the solution to such a problem is to hold more inventory, that would be fine if it

weren't for the fact that inventory parts are hugely expensive and you can easily end up with a situation where you have invested so much money in parts and you can't afford to meet the ever-changing requirements of the daily working environment.

It is probably fair to say that if there were a genuine solution to the problem of parts management and, in particular, excess inventory, then it would have been found by now. However, there isn't a one-size-fits-all solution, as such, but there are compromises that can help reduce the likelihood of carrying surplus parts, including working with third-party parts' suppliers. Consequently, we decided to seek the opinion of ten industry professionals to get their take on surplus

inventory, its causes and consequences.

To what extent is inventory surplus driven by overforecasting vs. operational uncertainty (e.g., AOG risk, safety stock buffers)?

Inventory surplus is typically driven by a combination of overforecasting and operational uncertainty and overforecasting can lead to slow-moving or obsolete stock, tying up cash and reducing working capital efficiency. However, operational factors such as Aircraft on Ground (AOG) risk, unpredictable demand and the need for safety stock buffers are equally important. In aviation, the cost of not having a required



James Bennett, Chief Commercial Officer, AerFin

“Inventory surplus is therefore rarely the result of a single issue. More often, it reflects the balance organisations are trying to strike between forecast accuracy, service performance and risk management.”

James Bennett, Chief Commercial Officer, AerFin

part available can be immediate and significant, resulting in operational disruption, delayed maintenance activity and increased costs. James Bennett, CCO at AerFin further tells us that: "As a result, many organisations take a risk-averse approach, holding additional inventory to protect service levels and minimise operational exposure. This can create a situation where surplus and shortages coexist within the same supply chain. Inventory surplus is therefore rarely the result of a single issue. More often, it reflects the balance organisations are trying to strike between forecast accuracy, service performance and risk management. Successfully managing that balance requires strong cross-functional alignment and disciplined inventory planning." Monica Badra at Aero NextGen certainly feels that surplus inventory is typically driven more by operational uncertainty than by pure overforecasting, though she acknowledges that the two are linked. She senses that "In aviation, AOG exposure, long lead times, repair variability, and regulatory constraints push organisations to hold buffers that would be considered excessive in other industries. The surplus often appears when those buffers are set without a quantified service-level strategy (fill rate targets, criticality segmentation, and lead-time variability). Overforecasting becomes the dominant driver when planning is based on static assumptions (fleet utilisation, removals, shop findings) and is not continuously recalibrated with actual consumption, reliability data, and repair cycle performance. The most common pattern we see is reasonable safety stock logic applied on top of weak inputs, which compounds into excess. A practical fix is to segment inventory by criticality and demand type (routine vs. non-routine), then align stocking policies to measurable risk."

Scott Symington, Chief Commercial Officer, AJW Group is in accord with both Bennett and Badra in that he believes: "Surplus inventory is driven by both overforecasting and operational uncertainty, and the two are closely linked. Overforecasting is often less a mistake

and more a response to the inherent unpredictability of aviation. With AOG risk always in the background, MROs understandably build safety stock buffers to protect service levels. That's sensible risk management, but if market conditions shift, those buffers can quickly turn into surplus. We also see this during strong market cycles, when businesses may deliberately bulk buy inventory for commercial or financial reasons. When the industry inevitably cools or demand patterns change, that excess stock no longer reflects real requirements. The key is moving away from reactive forecasting and towards predictive, data-driven decision making." He concludes by suggesting that: "By using advanced analytics to better understand customer behaviour, turnaround times, and ageing stock, companies can strike the right balance, maintaining essential AOG cover while avoiding unnecessary surplus. That balance is where real value is created."

However, Hamzah Faruqi, Director at Aventure is more focused on operational challenges being the major cause of excess inventories held by airlines and MRO facilities. He further explains: "The urgency to solve the immediate maintenance problem often results in the customers making sure they order spare units (for fleet) or have backup additional parts that their troubleshooting has indicated could also be the cause of the problem. If the extra parts are not needed in the latter case, the buyer's hope is to return them back to the supplier after the maintenance event, even if there is a re-stocking fee involved. Unfortunately, in a few cases, the extra parts that are no longer needed are 'forgotten' and end up in the inventory. For the parts ordered as possible spares for fleet, these occasionally end up as excess inventory if the OEM has upgraded the previously purchased parts to a new part number or modified the units resulting in changing the 'dash number' (which now requires expense to upgrade spares) or the OEM has redesigned the aircraft system to prevent future failures."

Interestingly, Morten Espenhein, COO at CORAX has a very clear opinion on the

connection, or rather independence of overforecasting and operational uncertainty in relation to inventory surplus. He states that: "Inventory surplus is entirely driven by operational uncertainty and the risk the airline is willing to take (read; how much cash the airline want to invest in inventory to secure the operation). Overforecasting is an entirely separate issue –overforecasting is a management problem as often seen in aviation where big private equity companies try to run an airline with financial people, rather than having people with the aviation 'touch'." Beyond this and to a major degree, Dan Trigg, Director of Sales – Airframe at EirTrade Aviation sees operational uncertainty as the major culprit for carrying an inventory surplus, that and also the need to avoid unwanted disruptions. "By forecasting what might be required, operators and MRO's try to avoid unwanted and costly AOG situations. Forecasting cannot always be 100% accurate and demand can be intermittent and unexpected. That is why having a large pool of surplus inventory as a safety buffer is favoured by many. The cost of carrying excess surplus inventory is often seen as a better alternative to AOG events," he comments, adding that: "... the uncertain repair cycle lead times caused by OEM piece-part shortages means there is a further risk of operators and MRO's being left in an AOG situation where they need to source from the wider market. This creates even more need to have a strong surplus inventory readily available."

At Werner Aero LLC, Jelani Cain, Director of Repairs senses there are a lot of factors that can cause surplus in an operation's stock, some of which are within an operations control, and some which aren't.



Jelani Cain, Director of Repairs, Werner Aero LLC

“Forecasting is a factor that operations can control, but if not done carefully, can result in over-forecast and thus surplus stock. Airlines can over-forecast by considerably overestimating usage resulting in less units being installed and more sitting in stock.”

Jelani Cain, Director of Repairs, Werner Aero LLC

"Forecasting is a factor that operations can control, but if not done carefully, can result in over-forecast and thus surplus stock. Airlines can over-forecast by considerably overestimating usage resulting in less units being installed and more sitting in stock. Asset management companies can over forecast by overestimating customer demand of a part at a certain price point. Airlines often keep inventory for normal consumption and additional stock for to support AOGs and keep the operation going. When that excess inventory is combined with factors that lead to over forecasting, surplus inventory is often the result," he says.

Both Scott Butler, Chief Commercial Officer at KP Aviation and Jordan Greenberg, Regional Director-North America at Setna iO are concise in their answers to the question, if of diverse opinions. "Uncertainty is usually the result of operational reliability and supply chain robustness. If either of these levers is not living up to expectations, operators & MROs are forced to change their buying habits to compensate. This drives surplus throughout the value chain," says Butler, while Greenberg comments that: "Overforecasting inventory needs can lead to an excess of stock of course but generally, prices of difficult to attain parts that need planning to procure will continue to rise in price as we have seen so it may leave the operator in, ultimately a better cost and more agile cost position. Rather than only planning for AOG's.

How significant is poor data quality or a lack of demand visibility in creating excess inventory?

Poor data quality creates false demand signals (duplicate part numbers, inconsistent interchangeability rules, missing condition codes, incorrect lead times, unreliable repair turnaround times). Lack of demand visibility then forces planners to compensate with inventory. Monica Badra goes on to say that: "When consumption is not cleanly

captured at the transaction level — and when removals, scrap rates, and repair yields are not visible organisations cannot distinguish between:

- true demand growth,
- one-time events,
- and noise created by process gaps.

This is why many inventory reduction programmes stall: they focus on liquidation before fixing the digital foundation. The fastest improvements come from tightening master data governance, standardising part/serial traceability, and integrating planning, maintenance execution, and inventory systems so that demand is observable in near real time." Scott Symington sees these poor data quality and a lack of demand visibility as hugely significant drivers of excess inventory, advising us that: "If you can't see what's happening in your supply chain or accurately track what your customers need, you're essentially flying blind. You end up making inventory decisions based on incomplete or outdated information, which inevitably leads to either overstocking or understocking. The aviation industry depends on precise documentation to maintain safety, compliance, and financial value. But beyond the regulatory imperative, accurate data is your competitive advantage in inventory management. Without proper records and visibility into demand patterns, it becomes impossible to make informed decisions about what to stock, when to stock it, and when to divest surplus. This is where digital transformation has been transformative for us. By using advanced data analytics, we can accurately forecast demand, monitor turnaround times, and adjust inventory levels accordingly. That visibility allows us to ensure the right products are available when and where they're needed, while avoiding both surplus and shortage."

Craig Skilton, Chief Commercial Officer at APOC Aviation makes an interesting observation, pointing out that: "The aviation sector generates enormous volumes of data, but volume of data and reliability of data

are not the same thing." He continues: "A single end-user requirement illustrates the point well, when an end user has an urgent need for a specific part, multiple suppliers will simultaneously go to market in pursuit of supplying that one customer. To anyone monitoring enquiry activity, it can appear to signal widespread demand, when in reality, it is one requirement being chased by many. Planners who treat that noise as a genuine market signal can find themselves acquiring stock for demand that was never as high as it appeared." Conversely, Hamzah Faruqui has both positive and negative thoughts on the problem as he feels that: "With modern technology, the quality of data in forecasting has significantly improved in predicting demand. However, the lack of demand visibility on a new fault occurrence, where historical data is insufficient, can create excess ordering of parts that could lead to surplus inventory. On new-generation aircraft, with upgraded technology and less historical data on hand, this does result in new requests for parts that may have not seen previous demand activity. In such circumstances, the manufacturer is challenged to improve reliability and reduce failures by updating the parts asap and for the end user to have just-in-time inventory whenever possible."

Morten Espenhein is unequivocal in his opinion that poor-quality data is very significant and succinctly says: "The airline's focus is and will always be on operating without delays & cancellations and selling tickets, hence overstocking due to the result of poor data quality will always be quietly accepted from the floor to higher executive management," while Dan Trigg feels that poor data quality and lack of demand visibility



Scott Symington, Chief Commercial Officer, AJW Group

“If you can't see what's happening in your supply chain or accurately track what your customers need, you're essentially flying blind. You end up making inventory decisions based on incomplete or outdated information, which inevitably leads to either overstocking or understocking.”

Scott Symington, Chief Commercial Officer, AJW Group

could certainly create excess inventory. He suggests that: "If planners cannot trust availability data or have poor visibility on units in the repair cycle, they may buy more inventory as an insurance. Poor data quality could also result in planners procuring inventory that is not at the required mod level which would result in excess inventory. There is often complexity when it comes to applicability of Part Numbers and Mods and it is important the data the planner is using is accurate." Beyond this, Scott Butler is of the 'rubbish in, rubbish out' school of thinking when he underlines that "Users and suppliers of material throughout the supply chain are as only as good as their data. If there is poor data quality or demand visibility, then we are solely relying on our past history or 'best guess' of demand. This will create unneeded gluts in the inventory."

This question is right up Jordan Greenberg's street as he explains: "This question hits close to home, at Setna - we first consider ourselves a data company rather than an aviation company. Everything we do is planned and backed by data. If the data in isn't good quality, there is no way to properly qualify what is needed. I would argue creating a good set of data is the most important thing an operator can do to be positioned properly for the future," while according to Jelani Cain, "Poor data quality and lack of demand play a critical role in creating excess inventory. Operations rely heavily on metrics such as manufacture's recommended stock levels, consumption history, part availability etc., when making planning decisions for stock. Unreliable data skews the results making it more difficult to forecast usage/sales which can lead to

costly excess inventory. Airlines and asset management companies that don't put a priority on obtaining and using good data often pay for it down the road."

Forecasting, inventory planning and procurement decisions all rely on accurate and timely information. When demand signals are inaccurate, master data is outdated, or inventory records are incomplete, organisations can quickly find themselves overstocked in some areas and understocked in others. While James Bennett makes it clear that poor data quality and limited demand visibility are among the biggest contributors to excess inventory, as far as he is concerned, "Forecasting, inventory planning and procurement decisions all rely on accurate and timely information. When demand signals are inaccurate, master data is outdated, or inventory records are incomplete, organisations can quickly find themselves overstocked in some areas and understocked in others. The challenge becomes even greater as businesses adopt increasingly sophisticated forecasting tools and AI-driven planning systems. These technologies are only as effective as the data behind them. Poor-quality data can amplify forecasting errors, creating inflated demand signals and unnecessary inventory accumulation. A lack of demand visibility creates a similar challenge. Without a clear understanding of customer requirements, consumption patterns and inventory levels across the supply chain, organisations often compensate by holding additional stock to reduce the risk of shortages. In many cases, excess inventory becomes a substitute for uncertainty. Improving data governance, system integration and end-to-end visibility is therefore critical to achieving a more efficient and balanced inventory position."

What commercial models can help companies avoid creating surplus inventory in the first place?

Different models serve different purposes, and the key is matching the right structure

to your business model and customer needs. With Power by the Hour (PBH) arrangements, for instance, you are shifting some of the inventory risk to the service provider because you are committing to specific availability and performance metrics. That forces discipline around forecasting and inventory levels; you cannot afford to have surplus sitting idle when you have committed to specific service levels. The contract structure itself becomes a mechanism for inventory discipline. Beyond this, Scott Symington points out that: "Consignment models work differently. In some cases, consigning surplus to a specialist third party makes sense, particularly if they have access to markets or regions you don't. At AJW, we don't typically consign our own inventory unless it opens a different market opportunity, but we do support other MROs who prefer to outsource the sales risk and expertise. The advantage is clear: you avoid tying up capital in slow-moving stock. Pooling arrangements can also be effective because they allow multiple operators to share inventory, which reduces the total amount of safety stock each party needs to maintain individually. It's a more collaborative approach. What is critical, however, is regardless of the contract structure, you need robust data visibility and clear communication channels built into the agreement. You also need to be strategic about what inventory you're committing to. AJW's asset management services allow clients to outsource the administrative tasks associated with monetising surplus inventory, and we provide detailed monthly reports to ensure transparency throughout the process. As I mentioned earlier, we need to be forward thinking and ensure we have a plan, but we must plan for the potential that the plan may change. Your contracts should reflect that reality."

For Hamzah Faruqi, however, "PBH, pooling and consignments can be helpful but lack of availability of certain parts in the market specially for new generation aircraft, due to supply shortages, has created a situation where the suppliers are eager to sign up customers with a wish list that may



Jordan Greenberg,
Regional Director – North America, Setna iO

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Jordan Greenberg, Regional Director – North America, Setna iO



AJW Inventory

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not be an all-encompassing and best list of stock parts for the customers. It is important that customers constantly evaluate the reliability data of their fleet to determine the important parts that must be on hand. If such parts are not added to a PBH/Pooling, then customers may end up having to acquire parts on their own which have a possibility of ending up as surplus and idle inventory."

The solution here would appear to be very simple for Morten Espenhein. He believes that: "If you pay the price for an all-inclusive agreement, you can avoid surplus accumulation. Unfortunately, this comes with an un-economically price for anyone, so airlines in the end must decide which risk they want to operate with. The higher the operational risk due to leaving out certain components, the higher the surplus accumulation over time will be," while Dan Trigg is of the opinion that PBHs can be structured so data and forecasts are shared between airline and the PBH provider. "This close synergy means the PBH provider will tailor their pool to be able

to provide the required level of support. The provider could also have a combined pool that provides support to a number of customers. If designed correctly it can allow for optimisation of stock levels. Like PBH, Pooling can also be structured to avoid excess surplus accumulation. It allows multiple Operators, Lessors or MROs to share inventory, providing a deeper pool of stock and reducing the amount of AOG situations," he further explains. For Scott Butler, he is more inclined to feel that the best structures are contracts have to be mutually beneficial to the suppliers as well as the operators. By this he means that: "The operators need guaranteed access to the material at the point of demand. So, the supplier will not only get a guaranteed sale, they will also get real-time demand information that they can use to ensure they always have the right sized inventory. This coupled with shared forecasting allows the right part to be available at the right time."

There are many ways contracts can be structured to avoid surplus inventory.

Many PBHs are structured in a way where the Airline exchanges the core for an SVC unit. Pooling and consignment contracts can include clauses that specify a minimum and maximum quantity covered as a way to mitigate risk of the PBH provider. Jelani Cain then adds that: "The maximum quantity puts a ceiling on the quantity the provider needs to support, so they can more accurately plan and buy inventory without ending up with extra inventory they don't need. While any PN covered under the PBH minimizes the airline's risk of excess inventory, the PBH provider is at risk of taking on surplus inventory to support the program. The PBH provider can implement a force majeure clause into the contract that protects them from being penalized for any unforeseen disaster that. IE, an unforeseen world event can lead to supply chain shortages that that eventually leads to an operation accumulating inventory they cannot service or sell." On the other hand, Jordan Greenberg adopts a no-nonsense approach to the problem, suggesting that: "If you're entering an agreement with a partner, the best way to plan for the proper accumulation of parts is to carefully review the agreement looking at historical information and needs of the LRU parts planned. From there aligning with what the agreeing party does best and focus there."

Avoiding surplus inventory is as much a commercial challenge as a forecasting one. Traditional buy-and-hold models provide control, but they also expose organisations to slow-moving stock, obsolescence and inventory write-downs. Reducing that risk increasingly depends on creating flexibility around material access. Pooling, consignment, exchange programmes



Hamzah Faruqi, Director, Aventure

"It is important that customers constantly evaluate the reliability data of their fleet to determine the important parts that must be on hand. If such parts are not added to a PBH/Pooling, then customers may end up having to acquire parts on their own which have a possibility of ending up as surplus and idle inventory."

Hamzah Faruqi, Director, Aventure

“Consignment can work well when data sharing is strong and the replenishment logic is transparent. Without shared visibility, it becomes a hidden surplus warehouse.”

Monica Badra, Founder & CEO, Aero NextGen

and tailored support agreements can all help reduce the need for airlines, lessors and MROs to hold duplicate inventory independently. James Bennett expands on this when he says that: “Pooling models are particularly effective where demand is unpredictable, providing access to high-value or lower-volume components without requiring outright ownership. Consignment arrangements can help asset owners monetise surplus inventory while retaining greater control over value recovery. Exchange programmes offer another route, enabling operators to access serviceable material while repairable assets are returned into the supply chain. This is where specialist partners such as AerFin can help. Through a combination of teardown material, used serviceable inventory, repair management and global stock positioning, AerFin enables customers to move beyond traditional ownership models and adopt more flexible, demand-led inventory strategies. The objective is not simply to dispose of surplus once it exists, but to prevent unnecessary accumulation in the first place - protecting cash flow, improving material availability and creating greater resilience across the supply chain.” To conclude this section, contracts reduce surplus when they are structured around aligned incentives and clear decision rights



Craig Skilton, Chief Commercial Officer, APOC Aviation

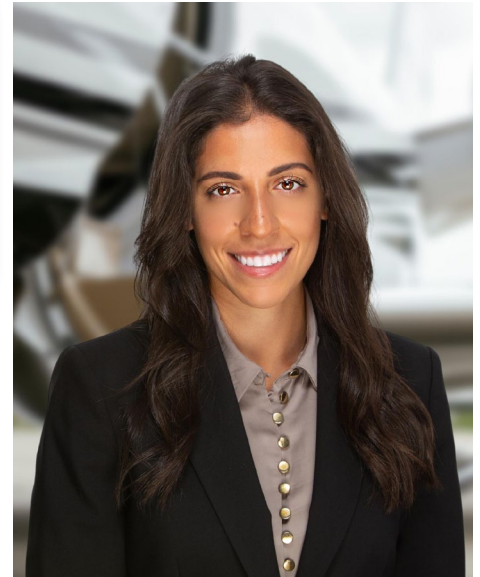
Monica Badra tells us, pointing out that “three principles matter:

1. Define ownership of forecasting and provisioning decisions. If the operator/MRO retains full decision authority but the provider carries availability risk, surplus is likely. Decision rights should match risk.
2. Build in dynamic rebalancing mechanisms. Pooling and PBH agreements should include periodic optimisation: reallocation across stations, return-to-vendor pathways, and triggers tied to utilisation changes, fleet transitions, and reliability trends.
3. Use performance metrics that discourage hoarding. Availability SLAs should be paired with inventory efficiency metrics (turns, obsolescence thresholds, aged stock limits) so the easiest path is not simply stocking more.

Consignment can work well when data sharing is strong and the replenishment logic is transparent. Without shared visibility, it becomes a hidden surplus warehouse.”

What role do specialised surplus management companies play in maximising financial returns on sales of excess inventory?

Parts suppliers can be extremely useful partners in selling an owner’s surplus inventory and to obtain the best ROI. Owners of idle inventory must do research on the right partners who have experience in the business for a significant number of years collecting valuable data on supply and demand and who have a warehouse facility



Monica Badra, Founder & CEO, Aero NextGen

that can store the consignment. They also need to have appropriate sales staff and a warehouse team who are able to handle sales and AOGs quickly with a major airport nearby to allow quick sales, and importantly, are Accredited (not just ‘Members’), of the Airline Suppliers Association, which means the partner’s process and procedures are audited to FAA standards on a regular basis. Hamzah Faruqi at Aventure adds: “A good partner would be financially secure with a long list of reliable customers, have knowledge on which parts should be upgraded for best sale opportunity, and have relationship with key end users (who share their regular parts requirements). Additionally, a partner who has ‘accounts receivable insurance’ is a big plus and guarantees that in case of sales made by the partner to customers, and the customers file for bankruptcy, the partner (and subsequently owner of the surplus inventory), will get back most of their money invested in that sold part.” APOC Aviation’s Craig Skilton however is more focused on strategic partnerships for best results. He explains: “The core advantage specialist companies bring is market reach - access to a global buyer network, an understanding of real-time demand across multiple platforms, and the commercial infrastructure to move

“The core advantage specialist companies bring is market reach - access to a global buyer network, an understanding of real-time demand across multiple platforms, and the commercial infrastructure to move material efficiently and at the best achievable price.”

Craig Skilton, Chief Commercial Officer, APOC Aviation



Dan Trigg, Director of Sales – Airframe, EirTrade Aviation

material efficiently and at the best achievable price. The value can often extend beyond disposal and the best outcomes tend to come from operators who treat their surplus management company, such as APOC, as a strategic partner."

Morten Espenhein at COREX, Scott Butler at KP Aviation and Jordan Greenberg at Setna iO are all ones to get straight to the point and are equally concise with their answers. "Surplus management companies like CORAX, play a significant role on maximizing the financial return to the Airlines on the sales of excess inventory. The key for the Airlines is to pick a surplus management company without competing inventory at the lowest expenses on the inventory sold, for the highest and fastest return of liquidity," suggests Espenhein, "Specialised companies have the ability to look across the entire market for peaks and valleys. They can be a valuable tool in leveraging 'stale' inventory from one supplier that is in high demand at another. Most suppliers are focused on end users and may not be able to connect the dots on their own," Butler tells us, while Greenberg believes "...there is always going to be less money to be made when giving the responsibility of selling excess inventory away to someone else. Unless the third-party selling is going to actively manage the inventory and get to creative solutions there is not going to be maximising of financial returns. You need to find a smart company you trust."

Dan Trigg at EirTrade Aviation believes that such companies can assist by way of consignments and goes on to confirm that: "This is something we are very familiar with at EirTrade. We have worked with our lessor and airline customers to manage large

“ We have worked with our lessor and airline customers to manage large inventories of surplus stock. This gives the stock owner a much wider reach when it comes to gaining revenue for surplus stock. The stock owner still regains control of the inventory and can recall a part whenever needed. ”

Dan Trigg, Director of Sales – Airframe, EirTrade Aviation

inventories of surplus stock. This gives the stock owner a much wider reach when it comes to gaining revenue for surplus stock. The stock owner still regains control of the inventory and can recall a part whenever needed. But at the same time, they can utilise EirTrade's wide customer pool, market knowledge and strategic trading expertise to extract as much value from excess inventory as possible." Jelani Cain at Werner Aero LLC is of a similar mindset to Trigg, in particular when referring to Consignment programmes which he says are "...popular because they offer inventory holders flexible options. Some programmes might physically hold the operator's inventory in their warehouse, market and sell the units for them for a percentage of the cost. This allows airlines to focus more on their critical inventory while turning on stagnant inventory into liquid cash flow. Contracts can be structured where airlines face no upfront cost until the part is sold, which adds extra benefits to the airline."

The way James Bettett at AerFin sees it, "Specialised surplus management companies play an important role in converting excess inventory from a balance-sheet burden into recoverable value. In the aviation aftermarket, a component's value is determined by far more than its original purchase price. Traceability, condition, certification status, repair economics, platform demand, remaining life and market timing all influence what a part is ultimately worth. Effective surplus management therefore requires more than simply finding a buyer. It requires a detailed understanding of market conditions, technical requirements and future demand. The most effective providers assess whether material should be repaired, sold, exchanged, leased, bundled with other inventory or retained to support future opportunities. For asset owners, the benefit extends beyond access to additional sales channels. It includes market intelligence, technical expertise and active inventory management. By

combining technical knowledge with market insight, specialist providers can identify which parts have immediate demand, where repair investment may unlock additional value and when alternative routes such as exchange, leasing or package sales may generate stronger returns than outright disposal." Going slightly deeper, Founder and CEO of Aero NextGen, Monica Badra feels that: "Specialised surplus management companies can materially improve returns because they bring market access, pricing intelligence, and compliance discipline that many operators and MROs do not maintain internally. Their value is highest when they:

- correctly classify inventory (trace, condition, certification status),
- package documentation to reduce buyer friction,
- access a broad buyer network across regions,
- and time the market (when demand spikes for specific platforms or components).

However, they are not a substitute for fixing the upstream problem. If the inventory is poorly documented, incorrectly identified, or lacks traceability, the liquidation discount will be severe regardless of who sells it." She concludes that: "The best outcomes happen when surplus partners are engaged early — before stock ages out and when the seller has clean data and clear disposition pathways."

Over at AJW Group, Scott Symington is quite forthright in his opinion that it comes down to bringing discipline, data, and market insight to what can otherwise be a quite complex and fragmented process. He looks at the challenge through his company's lens stating that: "AJW starts with a thorough initial appraisal. We establish a clear baseline value for the asset, assess its condition, and calculate the remaining green time across key components. Getting that foundation right is vital, because it informs every decision that follows. From there, we build out a

detailed harvest strategy. This isn't just a list of parts to remove, it's a carefully modelled plan based on historical performance data, current repair costs, and a fair market value view of each component. By taking that approach, we can develop a strong business case and project realistic returns before any investment is made. One area that's often underestimated is the importance of records. A comprehensive aircraft and documentation audit can have a direct impact on financial outcomes. Components with complete, well-documented maintenance histories are far more attractive in the aftermarket and can command significantly higher prices. It's not simply about the part itself; it's about being able to evidence its provenance and serviceability with confidence. Then there's the execution piece. A structured, methodical disassembly process ensures that each component is removed, checked, and matched back to its documentation. That level of traceability is critical as it underpins airworthiness, supports regulatory compliance, and gives buyers the assurance they need. That confidence translates into stronger demand and better pricing from operators and MROs. AJW's global network and established industry relationships are crucial too. We're well positioned to identify the right buyers for specific components and access markets that individual MROs might not reach on their own. Combined with our optimised logistics network, we can streamline delivery and reduce carrying costs, which directly improves the bottom line."

If companies consistently recover only a fraction of the cost of any surplus inventory, is the real failure happening at the point of sale—or at the point of purchase?

Ultimately much of this will depend not only the point of sale or purchase, but the nature of the company looking to recover costs. Hamzah Faruqi sees this as a third element to be taken into consideration as he

tells us that: "The price paid to acquire parts is the 'right price' at the time of purchase since data-driven technology shows buyers the market's supply and demand availability and current price range. However, the sale of surplus inventory, much later after acquisition when the parts are possibly 2+ years on since the part received an FAA tag, the value will depreciate and could be out of warranty. It is important that the owner finds a partner who can guide and provide the best options on sale of surplus inventory, whether on an outright basis as a lot sale, on consignment, or a hybrid version of the latter options." He then makes his thoughts very clear: "An owner, such as an airline or MRO facility, trying to sell surplus inventory themselves will be challenged every time they try and sell individual parts and will likely recover only a fraction of the cost spent in acquiring the parts inventory. This is simply because the airline and the MRO companies are not selling parts 24 hours a day, 7 days a week, 365 days a year and do not have the up-to-date supply and demand knowledge of the parts, or access to customers. By using a qualified partner, the owner of surplus inventory can recover maximum ROI." To add to this, Morten Espenheim has his own view of the situation and one which makes perfect sense. "You cannot make it up like that. The higher operational risk the airline decides to go with at the point of purchase, the higher the instant reward there is to gain if the "gamble" on risk turns out positive. Alternatively, if going with a very low risk, the cost will come up front, which will never be fully recovered years later upon the point of liquidating old surplus inventory. The real question, as it has always been in aviation – 'How much of your expected profit do you want to gamble vs operational risk'. Only people with the true aviation 'touch' have the answer to this," he says.

For Dan Trigg, it is all about the circumstances. As he explains: "If Operators & MROs are buying units to put into pool stock, they will purchase at a better rate than if they were purchasing for an AOG event. This is because they have more time to

search the wider market and can often wait on a lead time for part delivery. This gives them a wider array of options to choose from. Because of this, at the point of purchase stock will be procured at a competitive price against current market averages." However, he goes on to admit that: "...there will be occasions when surplus inventory cannot be sold with a profit. Market value on certain parts is becoming increasingly volatile. Sometimes it can work in your favour and demand will significantly increase value, but other times market value can decrease. There are several reasons for this but one of the main being the number of retired aircraft coming for teardown which can saturate the market, often in waves. At EirTrade we can keep a close eye on market trends and can optimise the value of excess stock at the point of sale. Other ways we can do this is through exchange transactions and modification to higher standards to gain back value. It is vitally important at the point of sale that the salesperson has reviewed all avenues and optimises the opportunity."

Curiously, James Bennett has an interesting opinion on why some companies recover only a fraction of the original value of their surplus inventory, believing that the root cause often lies much earlier than the point of sale. As far as he is concerned, "While an ineffective disposal strategy can expose a loss, it rarely creates it. Value is usually lost when material is acquired without sufficient consideration of demand visibility, repair economics, platform lifecycle dynamics or a clear exit strategy. This is particularly relevant in the aviation aftermarket. Not every component removed during a teardown programme will have the same



Morten Espenheim, Chief Operating Officer, CORAX

“The real question, as it has always been in aviation – ‘How much of your expected profit do you want to gamble vs operational risk’. Only people with the true aviation ‘touch’ have the answer to this.”

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liquidity or demand profile. Some parts can be sold quickly, while others may require repair investment, documentation review, bundling or long-term market positioning before they generate meaningful returns. That is why value recovery starts long before inventory becomes surplus. By linking acquisition strategy, teardown planning, repair management and market demand, organisations can make more informed inventory decisions from the outset. Partners such as AerFin support this approach by combining asset acquisition, teardown expertise, used serviceable material sales and repair management with a deep understanding of global demand. The result is a more strategic approach to inventory management, where value is protected before surplus becomes a problem rather than recovered after the fact."

Scott Butler is pretty adamant that when it comes to apportioning blame, the failure can be at either the point of sale or the point of purchase, advising that: "If companies are consistently getting only a fraction of cost in return, then they will stop buying the material in the future. This will cause future case issues where the purchaser may not find the material in the market, and then over-paying in the future." Jordan Greenberg, however, has a different view of things as he feels that: "Material is always needed in the USM market, the only situation where the failure can happen is the inability to have enough outreach and market data to make correct choices and pricing decisions. I would say if there is failure it comes from the vendor who is in charge of selling the material." Meanwhile, Jelani Cain is fairly

comfortable apportioning blame at the point of purchase, but admits that the reasons for this can vary, i.e., "a high cost to obtain the inventory can have the sales team starting in a hole, having to adjust to strategies to make sure a profit is turned. A lot of asset management companies bid for teardowns and inventory packages, and when demand is high, they may end up paying a higher price than they can recover from sales." The positive advice he shares with us is that "It's important for whoever is bidding on inventory acquisition to understand the changing market conditions along with their sales teams ability to move the inventory, and make a decision to walk away if they have been consistently underperforming in recouping cost. While purchase price is a huge factor, demand is also important. Whoever is doing the point of purchase needs to make sure there is enough of a market for the inventory for the sales team to try to market to."

Monica Badra is aligned with Jelani Cain and Craig Skilton in that she feels quite confident the failure is overwhelmingly at the point of purchase. Her reasoning for this is because "The sale price is a consequence of earlier decisions: buying without validated demand, buying without a disposition plan, and buying without ensuring the documentation and traceability needed to preserve asset value. When inventory is purchased based on worst-case assumptions, the organisation is effectively paying an insurance premium. If that insurance logic is not quantified (probability of need, cost of downtime, alternative supply options), the premium becomes unjustified and surplus is inevitable." She goes on to say that: "The second failure is purchasing without data discipline: if part identification, interchangeability, condition, and trace are not controlled at receipt, the item becomes harder to monetise later," concluding that: "Point-of-sale execution matters, but it cannot recover value that was destroyed by poor purchasing governance and weak data foundations." For Skilton, he is

adamant that: "The point of sale is where the consequences become visible, but rarely where the problem originated. By the time a company is negotiating the disposal of surplus inventory, most of the value depletion has already occurred. The money has been spent, the storage costs have been accumulating, and the market has long since moved on."

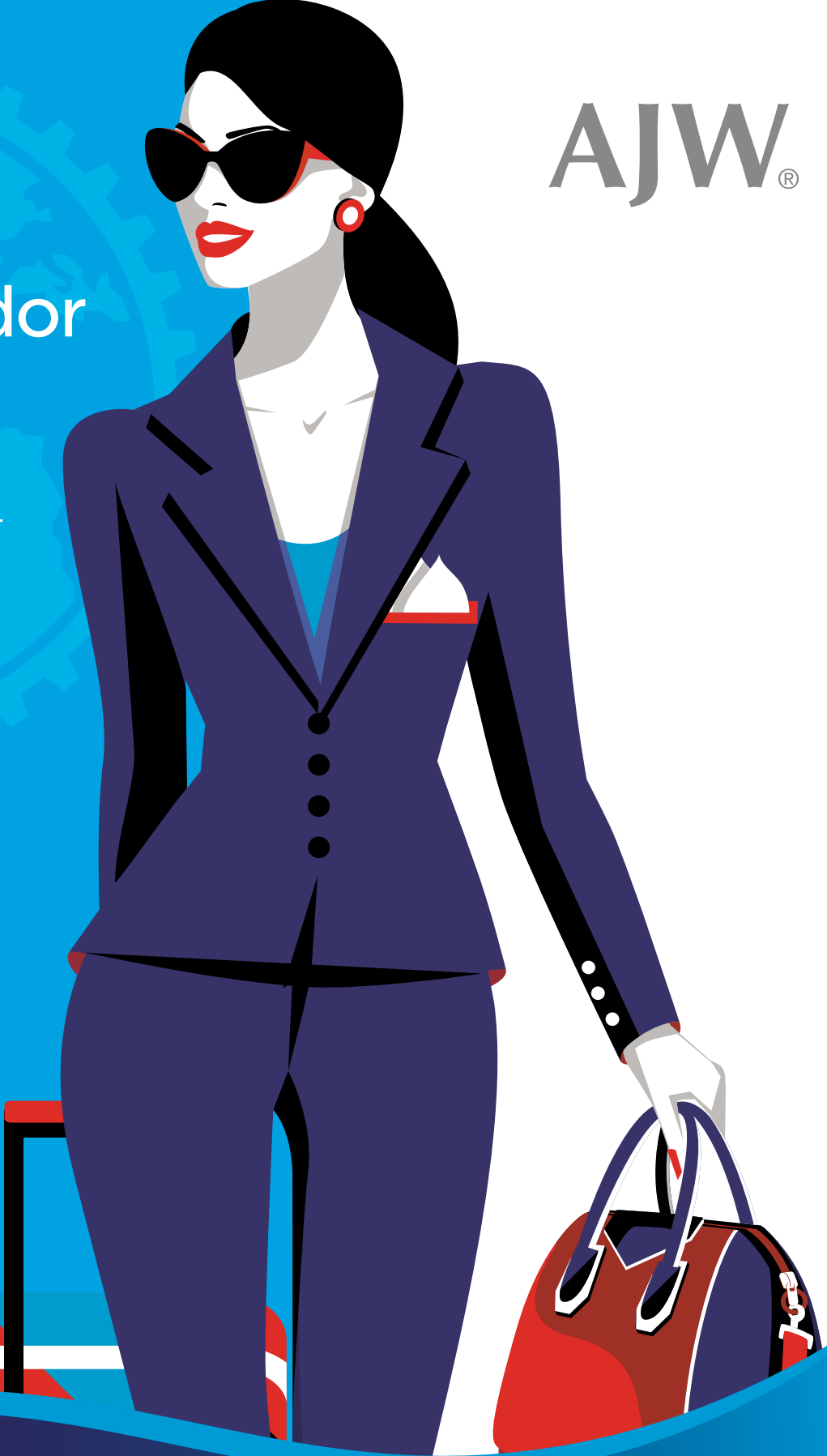
Where Scott Symington is concerned, he sees that "...By the time you're trying to sell surplus inventory, the damage is already done. You've already committed capital, tied up warehouse space, and incurred carrying costs. You're now in a position of trying to recover whatever you can from a decision that was made months or years earlier. That's reactive management, and it's inherently inefficient." He then goes on to say that: "The real failure happens when companies don't have the foresight, data, or discipline to make better purchasing decisions in the first place. It's about predicting change in demand rather than reacting to it. If you're consistently recovering only a fraction of your investment on surplus stock, it suggests one of several things: you're over-forecasting demand, you're not monitoring aging inventory closely enough, you're investing in the wrong aircraft applications, or you lack visibility into your customers' actual needs. AJW is strategic about its inventory investment precisely because we understand this. We leverage advanced data analytics to forecast demand accurately. We continuously source products from teardowns to replenish inventory and meet customer needs. We maintain robust technical record systems. And critically, we have the market intelligence and industry relationships to understand which aircraft applications hold value, and which carry higher retirement risk." He ends by suggesting that: "If you're consistently taking losses on surplus inventory, the conversation needs to shift upstream to your purchasing strategy, your forecasting discipline, and your demand visibility."



Scott Butler, Chief Commercial Officer, KP Aviation

“If companies are consistently getting only a fraction of cost in return, then they will stop buying the material in the future. This will cause future case issues where the purchaser may not find the material in the market, and then over-paying in the future.”

Scott Butler, Chief Commercial Officer, KP Aviation

A stylized illustration of a woman with dark hair in a ponytail, wearing large black sunglasses, a red circular earring, and a dark blue business suit with a red pocket square. She is holding a red and blue duffel bag. The background features a large blue gear and a stylized globe.

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HUMAN FACTOR



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The Top 10 Human Factors Behind Maintenance Errors

Understanding the Human Element in Aviation Maintenance

By David Dundas

It is fair to say that where today's aerospace industry is concerned, aircraft and the MRO sector have never been so technologically advanced. Sophisticated avionics, predictive maintenance systems, digitised documentation, and automated diagnostic tools have significantly improved both the safety and the reliability of today's fleets. However, despite such improvements, one element remains relatively unchanged and is still responsible for a large proportion of maintenance-related incidents. Here we are talking about the human factor and human error.

Maintenance technicians and engineers operate in one of the most demanding environments imaginable. We are not simply talking about workload, but the depth of knowledge and understanding required to perform so many maintenance tasks. They work under time pressure, often during the night, in adverse weather,

confined spaces, all while managing complex technical 'documentation'. Every inspection, repair, or component replacement has the potential to affect flight safety, and while maintenance engineers and technicians are highly trained and fully committed to excellence, they are still human. What we also know is that human performance is influenced by physical, psychological, organizational, and environmental factors, and each and every one of these is capable of contributing to instances involving human error.

Research conducted by aviation authorities such as EASA, the FAA, and Transport Canada consistently shows that maintenance errors are rarely the result of incompetence. This makes a lot of sense as engineers and technicians have to go through a combination of hands-on, supervised practical experience combined with a more formal education during a three-to-four-year apprenticeship unless

studying for a diploma full time. Thus, such errors are usually the result of multiple human factors combining under operational pressure. Understanding these factors is therefore essential for building a strong safety culture and reducing maintenance-related events.

The following are ten human factors we consider to be among the most significant contributors to maintenance errors and therefore they deserve ongoing attention within every maintenance set-up.

1. Fatigue: The Invisible Threat

Where the cause of errors is concerned, fatigue remains one of the greatest risks in aircraft maintenance because it often develops gradually and is difficult to recognise in oneself. Many maintenance activities take place overnight when aircraft are out of service, requiring technicians to work during the body's natural low point in alertness.

It has been shown that sleep deprivation reduces concentration, slows reaction times, impairs judgment, and increases the likelihood of overlooking critical details. Furthermore, numerous studies have shown that prolonged periods without sleep can impair cognitive performance to a similar degree as alcohol intoxication.

Fatigue becomes particularly dangerous during repetitive inspections, troubleshooting activities, or when interpreting complex maintenance documentation. Because it can be difficult to 'self diagnose' fatigue, technician may genuinely believe they are performing to a safe and acceptable standard while their decision-making abilities have already been significantly affected.

MRO set-ups can take effective steps to mitigate fatigue through intelligent shift scheduling, adequate rest periods and encouraging personnel to recognize and report when team members are no longer operating at peak performance.

2. Communication Breakdowns

Maintenance is rarely an individual activity. Engineers, mechanics, inspectors, planners, logistics personnel, and flight crews all exchange information throughout the maintenance process and as a direct consequence, every handover introduces an opportunity for misunderstanding. As examples, poor communication is not only verbal though it can include ambiguous

verbal instructions and language barriers. However, it can also include incomplete shift handovers, missing documentation, or assumptions that others possess the same information.

One of the most common examples of poor communication occurs during shift changes. A partially completed maintenance task may not be documented clearly, leaving the incoming team uncertain about which steps have already been performed. Such situations increase the risk of duplicate work, omitted inspections, or improperly completed tasks. Thus, standardised handover procedures, clear technical language, and complete maintenance records can and will significantly reduce these risks.

3. Time Pressure and Operational Deadlines

Commercial aviation operates on tight schedules as every delayed aircraft affects passenger connections, crew scheduling, airport operations, and airline profitability. Thus, maintenance personnel often face considerable pressure to return aircraft to service as quickly as possible. One has to accept that efficiency is essential, but excessive time pressure can unintentionally encourage shortcuts, while technicians may postpone secondary inspections, skip recommended pauses for independent verification, or rush documentation.

The challenge for MROs is finding a way of balancing operational efficiency with uncompromising safety as it doesn't take a lot of working out that a maintenance task completed quickly but incorrectly will ultimately result in greater delays, increased costs, and potentially severe safety consequences.

As an example of the consequences of poor communication and a 'hurry up working environment during aircraft maintenance operations, on September 11, 1991, an Embraer EMB-120 crashed near Eagle Lake, Texas, killing all 14 people aboard. The NTSB investigation revealed that the horizontal stabiliser's leading edge had been removed for maintenance. It is understood that because the work had been performed over a shift change and amid disrupted schedules, incoming mechanics were under extreme time pressure and forgot to re-secure the screws on the top of the leading edge, and shift communication and quality control broke down.



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4. Complacency Born from Experience

Ironically, experience itself can become a source of risk, especially when experienced technicians have performed many tasks hundreds or even thousands of times. Familiarity breeds confidence, but it can also reduce vigilance and as a consequence, routine inspections may gradually become automatic, leading personnel to rely on memory instead of following procedures precisely. Small deviations from established practices can creep in and while seemingly harmless, may be proven otherwise when an unusual situation occurs.

Complacency often develops unnoticed as, for example, a technician may believe they know the procedure so well that checking every step appears unnecessary. However, aviation maintenance demands consistency in actions rather than routine and therefore MROs should encourage periodic refresher training and emphasize procedural discipline regardless of experience level.

5. Distraction and Interrupted Tasks

Modern maintenance environments are full of interruptions. Mobile phones, radio calls, supervisors' questions, spare parts inquiries, coming across unexpected defects, and operational questions can interrupt technicians several times during a single maintenance task and unfortunately every interruption creates the possibility

that a critical step will be forgotten when work resumes. It is a fact of life that the human memory is surprisingly fragile when complex procedures are interrupted. And without systematic methods for marking work status, technicians may incorrectly assume that a task has already been completed.

Simple techniques such as task markers, interruption logs, or mandatory verification after interruptions can substantially reduce these risks.

6. Lack of Teamwork

Aircraft maintenance relies heavily on teamwork as many inspections require multiple specialists working simultaneously across different aircraft systems. Therefore, poor teamwork may result in duplicated work, overlooked inspections, conflicting assumptions, or uncertainty regarding individual responsibilities.

To void this, highly-effective and competent maintenance teams share information openly, verify each other's work, and create an environment where questions are welcomed rather than discouraged as a positive safety culture recognises that collaboration strengthens performance rather than slows it down.

7. Stress and Mental Workload

Stress is very different to fatigue, though it can certainly contribute to it. While fatigue reflects reduced physical and mental capacity, stress arises when



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engineers and technicians sense that operational demands exceed available resources. Maintenance technicians may experience stress from technical complexity, repeated aircraft defects, staffing shortages, difficult weather conditions, customer expectations, or personal circumstances outside work.

Moderate stress can sharpen focus temporarily and can improve performance but chronic stress, impairs concentration, increases mistakes, and reduces problem-solving abilities. Therefore, MROs that invest in realistic staffing levels, supportive leadership, and employee well-being often experience measurable improvements in maintenance quality and reduced workplace errors.

8. Inadequate Knowledge and Training

Aircraft technology continues to evolve rapidly with the use of composite structures, advanced avionics, fly-by-wire systems, electronic flight controls, predictive maintenance software, and increasingly digital maintenance environments which all require continuous professional development. The problem is, errors may occur when personnel lack familiarity with new equipment, revised maintenance procedures, or updated regulatory requirements.

Consequently, training should not be viewed as a one-time qualification but as an ongoing process throughout an engineer's career whereby effective MROs combine formal classroom instruction with practical experience, mentoring, simulator-

based training, and recurrent competency assessments.

It makes sense that investing in technical knowledge ultimately protects both operational reliability and flight safety.

9. Poor Situational Awareness

Situational awareness refers to understanding what is happening, anticipating what could happen next, and recognising how individual actions can affect the overall maintenance process. As an example, a technician may become so focused on repairing one system that they overlook interactions with adjacent systems or fail to recognize changing operational conditions. This can involve such instances as leaving tools inside an aircraft structure, failing to remove protective covers, overlooking configuration changes, or not recognising that another maintenance team has modified the work environment.

Maintaining situational awareness requires regular pauses to reassess the entire task, verify system status, and ensure that all maintenance actions remain aligned with the approved work package.

10. Organisational Culture

Perhaps the most influential human factor is organisational culture as even the most highly skilled individuals may make poor decisions when working within an environment that rewards speed over safety, discourages reporting mistakes, or treats human error as personal failure rather than an opportunity for learning.

Instead, a strong safety culture

encourages open communication, non-punitive reporting, continuous improvement, and leadership that consistently demonstrates safety-first decision making as when technicians feel comfortable reporting near misses, asking questions, or requesting additional time without fear of criticism, maintenance quality improves significantly.

Building a Human-Centered Safety Culture

Recognising human factors is most definitely not a case of accepting errors as inevitable. Instead, it means designing maintenance systems that acknowledge normal human limitations and provide safeguards before mistakes are made. As we can see, the aviation industry has increasingly adopted Safety Management Systems (SMS), Human Factors training, Maintenance Error Management Systems (MEMS), and Just Culture principles, as initiatives recognise that safety is created not only by procedures but also by organisational behavior.

It is a given that technology will continue to transform aircraft maintenance through artificial intelligence, predictive analytics, electronic task cards, wearable devices, and automated inspection systems. Nevertheless, the maintenance engineer will remain the final decision-maker responsible for ensuring aircraft airworthiness, so supporting that engineer with appropriate training, realistic workloads, effective communication, and a positive safety culture is one of the industry's most valuable investments.

Conclusion

Every maintenance error has a story behind it. Rarely is that story one of negligence or incompetence but, more often, it is a combination of fatigue, distraction, communication challenges, operational pressure, or organisational shortcomings that align at precisely the wrong moment, the so-called 'perfect storm'.

In aviation, perfection may be an aspiration, but continuous improvement is a necessity. Those organisations that embrace human factors not as weaknesses to be hidden but as realities to be managed will be the ones that continue to set the standard for safe, reliable, and efficient aircraft maintenance.

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MRO and Digitalisation – a Marriage Made in Heaven?

Not every business model perfectly lends itself to seamless digitalisation. Has the MRO sector been able to successfully make that transformation and embrace all its benefits?

By David Dundas

Though often mistakenly interchanged, the terms digitisation and digitalisation are not the same. Consequently, just so you can be 100% clear what we are referring to in this article, let us explain further. Put simply, digitisation is the conversion of data and information into digital, 'machine-readable' format. Examples of digitisation include the creation of Excel spreadsheets and PDFs from paper documents. Digitalisation, however, is slightly more complex, involving the use of digital technologies and digitised data to transform how businesses operate, communicate, and to automate processes, increase efficiency, and establish new business models.

While digitisation may lay the

foundations, digitalisation builds on that foundation by reimagining how decisions are made, how work is done, and what value can be delivered. The primary goal of digitalisation? To optimise business operations and models. However, there are those businesses that are easy to digitalise as they typically deliver intangible services or digital products that require zero shipping, nominal if any inventory, and low initial overheads. At the other end of the scale, there are those businesses which are difficult to digitalise as they involve physical logistics, strict regulations, tactile human-to-human interaction, and/or complex supply chains. Sound familiar to anyone?

We were keen to find out how the land lay for many of you in relation to wanting

to digitalise your business and actually achieving your goal. We also wanted to get an idea of what the landscape would look like in ten years time if digitalisation of the industry continued at its current pace. Finally, among other things, we wanted to know what, if anything, had been identified that has been stubbornly resistant to digital transformation. When you get feedback



Simon Walker, SVP Technical, AerFin

“In today’s MRO environment, digitalisation is the ability to induct an asset - whether an aircraft, engine or component - into a maintenance facility and return it to service with little or no reliance on hard-copy paperwork between the customer and supplier.”

Simon Walker, SVP Technical, AerFin

from ten industry professionals on the subject of digitalisation, chances are there are going to be some interesting talking points.

How would you define “digitalisation” in the context of MRO today, beyond the buzzword?

We’ve described what the ‘buzzword’ refers to in general terms; here we wanted to know what digitalisation specifically means for those working in the MRO sector in general, and specific fields in particular.

Simon Walker, SVP Technical at AerFin highlights the sounding of the death knell for paperwork as he comments that “In today’s MRO environment, digitalisation is the ability to induct an asset - whether an aircraft, engine or component - into a maintenance facility and return it to service with little or no reliance on hard-copy paperwork between the customer and supplier. It also extends to the internal management of the asset. This includes workscope planning, parts supply, repair order management, and the flow of information across the maintenance process. Ultimately, digitalisation is about creating seamless, connected processes that improve efficiency, traceability, and decision-making.” Monica Badra, the CEO and Founder of Aero NextGen suggests that the test beyond the buzzword is simple: if digital tools do not measurably reduce turnaround time risk, rework, AOG exposure, or compliance effort, the organisation has digitised its interfaces, not transformed its operations. She then adds that “Digitalisation in MRO is the disciplined shift from document-driven work to data-driven work—where planning, production, quality, and supply chain decisions are made from trusted, structured data rather than paperwork, email chains, and tribal knowledge. In practice it means:

- “Capturing work performed, parts movement, configuration, and compliance evidence at the point of activity—not reconstructed afterwards.
- Standardising core data definitions (task, defect, part, serial, batch, release) so information is reusable across systems.
- Building end-to-end traceability and auditability, from requirement to sign-off.
- Connecting operational systems so the shop floor, engineering, quality, and procurement work from a single version of the truth.”

She then adds: “The test beyond the buzzword is simple: if digital tools do not measurably reduce turnaround time risk, rework, AOG exposure, or compliance effort, the organisation has digitised its interfaces, not transformed its operations.”

Andy Boothroyd, Digital Transformation & Innovations Director at AJW Group suggests that digitalisation is often mistaken for just going paperless, but it’s much more than that. It’s about putting the right data in front of people at the right time, so they can make quicker, better decisions, whilst reducing the amount of manual effort. He further explains that: “Our focus has been on connecting that data across the supply chain, so it actually flows, from the first customer touchpoint right through to fulfilment, with minimal intervention. We’re moving away from static documents towards guided, data-led workflows. Our teams are supported in real time, with intelligent prompts helping to drive accuracy and consistency. It’s about equipping our people with the tools and data they need to perform at their best, amplifying the value of their expertise. At the end of the day, it’s about joining everything up. Data, systems, and people working together as one, creating a faster, more responsive, and genuinely customer-focused operation.” As opposed to digitisation, Hannah Myers, VP of Marketing highlights the differentiation between that and digitalisation, advising that digitalisation involves changing how work gets done. “Done properly it allows information to move as a by-product of work being completed, for example a technician closing out a task and a record being captured in the same motion. Digitalisation should allow your techs to spend less time feeding the system and more time doing their jobs, without sacrificing compliance or quality,” she says.

Robert Suhs, VP Global Sales at Inventory Locator Service makes it clear that to him, digitalisation in MRO is not about putting another system in front of already busy teams but is more about connecting the information that drives the work. “In a real MRO environment, the critical question is rarely ‘Do we have data?’ The question is ‘Can we trust it, act on it, and move quickly enough to protect the operation?’ That means connecting parts availability, supplier confidence, documentation, pricing context, maintenance requirements, and logistics into a workflow that helps teams

make better decisions faster,” he tells us. Scott Wells, Managing Director at MRO-PRO looks at digitalisation from a slightly different perspective. From his viewpoint, “At its core, it’s not about digitising paper records or installing new software, it’s about fundamentally changing how decisions are made. Digitalisation in MRO is best understood as the transition from fragmented, reactive processes to integrated, data-driven operations that enable more effective, faster decision-making. The real value emerges when data can be leveraged, particularly through AI, to improve predictability, streamline workflows, and enhance overall operational efficiency and bottom-line profitability.”

According to Tom Eskola, Vice President of Panasonic Technical Services at Panasonic Avionics Corporation, “Digitalisation in MRO is increasingly about using data and software-driven insights to move from reactive maintenance to more proactive and predictive approaches. It is not simply about replacing paper-based processes with digital tools. Rather, it is about creating an ecosystem where operational, maintenance, and system-performance data can be collected, analysed, and acted upon in real time. This shift is less about digitising individual processes and more about connecting data directly to maintenance execution.” He adds that: “Today, digitalisation at Panasonic Technical Services (PTS) enables capabilities such as remote diagnostics, real-time monitoring, data-driven troubleshooting, and proactive maintenance planning across in-flight entertainment and connectivity (IFEC) systems.” At Pentagon 2000, the company’s Global Head of Sales and Marketing, Guy Danon, makes some extremely valid points as he adopts an almost critical approach to how attempts to ‘digitalise’ legacy systems create as many problems as they solve. “Many organisations continue to rely on legacy systems that have evolved over decades. Rather than solving the underlying challenges, additional tools are often layered on top to fill operational gaps. On paper, this may look like digital transformation. In practice, many of the ERP systems and technological stacks out there require companies to sustain teams of IT specialists, system admins, or external system integrator consultants only to maintain and adjust the systems to the business needs. Yet, after millions invested, technicians are still re-entering

information, buyers are working from spreadsheets, and critical operational data remains fragmented across multiple systems.” From his point of view, “...true digitalisation means information is captured once, flows seamlessly across departments, and remains fully traceable throughout the lifecycle of a component, work order, or aircraft. When maintenance, inventory, procurement, quality, and management teams are all working from the same real-time information, with fewer or no manual processes and greater visibility, regardless of whether working from a tablet, desktop, or mobile phone — that is what true digitalisation is.”

At Sky Select, Erkki Brakmann, the company’s CEO and co-founder is very clear in his opinion regarding digitalisation. “The honest definition is this: digitalisation is the moment when decisions, not just data, improve. Aviation has accumulated enormous volumes of accessible data: M&E records, supplier portals, lead time histories, consumption logs. What has not changed is the quality of the decisions made against that data, because the volume of variables per part, per fleet, per month exceeds what any planning or procurement team can genuinely process. Buyers still fall back to last year’s forecast plus a buffer. That buffer is paid for in excess inventory and in the AOGs the inventory was supposed to prevent. True digitalisation in MRO means the decision layer catches up with the data layer. It means a buying organisation can act on real consumption signals across tens of thousands of part numbers, continuously, at the cadence the market actually moves...



Tom Torosian, Director of
Aviation Business Development, TruVideo

rather than acting on hindsight at quarterly review cadence. When that happens, the financials move: inventory comes down, spend comes down, and reliability goes up simultaneously. Until the decisions improve, everything else is digitised paperwork,” he suggests. To effectively conclude this section, Tom Torosian, Director of Business Development at TruVideo, remarks that: “A truly digitalised MRO operation connects the technician on the hangar floor to the engineer, the planner, the customer and the compliance record in real time, with information that is structured, searchable and actionable.” He then shares further thoughts with us: “The regulatory direction is clear: digitalisation is no longer an operational preference, it is where the industry is being led. The MROs that treat that as a floor rather than a ceiling will be the ones that pull ahead. For too long, MROs have digitised records and schedules while leaving the actual work (the inspection, the finding and the diagnosis) locked inside a technician’s head or on a paper form. When an engineer can see exactly what a technician sees, in real time, from anywhere in the world, with visual data captured directly within the workflow, that is digitalisation that moves the needle.”

Where do you see the biggest gap between digital ambition and execution in the industry?

It’s all very well talking about digitalisation and what is involved in the process, but just because you want to digitalise a process doesn’t automatically mean it can be. We wanted to discover if there were any areas where desire to become digitalised and fulfilment of that wish haven’t quite met expectations.

The biggest gap is not technology availability—it is operational readiness to implement and sustain change Monica Badra tells us, adding that: “MROs set ambitious targets (paperless, predictive, real-time visibility) and underestimate three execution realities:

- Data quality and governance: digital outcomes depend on consistent master data, disciplined transaction capture, and clear ownership. Without it, analytics and AI simply scale bad inputs.

- Interoperability and process alignment: point solutions bought without an integration strategy create digital islands, where teams still reconcile ERP/MRO, planning, quality, inventory, and customer reporting by hand.

- Change management on the shop floor: adoption fails when tools are imposed without redesigning workflows, training, and incentives. If technicians see digital tasks as administrative overhead, compliance stays superficial.”

The way to close it is to start with a defensible requirements baseline and a fit-for-purpose shortlist. Aero NextGen’s Solution Finder helps MROs structure their needs through a vendor-neutral quiz and identify best-fit providers across 60+ solution categories.

Looking at the bigger picture, Andy Boothroyd has some very valid comments, especially when it comes to those systems which have to work collaboratively across the wider industry, not just within one organisation. “A clear example is parts traceability and airworthiness documentation. Despite the technology available, key artefacts like Authorised Release Certificates remain largely paper based. As a result, highly skilled technicians and inspectors are still spending time on repetitive administrative tasks that could be automated, improving accuracy while freeing them to focus on safety-critical work and enabling a more seamless, real-time process. From a strategic perspective, that points to a bigger issue. You can’t fully transform digitally if everyone is working in silos, because the supply chain itself cuts right across multiple organisations. Individual businesses, like ourselves, have made strong progress internally, but as an industry, we’re still missing consistent, scalable ways to share trusted data. There’s also, understandably, some hesitation

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when it comes to sharing information more openly,” he suggests, adding that “Our approach is to focus on building a digital supply chain with a single source of truth, so that traceability, compliance, and transaction data can move much more easily between partners. Ultimately though, closing that gap isn’t just about technology. It comes down to alignment across the industry and building the right level of trust, and that’s where we see our digital strategy playing a role in helping move the aftermarket towards a more connected and transparent model.”

Hannah Myers is concise in her thoughts: “One thing I see frequently is companies overloading their workflows with tools, without addressing the underlying processes. Often they are afraid to adopt a new system, so they wind up adding several bolt-ons to solve challenges. In the end, they wind up creating an expensive and clunky system that actually makes things harder and fixes nothing,” while Robert Suhs is more concerned with alignment as opposed to the technology itself. “The industry has made real progress, and many organisations have stronger systems, better data, and more digital tools than they had even a few years ago. But supply chain disruption is already driving more than US\$11 billion in additional costs in 2025 (IATA) across commercial aviation, and a big part of that is because different teams within a single organisation can still arrive at different conclusions because they are optimising for different priorities. A CFO may want to reduce inventory and protect working capital. Operations may want more inventory on hand to reduce turnaround time. Procurement may be focused on price

and supplier terms. Maintenance may be focused on availability and speed. Quality may be focused on documentation, trace, and compliance. Each perspective is valid, but if those priorities are not connected, digitalisation can expose the conflict rather than solve it. That is where execution becomes difficult. MRO teams do not just need more information. They need shared intelligence that helps different business units make better trade-off decisions together. From the ILS perspective, that is where aviation market intelligence has to become practical. Teams need visibility into what is available, who can support the requirement, whether the documentation is right, and what decision best protects the aircraft, the customer, and the business,” he advises.

However, Scott Wells is adamant that there remains a clear gap between ambition and execution, largely because of the challenges around data integration and legacy infrastructure across the MRO industry. Backing this up by saying that: “While many organisations have defined digital strategies, progress is often slowed by historically siloed systems and inconsistent data quality. As a result, ambition overtakes execution if AI cannot be deployed at scale, limiting its potential positive impact on efficiency and cost reduction.” Beyond this, Tom Eskola has quite an insightful opinion on the matter. “The industry has a clear vision of what a digital MRO can achieve; however, most MROs fail to operationalise data insights at scale,” he points out. “The last mile of the digital MRO is execution, not simply generating insights. The combination of a rich data environment with strong execution can transform MROs and create significantly stronger performance. Regulatory certification is one of the biggest concerns that can impede progress. Any changes to cabin systems or their maintenance must comply with strict regulatory standards, often with region-specific requirements. While the ambition is to introduce digital tools

rapidly, implementation must be balanced with safety, compliance, and operational continuity. This creates a gap not just in technology deployment but in integrating those technologies into day-to-day maintenance workflows. Closing this gap requires greater collaboration between OEMs, airlines, MROs and regulators to ensure that digital solutions can be integrated smoothly while delivering measurable operational value. Designing products with implementation in mind is also important. At Panasonic Avionics, we address this by designing solutions with implementation and integration in mind, where modularity, maintainability, and data integrity is always a key factor. By designing our latest systems with a digital MRO in mind, this helps simplify the operational capabilities deployment and reduce installation friction, giving airlines the flexibility to upgrade systems while keeping their fleets at top performance. For instance, our new-generation seatback monitor retrofit solution, eXNeo, was developed to modernise legacy cabin systems while using existing mechanical interfaces. By minimising certification efforts and installation complexity, this solution helps airlines introduce next-generation digital capabilities while reducing downtime and operational disruption,” he concludes.

For Guy Danon, one of the biggest gaps is the disconnect between vendor promises and operational reality. He goes on to further explain that: “Some of the leading and shiny ERP vendors present polished mock-ups, slide decks, and ambitious claims, but customers often discover the true gap only after contracts have been signed. ERP implementations do not have to be excessively complex or expensive. However, when companies choose systems that are not built for industry-specific processes, they often face extensive customisation, long-running projects, large teams of consultants and IT specialists, and rapidly escalating costs. In many cases, the result is a cumbersome



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

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implementation that still fails to deliver the integrated, practical functionality the business needs. For instance, aviation MRO processes have unique requirements around traceability, regulatory compliance, serialised inventory, repair management, and documentation control. When those capabilities are not built into the ERP, and when an advanced Parts Master management is not a core foundation of the system, then organisations often resort to custom development, layers of multiple systems, spreadsheets, disconnected applications, and manual workarounds. Digital transformation is not simply about implementing technology. It is about combining the right system with the right processes and the right data to create a reliable operational foundation."

For Erkki Brakmann, "The gap is not technological, it is integration. Most MRO digital programmes are built inside functional silos: a maintenance planning tool here, an inventory system there, a compliance module somewhere else. Each works within its own boundary. The problem is that the decisions that actually drive reliability and cost cut across all of those boundaries simultaneously. While most digital roadmaps aim for complete, end-to-end visibility, actual execution usually results in isolated, point-solution systems. Closing this gap takes more than just upgrading software; it requires operators, MROs, OEMs, and suppliers to share data openly. However, doing so triggers deep competitive and commercial concerns that technology by itself cannot fix." However, to draw this section to a close, Tom Torosian focuses more on the fact that, in his opinion, "The biggest gap is at the point of work." He continues: "MROs have invested heavily in ERP systems, scheduling platforms and compliance tools, but walk onto a busy hangar floor and you will still find technicians relying on verbal communication, paper documentation and static photographs. The digital

infrastructure stops at the edge of the bay. That is where the investment has not caught up. Bringing real-time visual intelligence into the workflow at the technician level, not as an added burden, but as a natural extension of how the work already gets done, is where the industry needs to focus next."

What will MRO operations look like in ten years time if digitalisation continues at the current pace?

It never does any harm to look into the future, and though digitalisation of the MRO sector is in its infancy, surely enough has happened for forecasts to be possible.

At its core, MRO will always rely on highly skilled, hands-on work, that doesn't change. What will change is everything around it. "The biggest shift will be stripping out the non-value-added tasks. Searching records, interpreting manuals, building bills of materials, processing paperwork; those are exactly the kinds of activities that will be automated or AI-assisted. Instead, technicians will work in digitally guided environments, with the right information appearing when they need it, rather than having to go looking for it", Andy Boothroyd tells us, adding that: "At AJW, we're taking a human-led approach, backed by smart automation. It's about giving people better tools, not replacing them. AI takes care of the repetitive, data-heavy work, so our teams can focus on decisions and expertise, and that's how you scale without simply adding more resource. We're also seeing a move towards real-time, data-led decision-making across the supply chain. Inventory, repairs, and logistics are becoming far more connected, with predictive tools helping us stay ahead of demand rather than react to it." According to Hannah Myles, "Technology is developing at a faster pace than ever before and the gains seen by companies who are adopting it

in a smart way are becoming exponential rather than gradual. I think this trend will continue and we will start to see a much bigger distinction between companies that are truly digitalising and those that are clinging to outdated processes or not making wise use of technology."

Robert Suhs eyes intelligence-led MRO operations in the future, though he explains that he does not see it being a case that people will be replaced by systems. Instead, he believes that: "the strongest teams will be supported by better signals earlier in the process. Planning, sourcing, supplier evaluation, documentation review, and logistics decisions will be more connected than they are today." He then continues: "The biggest shift will be moving from reactive problem-solving to faster, more informed execution. Instead of searching across multiple sources and manually building confidence, teams will be able to see availability, condition, supplier history, documentation status, price context, and lead time in a more connected way. That will matter because the pressure on MRO is not going away. Aircraft availability, labour utilisation, customer commitments, and supply chain constraints will all keep tightening. Digitalisation has to help teams move with more confidence under that pressure." Scott Wells follows this theme a little further in terms of seeing MRO operations becoming increasingly predictive as he suggests that: "AI will play a central role in analysing aircraft health data in real time, enabling more widespread adoption of condition-based maintenance. More importantly, MROs will begin forecasting maintenance



Andy Boothroyd, Digital Transformation & Innovations Director, AJW Group

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

outcomes before maintenance events even begin, predicting likely defects, parts requirements, tooling needs, and labour demand before the aircraft enters the hangar. Planning and scheduling will become more automated, and supply chains more responsive. However, progress may not be uniform across the industry, as the leaders will be running highly predictive, AI-driven operations with real-time maintenance decision-making and tightly optimised supply chains, whilst the rest of the industry risks lagging behind, still dealing with manual processes and inefficiencies."

Tom Eskola is in lockstep with several others in that he feels MRO operations will need to become significantly more predictive, connected and data driven. By this he means that: "Real-time health monitoring and advanced diagnostics will enable maintenance teams to identify potential issues earlier, reducing unscheduled maintenance events and improving aircraft availability. This allows teams to move from identifying issues to fixing them before they impact operations. This is where Panasonic has an advantage due to the interconnected data platform enabled by our latest IFE systems including a proprietary new aircraft health monitoring capability, and CONVERIX, an onboard server that really brings these capabilities together. By enabling these new tools and capabilities, we expect maintenance planning to become increasingly condition-based rather than schedule-driven, with data analytics helping airlines optimise maintenance intervals and resource allocation with tighter integration between data platforms and maintenance execution.

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Panasonic Avionics Corporation*

Software updates, system monitoring, and fault analysis will become more automated and integrated across the aircraft ecosystem. The result will be more predictable maintenance costs, improved operational efficiency, and higher levels of system reliability. Airlines and MRO providers will increasingly use digital platforms that provide a holistic view of an aircraft's health and performance throughout its lifecycle." As a consequence, he believes: "We're already seeing elements of that future emerge today. For example, PTS' recent agreement with Air India combines proactive monitoring, fleet-wide support, spares management, and 24/7 technical assistance under a single service framework. As digitalisation advances, we expect more maintenance programs to evolve in this direction, where insights generated from connected aircraft systems can be translated directly into real-time maintenance actions through integrated global service support, helping airlines maximise aircraft availability, reduce operational disruption, and manage assets more efficiently throughout their lifecycle."

Interestingly, Guy Danon shrewdly points out that ten years seems like a very long time away, especially when "Many of the capabilities we once viewed as future concepts are already becoming reality." He further explains that: "At Pentagon 2000, we are already seeing how AI is changing the way organisations interact with their operational data. Instead of spending hours creating reports or searching through records, users can ask business questions, identify operational trends, uncover weaknesses, and access meaningful insights almost instantly. Over the next decade, we expect AI to become a standard tool throughout MRO operations. It will support maintenance planning, optimise inventory, improve resource allocation, and help organisations make faster, data-driven decisions. Thanks to AI, I believe

that the weight of identifying issues and triggering preventive action will shift from human to machine. We also anticipate greater adoption of robotics and intelligent automation, particularly for repetitive inspections, material handling, inventory management, and other routine tasks. As workforce shortages continue to challenge the industry and efficiencies become even more crucial in creating a competitive edge in the market, these technologies will allow skilled technicians to focus on work that requires technical expertise, judgment, and regulatory oversight." He concludes with the following: "The organisations that will benefit most are those building strong operational foundations today, because AI, automation, and robotics are only as effective as the information they are built upon"

Interestingly, Erkki Brackmann suggests it shouldn't be a case of assessing things at the current pace of development but more looking at what might happen if that pace increases. "If we continue at the current pace, focusing solely on building internal tools without implementing a shared intelligence layer, the industry will remain largely unchanged from its current state. While we may achieve faster workflows and improved dashboards, we will still face the same structural inefficiencies in maintenance planning, workforce deployment, and other areas. The more intriguing question is what MRO will look like if the current pace accelerates positively. If a genuine cross-network visibility layer is established, similar to how "Retail Link" transformed the consumer goods industry, the changes will be structural and will be reflected on balance sheets. Typically, operators could reduce their parts inventory by 25–50% and cut parts and inventory spending by 10–15%. Additionally, reliability metrics will improve because demand signals will reach suppliers early enough for them to stock and deliver

parts reliably, rather than reacting to AOGs.” He then adds that: “The workforce changes shape too. Not smaller necessarily, but differently skilled. Technicians spend less time on administrative compliance burden and more time on the diagnostic and technical judgment that genuinely requires human expertise.” Meanwhile, Tom Torosian believes that the hangar of the future has the same skilled technicians and the same aircraft, but visual intelligence embedded in the workflow makes every step faster, more accurate and more connected. “The achievable scenario is one where every maintenance finding is captured visually the moment it is discovered, AI cross-references it against failure patterns and history, and engineers anywhere in the world make confident decisions in minutes rather than hours. Aircraft on Ground (AOG) events that today stretch into days get resolved in hours. Compliance is embedded by design, and documentation is structured and audit-ready without additional administrative burden,” he tells us.

Looking at things from a different perspective, Simon Walker is of the opinion that “MRO operations are likely to become increasingly predictive. Aircraft will continuously stream health-monitoring data, providing richer and more relevant insights into component and system performance. AI tools could become sufficiently mature and trusted to identify degradation patterns weeks or even months before failure, not only at component level but potentially across larger assemblies such as gas turbine engines. This could give airlines greater confidence to replace parts based on actual condition and predicted performance rather than solely on soft maintenance intervals. Even OEM hard-time limits may come under increased scrutiny, with the potential for more flexible maintenance strategies tailored to specific operations rather than programmes that are only updated periodically.” He concludes that: “If these developments become reality,

unscheduled maintenance events and AOG situations could be significantly reduced.”

Which emerging technologies are you most optimistic—or sceptical—about?

In a business with established practices and a highly experienced workforce, there is always going to be a resistance/reluctance to change. However, those responsible for operations and working practices, as opposed to those who do the physical work, are often just that little bit more detached from operations so that it is easier for them to see where improvements can be made through adopting new digitalised practices. Here we wanted to know what new technologies that have appeared as a result of digitalisation seem to have potential, and those which don’t.

According to Hannah Myers at AvSight, “AI for both. I’ve seen it used in some incredible ways, for things like managing customer approvals, tracking progress, and managing sourcing. I’ve also seen it used in ways that at best, do nothing, and at worst, cause serious problems. I think to succeed AI must be made for aviation processes and fully integrated into your ERP. The strategy is critical too, AI should be used to handle processes that are low skill and time consuming or those that require analysing complex data sets. Humans should always be involved in highly skilled critical tasks and relationship building. Smart use of AI is about maximising your employees’ skills, not about trying to replace them.” Over at Inventory Locator Service, Robert Suhs is optimistic about technologies that make MRO decisions faster, clearer, and more reliable. As far as he is concerned: “That includes AI-assisted sourcing, aviation market intelligence, API connectivity, predictive analytics, digital documentation, and stronger traceability tools.” He then expands: “I am more sceptical of technology that is positioned as a solution before the problem is clearly defined. AI is a good example. AI has real potential,

but only if it is grounded in trusted data, aviation context, and a specific operational use case. Otherwise it risks becoming another layer of noise. For MRO, the test should be simple. Does the technology help reduce uncertainty, improve speed, strengthen compliance, or protect turnaround time? If it does, it has value. If it does not, it is probably a distraction.”

At MRO-PRO Scott Wells senses there is strong reason to be optimistic about AI and machine learning, particularly where they are delivering measurable improvements in predictive maintenance, planning optimisation, and operational decision-making. However, he is sceptical of organisations that simply bolt AI onto legacy systems and expect transformational results. As he suggests: “The reality is that AI is only as effective as the data it can access and understand. Most legacy MRO systems were never designed with AI in mind, and much of the industry’s data remains fragmented, inconsistent, and difficult to analyse at scale. The real opportunity lies not in adding AI to existing processes, but in restructuring data and workflows from the ground up so that AI can systematically learn, identify patterns, and support decision-making. The organisations that build AI into the foundations of their data architecture will achieve significantly greater benefits than those that simply add an AI layer on top of existing systems.” Beyond this, at Panasonic Avionics Corporation Tom Eskola feels that technologies that help transform operational data into actionable maintenance insights are looking particularly optimistic, especially where they can be scaled across fleets

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and integrated into existing maintenance operations. He makes it clear that: “We already see real-time monitoring, predictive analytics, connected aircraft systems, and advanced diagnostic capabilities in place, and they all have the potential to deliver further tangible improvements in reliability, maintenance efficiency, and aircraft availability. Additionally, the impact of incorporating open and modular platforms is an exciting development. By allowing airlines to introduce new capabilities without major system redesigns or extensive downtime, modularity will help accelerate innovation while simplifying maintenance and certification requirements through operating within existing certification and operational frameworks. The value of any emerging technology ultimately depends on how effectively it integrates into existing operations and whether it can deliver measurable outcomes for airlines and MRO providers. As such, the industry should focus on practical, scalable implementation.”

Over at Pentagon 2000 Guy Danon is positive in his outlook. “There are countless new technologies entering the market today, and we believe a healthy level of scepticism is important. Organisations should focus less on what a technology promises and more on the operational problem it is solving,” he states, adding that “At Pentagon 2000, we are particularly optimistic about AI, automation, robotics, computer vision, sensor-sourced data, and drone-assisted inspections. We have already integrated AI capabilities into our platform, and we see enormous potential for technologies that help organisations analyse operational

data, automate repetitive tasks, and improve decision-making. I believe that VR and smart AI glasses will have a more important role. Specifically in industries in which traceability is crucial, blockchain ledger technologies might be better incorporated within the standard systems, although we need to see how quantum computing will affect the credibility of the blockchain technologies. We are especially encouraged by technologies that can improve consistency, reduce repetitive manual work, and support technicians in performing inspections more efficiently. As workforce shortages continue to challenge the industry, these tools can help skilled personnel focus on higher-value activities that require expertise and judgment. However, in spite of the hype surrounding AI, we believe that the train will slow down until some crucial questions with regards to data security, future-generation AI that might become ‘too’ independent, and other ethical questions are addressed.”

Like Guy Danon, Erkki Brakmann at Sky Select is also highly optimistic. His reasoning? “The highest-value use of AI is in the decision-making layer of parts procurement and inventory. By training AI on data from an entire network, rather than a single operator, it can continuously analyse supplier inventory, lead times, logistics costs, and demand forecasts across tens of thousands of parts. No human team can match this volume and complexity. Furthermore, because the AI learns from a whole network of data rather than just one operator’s history, its recommendations are structurally superior, and they get smarter as the network grows.” However, he also introduces reasoning to be sceptical, suggesting that: “Centralised procurement marketplaces and exchanges. The concept resurfaces every few years: build a single platform, get everyone to join, and efficiency follows. It has repeatedly failed because it requires universal adoption before any participant sees value, and neither airlines nor suppliers want to expose their data in a shared transactional environment. The

structural issue is that a marketplace puts itself in the middle of the transaction. What actually works is a neutral intelligence layer that sits above it: delivering value from day one with a single participant, and compounding as the network grows. The network effect should be an advantage, not a prerequisite.” Of course, there is one aspect that some may be extremely positive about, and that is AR-assisted video intelligence at the point of work. Tom Torosian at TruVideo tells us more: “A senior engineer anywhere in the world can see exactly what the technician sees through AR glasses and guide the work in real time. The remote video support compresses the time to decision for the responsible engineer, particularly in AOG events, in ways that weren’t practical five years ago. Separately, FAA Advisory Circular 120-78B legitimises electronic signatures and records, making digital documentation workflows viable by removing paper bottlenecks. Beyond remote collaboration, video is enabling AI-driven anomaly detection that flags corrosion, cracks, and out-of-tolerance conditions with a consistency no technician can sustain across a full shift. The skepticism is reserved for certain digital twin implementations. While they have absorbed significant investment and generated impressive demonstrations, real-world ROI at the maintenance execution level remains elusive. The technologies that will move the industry forward are not necessarily the most sophisticated ones. They are the ones that fit into existing workflows and deliver measurable value from day one.”

On the optimistic side, Monica Badra at Aero NextGen looks towards technologies that can improve execution reliability as opposed to just reporting. She refers to the following:

- **Modern integration architectures (APIs, iPaaS, event-driven integration):** foundational. Without integration, even strong applications create friction.
- **Computer vision and assisted inspection:** targeted use cases—damage-



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

“By training AI on data from an entire network, rather than a single operator, it can continuously analyse supplier inventory, lead times, logistics costs, and demand forecasts across tens of thousands of parts.”

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



Digital Capture

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detection support, documentation-completeness checks—reduce variability, provided the quality system defines how outputs are validated.

- **Digital thread applied pragmatically:** linking configuration, maintenance history, and compliance evidence across the lifecycle pays off when implemented stepwise.

However, she is also sceptical about:

- **AI without governance:** AI for MRO is often sold ahead of data maturity. If defect coding, task execution data, and parts traceability are inconsistent, AI produces confident but unreliable recommendations.

- **Blockchain as a default answer for traceability:** the constraint is usually process discipline and system integration, not the ledger. Strong data governance and secure interoperability deliver the benefit faster.

At AJW Group Andy Boothroyd makes a very valid point in that the technology generating the most momentum right now is AI, particularly agentic AI, because it fits so naturally into the kind of knowledge-heavy work we see in MRO.

He goes on to add: “Its value is pretty immediate. AI can interpret manuals, support troubleshooting, and handle documentation, things that traditionally take up a lot of time. At AJW, we’re not treating it as a bolt-on tool, it’s built into how we operate, helping to drive workflows and support better decision-making day to day. We’re also seeing strong results from machine learning in areas like demand forecasting, inventory optimisation, and predictive maintenance; especially when it’s combined with our own data. That’s where it really starts to make a measurable difference. Where we’re a bit more cautious is with technologies that only work if the whole industry moves together, things like fully digital certification or blockchain-style solutions. They’re promising, but progress has been slow, mainly because of regulatory complexity and a lack of standardisation. So, our focus is on what we can actually deploy and deliver value from today, while still building the foundations for more transformative change over time.”

What skills are becoming essential for the next generation of MRO professionals?

With new technologies come new working practices and the need for different skillsets. Here we wanted to see if it has already become apparent what new skills might be required for MRO professionals in the future. For Robert Suhs, the next generation of MRO professionals will need a stronger blend of technical knowledge, digital fluency, and soft skills. To this he adds: “Digital skills will matter. Teams will need to interpret data, work across systems, understand market signals, manage documentation, and use intelligence tools to make faster decisions. But MRO will never be a purely digital business. It is still built on trust, urgency, judgment, and relationships. That makes soft skills essential. Knowing when to pick up the phone, how to ask the right question, how to build supplier confidence, and how to maintain relationships before there is an urgent need will remain critical.

In a constrained market, access often comes from credibility. Credibility comes from consistent communication, follow-through, and mutual trust. The strongest MRO professionals will be the ones who can combine aviation knowledge, digital confidence, and human connection". Scott Wells is very much in line with Robert Suhs when he tells us that "Alongside traditional aviation engineering expertise, there is an increasing need for digital and analytical skills. Data literacy is becoming particularly important, enabling professionals to interpret insights generated by AI and other digital tools. The ability to work effectively in a more automated, data-rich environment will be key to maintaining operational efficiency and supporting continuous improvement. The human role doesn't disappear, but it needs to evolve into something more analytical and decision focused."

For Tom Eskola, learning a new skill is not a one-off event but a continual process. He makes it clear that: "As aircraft systems become more connected and software-driven, MRO professionals will need a broader blend of traditional engineering expertise with digital competencies. Data literacy, familiarity with digital diagnostic tools, and the ability to interpret system-performance information are becoming increasingly important. These skills are critical as maintenance becomes increasingly data-driven and system-based. At the same time, a strong understanding of regulatory compliance, certification requirements, and aircraft systems remains essential. The future workforce will need to be comfortable working across both physical and digital environments. Continuous learning will also be critical. As technologies evolve, training cannot be viewed as a one-time event. Engineers and maintenance professionals will need ongoing development to remain current with new systems, software platforms, and maintenance methodologies. This ensures that maintenance teams can effectively operate in environments where digital and physical aircraft systems are increasingly interconnected." Guy Danon is also clear in his understanding of the current situation. As he explains: "Technical expertise will always be the foundation of MRO, but digital skills are becoming just as important. It's no longer enough to collect data. Professionals need to understand how to interpret it, question it, and use it to make better operational

decisions. Professionals will be the ones who are able to monitor and challenge AI tools, which are ultimately there to assist MRO specialists rather than replace them. For example, a planner should be able to identify inventory trends before they become shortages, a technician should understand the importance of capturing complete maintenance records, and managers should be able to turn operational data into actionable improvements. Every work order, inventory transaction, and compliance record contributes to the bigger operational picture, and all should be captured and processed in a digital way. Therefore, it is no longer enough for an MRO specialist to be an exceptional mechanic. He or she must embrace technology to become better, quicker, and relevant in tomorrow's workplace."

Erkki Brakmann has some shrewd words to share that look at the situation from a slightly different angle. "The next gen of MRO professionals won't need to learn how to build AI, but they will need to learn how to work alongside it. As digital tools increasingly handle administrative tasks, paperwork, and routine signoffs, the human role is shifting toward high-stakes decision-making and complex problem-solving," he says, before adding that: "As a result of this shift, one of the most essential new skills is the ability to critically evaluate AI recommendations. Future MRO professionals must understand exactly what an intelligent system is suggesting and why. They should possess the technical judgment to discern when a model's confidence is well-founded, when human intuition should take precedence, and when an algorithm is operating outside the specific boundaries it was trained on." Tom Torosian is of the opinion that the next generation of MRO professionals will need to be as fluent with digital tools as they are with physical ones. He goes on to say: "That means being comfortable with video documentation as a standard part of inspection workflows, communicating findings clearly through digital visual management systems, and understanding how AI-assisted tools support, not replace, expert judgment. The technician who can document a finding visually with enough clarity and context for a remote engineer to make a confident real-time decision is enormously more valuable than one who cannot. For Simon Walker, he sees the future as requiring skills to work on

multiple platforms away from the more normal workplace environment. "Digital literacy will become increasingly important. Future MRO professionals will need to be comfortable working with a range of digital tools, interfaces, and AI-driven systems. The workplace will extend beyond traditional desktops, laptops, or tablets. Technicians and engineers will interact with new technologies and AI-based assistants in ways that are still evolving today. Adaptability and the ability to work confidently with these tools will be essential," he informs us.

Monica Badra believes that digital literacy will become increasingly important. Future MRO professionals will need to be comfortable working with a range of digital tools, interfaces, and AI-driven systems. She feels that: "The workplace will extend beyond traditional desktops, laptops, or tablets. Technicians and engineers will interact with new technologies and AI-based assistants in ways that are still evolving today. Adaptability and the ability to work confidently with these tools will be essential." She cites the following examples:

- **Data literacy:** interpreting operational data, judging data quality, and using dashboards to make decisions, not just consuming reports.
- **Process thinking (Lean and standard work):** digital tools amplify process design. Teams must map workflows, remove waste, and standardise execution before automating.
- **Systems and integration awareness:** leaders must understand how ERP/MRO, planning, quality, and inventory systems interact—and where handoffs fail.
- **Cybersecurity and compliance awareness:** as MRO becomes more connected, basic security practices and audit-ready evidence handling become operational requirements.
- **Change leadership:** supervisors and leads must drive adoption, coach usage, and translate the why into day-to-day behaviours.

Andy Boothroyd thinks along the same lines as Guy Danon and underlines what he had to say: "They'll need a blend of strong technical skills and digital confidence. The engineering fundamentals don't go away, but they're now alongside the ability to work with data and AI-driven tools. As AI becomes part of everyday workflows, the role naturally shifts. It's less about following predefined tasks and more about making informed decisions, supported by better



Hannah Myers, VP Marketing, AvSight

information and smarter systems. That puts more emphasis on judgement. In a safety-critical environment like aviation, people still need to sense-check and validate what the technology is telling them but not blindly trusting it. Data literacy is also becoming essential. Whether you're in maintenance, supply chain, or operations, you need to understand how data is being used and what it's telling you. For us, that's why the focus isn't just on technology, it's on people as well. Upskilling and bringing the workforce along is critical, because the real value comes from how well the two come together. Technology is giving MRO professionals better insight and better tools, so they can deliver faster, more reliable outcomes.

To draw this section to a close, Hannah Myers believes that deep domain knowledge is and always will be the number one skill for MRO professionals. However, she also thinks what will change "...is how that knowledge and experience is passed on. The tribal knowledge that lives in everyone's heads is exactly what should be embedded into AI logic to make tools useful. Sharing it in this way will give new techs a major experience boost. I also think

“The tribal knowledge that lives in everyone's heads is exactly what should be embedded into AI logic to make tools useful. Sharing it in this way will give new techs a major experience boost.”

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you will see younger professionals less and less willing to learn clunky outdated software. Companies that digitalise will have an advantage when it comes to recruiting younger talent.”

What processes in MRO remain stubbornly resistant to digital transformation?

This is pretty much an extension to the second question where we wanted to try and identify those MRO operations that simply didn't lend themselves to digitalisation. Straight away Scott Wells mentions a reluctance to change. “I would argue that the biggest barriers are no longer technological. In most cases, the technology already exists to digitise, automate, and optimise many of the industry's most challenging processes. The greater challenge is organisational and cultural. Aviation is rightly a highly regulated industry, but many organisations remain reluctant to change established ways of working, particularly when digital transformation requires updates to procedures, training, or Maintenance Organisation Expositions (MOEs). Regulatory approval cycles can also slow adoption, creating a natural tendency to defer change rather than pursue it. As a result, the bottleneck is often not the process itself, but the willingness of organisations to embrace new approaches. The industry has reached a point where technology is advancing faster than adoption. Unlocking the next phase of digital transformation will depend

as much on mindset, leadership, and regulatory agility as it does on technology itself.” “As aircraft systems become more connected and software-driven, MRO professionals will need a broader blend of traditional engineering expertise with digital competencies,” says Tom Eskola, adding that: “Data literacy, familiarity with digital diagnostic tools, and the ability to interpret system-performance information are becoming increasingly important. These skills are critical as maintenance becomes increasingly data-driven and system-based. At the same time, a strong understanding of regulatory compliance, certification requirements, and aircraft systems remains essential. The future workforce will need to be comfortable working across both physical and digital environments. Continuous learning will also be critical. As technologies evolve, training cannot be viewed as a one-time event. Engineers and maintenance professionals will need ongoing development to remain current with new systems, software platforms, and maintenance methodologies. This ensures that maintenance teams can effectively operate in environments where digital and physical aircraft systems are increasingly interconnected.”



Scott Wells, Managing Director, MRO-PRO

“The greater challenge is organisational and cultural. Aviation is rightly a highly regulated industry, but many organisations remain reluctant to change established ways of working, particularly when digital transformation requires updates to procedures, training, or Maintenance Organisation Expositions.”

Scott Wells, Managing Director, MRO-PRO

Erkki Brakmann feels that MRO procurement continues to be one of the toughest areas to digitise and that many organisations still depend on manual, time-consuming sourcing processes managed by large teams, a workflow that has not fundamentally changed since the 1990s. He suggests that: "This resistance often arises from a culture that favours familiar, reactive purchasing habits over modern tools that enhance cost efficiency and workforce productivity. Fortunately, this outdated approach is becoming unsustainable. The number of businesses operating in this manner is steadily declining each year as new, sophisticated procurement platforms gain trust within the industry." Tom Torosian sees this as a time when visual inspection, a stalwart of the MRO industry as prime for change at scale thanks to the introduction of video embedded within workflows as this "... captures findings with enough clarity and context for a remote engineer to make a confident decision in real time. AI anomaly detection brings consistency to inspections that no individual technician can maintain across a full shift." He follows this up by saying that: "The resistance today is no longer about technology readiness; it is organizational. Building these capabilities into standard workflows rather than treating them as add-ons is where the work is now."

Simon Walker agrees with Tom Torosian to degree but still feels certain visual inspections are required even when using a machine or device as an aid for detailed or complex tasks. He further comments that: "Although significant research and development is taking place, with AI,

drones and machine vision already being used in some applications, many inspection tasks remain difficult to automate fully. The industry also tends to be cautious when adopting new technologies, particularly in safety-critical areas. Support tools and parallel systems will continue to develop, but widespread adoption is likely to depend on both proven performance and regulatory acceptance before fully autonomous inspection capabilities become commonplace." That said, Monica Badra believes that "Several processes resist digitalisation because they sit at the intersection of regulation, variability, and human judgement." She identifies them as:

- **Non-routine defect management:** findings are inherently variable. Standardising defect coding, decision trees, and evidence capture is difficult but essential for repeatability.
- **Paper-heavy compliance evidence and sign-offs:** many organisations still rely on scanned documents or PDFs that are not structured data. This limits traceability and creates audit friction.
- **Parts traceability and material movement across locations:** bins, kitting, quarantines, exchanges, and subcontracting create gaps unless transactions are captured with discipline.
- **Engineering changes and configuration control:** managing the digital thread across modifications, SB/AD compliance, and as-maintained configuration is complex and often fragmented.
- **Cross-organisation collaboration:** OEMs, operators, lessors, and MROs frequently operate on different systems and data standards, forcing manual reconciliation.

Andy Boothroyd looks at change-resistant areas through a slightly different lens, focusing on traceability, authenticity and compliance. He points out that: "Things like airworthiness certification and component history are still heavily reliant on manual processes and physical documents. That's not because the technology isn't there, it's more about the need for industry-wide trust, alignment,

and standardisation. From an AJW Group perspective, that's both the challenge and the opportunity. We can optimise what sits within our own control, but the real step change comes from connecting the wider ecosystem so trusted data can move more freely between parties. Our approach has been to digitally integrate with suppliers, customers, and partners to reduce friction, while still maintaining the levels of integrity and auditability the industry demands."

Robert Suhs also looks at areas resistant to digitalisation, but again from a slightly different viewpoint as he considers those processes which are built on trust, judgement and complete information. He goes on to say that: "Parts sourcing is a good example. On the surface it looks transactional. In reality, it depends on availability, condition, trace, certification, supplier responsiveness, price, lead time, logistics, and the urgency of the maintenance event. That is not a simple transaction. It is a confidence decision. The same is true for supplier validation, documentation review, repair-versus-replace decisions, and AOG support. These processes are resistant because they are not just transactional. They are confidence-based. The opportunity for digital transformation is to bring the right signals together so people can make better decisions faster. That is what we are focused on at ILS." And to conclude, Hannah Myers sees the legacy ERP as being that element which will remain stubbornly resistant to digital transformation. As she puts it: "For many companies, the thought of replacing a system that touches every part of their business is daunting and they feel like they're too busy, so they put it off for years. Ironically, inefficient processes are often the main reason they feel so busy. Anything that requires physical inspection or seasoned human judgement has also had limited adoption of digitalised processes, but to be honest that's a good thing. I love to see digital tools helping in these areas, but they will always need some human oversight."



Monica Badra, Founder & CEO Aero NextGen Inc

“Several processes resist digitalisation because they sit at the intersection of regulation, variability, and human judgement.”

Monica Badra, Founder & CEO Aero NextGen Inc



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Maintenance Mythbusters: “Most Maintenance Errors Are Technical Mistakes”

Working out who or what is primarily responsible when maintenance errors occur

By David Dundas

The headline in an article published on the US National Transportation Safety Board (NTSB) website reads as follows: *Maintenance Error Leads to Fatal Runway Overrun Accident*. The article then goes on to say: “On Oct. 17, 2019, PenAir flight 3296, a Saab SA-2000, overran the runway during a landing attempt in Unalaska, Alaska. The airplane crashed through the perimeter fence, crossed a road, and came to rest on shoreline rocks on the edge of Dutch Harbor. One passenger was killed; another was seriously injured; and eight sustained minor injuries, mostly during the evacuation. The flight crew, the flight attendant, and the other 29 passengers were uninjured.

“Even though the airplane, the pilot, the weather and federal oversight all had a role in this tragedy, it was entirely preventable,” said NTSB Chair Jennifer L. Homendy. “The brake system should have been designed to protect against human error during

maintenance, the pilot shouldn’t have landed on a runway with such a strong tailwind and federal regulators should have considered the runway safety area dimensions when authorising the airline to fly the Saab 2000 into that airport.”

“A post-accident examination of the airplane revealed sensors for the anti-skid system had been incorrectly wired during an overhaul of the left main landing gear. This configuration led to the skidding and bursting of one tire and the subsequent release of brake pressure on two of the three remaining wheels. Investigators determined the loss of effective braking on three of the four main landing gear wheels prevented the flight crew from stopping on the runway.”

The reason why this example has been given is that, on the face of it, the incorrect wiring of the of the sensors for the anti-skid system could be seen simply as a technical mistake, but the NTSB went further. It chose to examine how the maintenance error

was made and whether there was a way in which the error could have been avoided. As suggested, a redesign of the brake system could have made the error entirely avoidable so, was this solely a “technical mistake” or more a design flaw that was bound to cause a problem? This is certainly food for thought...

The Misunderstanding of Where Errors Really Come From

There is no escaping the fact that aircraft maintenance is highly technical work that requires comprehensive system knowledge, precise procedures, specialised tooling, and strict adherence to regulatory standards. Consequently, it is easy to assume that when maintenance errors occur, they are primarily the result of technical shortcomings—incorrect repairs, improper adjustments, or lack of mechanical skill. This assumption has become one of the



most long-lasting misconceptions in aviation: that most maintenance errors are technical mistakes. In reality, the majority of maintenance-related incidents are not rooted in technical incompetence, but other influences such as human factors, organisational conditions and procedural breakdowns that occur in the complex environment of everyday operations.

Maintenance Errors Are Often Procedural, Not Mechanical

To qualify as an engineer or technician in the aerospace sector is no mean achievement. It requires negotiating a massive learning curve and undergoing hours and hours of hands-on training. Not everybody has the mental or technical skills to qualify as an engineer or technician, so incompetence is rarely a contributing factor to maintenance errors. In fact, in many cases, nor do maintenance errors do not happen because a technician does not understand the aircraft system. They happen because the system of work around the technician introduces vulnerabilities. Tasks may be interrupted, shift handovers may be incomplete, documentation may be unclear, or time pressure may encourage shortcuts. A correctly trained technician can still make an error if the process is poorly structured or the working conditions

are demanding. Aviation maintenance is rarely a matter of simply “fixing a part,” but is more a coordinated, multi-layered activity involving teams, schedules, tools, procedures, inspections and thorough communication. Ultimately, errors can often be the result of small procedural gaps rather than the result of a lack of technical knowledge.

The Role of Human Factors in Maintenance Safety

It is impossible to ignore the importance of the human factor when trying to understand why maintenance errors occur. Frequently, technicians and engineers operate in environments that involve long shifts, night work, excessive noise, require working in confined spaces, and invariably are under operational pressure to return aircraft to service as quickly as is humanly possible. It is a well-known fact that fatigue is one of the most significant contributors to error risk, reducing attention, memory, and decision-making quality. However, distractions and interruptions are equally critical. A technician may pause a task to answer a question, locate a tool, or respond to a supervisor, and then return to what they were working on, only then with an increased risk of missing a step or repeating an action incorrectly.

This has nothing to do with skill-related failure, no. These are normal human limitations that become safety risks when processes fail to take them into account.

Two Main Culprits – Poor Communication and Shift Handovers

One of the most common sources of maintenance error is miscommunication, particularly during shift changes. Aircraft maintenance is often performed across multiple shifts, with tasks left incomplete and therefore part-completed tasks are transferred between teams. If handover information is unclear, undocumented, or rushed, the incoming team may not fully understand what has been accomplished, what remains open, or what hazards exist. This can lead to duplicated work, missed steps, or incorrect assumptions. Many maintenance incidents can be traced back not to technical repair actions, but to poor or breakdowns in communication.

Time Pressure and the Operational Environment

As has been alluded to above, unlike many engineering disciplines, aviation maintenance is performed under constant operational constraints. Aircraft downtime



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is expensive, flight schedules are unforgiving, and MROs face unrelenting pressure to meet turnaround targets. Under such conditions, technicians may feel compelled to work faster, multitask, or deviate slightly from ideal procedures, where unfortunately even minor procedural changes can introduce easily avoided risk. The technical work may be correct, but the context in which it is performed increases the likelihood of oversight, the result being that maintenance errors are often less about what a technician or engineer knows, and more about what the working environment demands.

Latent Organisational Factors Behind Errors

Maintenance errors are rarely isolated events and instead are often the visible outcome of deeper organisational factors which are often referred to as latent conditions. These can include inadequate staffing, insufficient training time, unclear documentation, poor tooling availability, or a weak safety culture. When organisations focus only on an immediate technical mistake, they run the risk of overlooking the systemic issues that allowed the error chain

to develop. Modern safety management places considerable emphasis on the fact that preventing maintenance errors requires addressing the broader system, not simply correcting individual behaviour.

Building Safety Through Process and Culture

Understanding that most maintenance errors are not purely technical in nature certainly changes how the industry approaches prevention. Thus, the most effective safety strategies tend to now include robust human factor training, fatigue management programmes, standardised shift handovers, clear documentation practices, and the creation of an organisational culture that encourages problem reporting and learning from incidents rather than simply looking for someone or something to blame. High-quality maintenance is not only about technical capability; it is about creating an environment where skilled technicians can consistently perform to the best of their ability.

When you look at the bigger picture, there is no question that technology can certainly contribute to the reduction of

errors, for example through the use of digital task cards, tool tracking systems, and procedural automation, but these tools should only ever be used to complement, not replace, human-centred safety practices.

Conclusion: Maintenance Safety is a Human System

The myth that most maintenance errors are technical mistakes likely overlooks the true nature of aviation maintenance work. Technicians are highly skilled professionals, and most errors arise not from lack of knowledge, but from the realities of human performance within complex operational environments. Fatigue, communication gaps, procedural weaknesses, and organisational pressures are often the real drivers behind maintenance errors. Recognising this truth is essential for improving safety and, in particular, in aviation, maintenance reliability is not only built on technical expertise, but on strong processes, supportive culture, and a thorough understanding that airworthiness depends not only on machines but also those humans who are responsible for maintaining them.

PEOPLE

»»»»→ *on the move*



Sandesh Bilagi

Ramco Systems has chosen **Sandesh Bilagi** as CEO, succeeding from his previous role as President and Chief Operating Officer. He takes charge after leading the company's operational turnaround, which delivered six consecutive quarters of operating profit through FY2026, and will now focus on accelerating global growth and Ramco's transition into an AI-native enterprise

software company. Bilagi has more than 20 years of experience in enterprise technology and has held leadership roles across sales, delivery and operations. He founded Ramco's Australia and New Zealand business, helping establish it as one of the company's strongest markets through major customer wins and expansion of its product portfolio. During his tenure, he also guided the company through two leadership transitions and the operational challenges of the COVID-19 pandemic. Before joining Ramco, Bilagi held senior positions at HCL Technologies and Tech Mahindra. He has led strategic growth initiatives, established offshore development centres and secured major contracts, including deals worth more than US\$550 million with Australian corporations.



Andreas Erber

RECARO Aircraft Seating (RECARO) has appointed **Andreas Erber** as Chief Technology Officer (CTO) and Member of the Executive Board, effective September 2026, as the company steps up its focus on innovation, engineering and sustainable growth. Erber, who holds a degree in Aerospace Engineering from the University of Stuttgart, brings

extensive experience in aviation and advanced composites. He began his career at a carbon fibre specialist, where he spent nearly a decade in senior leadership roles, including Head of Thermoplastic Composites, Director of the Lightweight and Application Center, and Vice President Aerospace. Most recently, he served as Managing Director at a major automotive and aerospace supplier, leading aviation-focused engineering and advanced composite technology programmes. The appointment comes as the aviation sector continues to expand, with RECARO supported by an order book of around €3bn (US\$3.42). The company also continues to prioritise innovation, investing at least 10% of its annual revenue in research and development.



Eduardo Amato

Eduardo Amato will become Chief Financial Officer for STS Aviation Group, strengthening the company's executive team as the global aviation services provider continues to expand. Amato brings more than 20 years of senior finance leadership experience, with expertise in scaling finance operations, integrating acquisitions, enhancing enterprise systems, strengthening financial controls

and supporting sustainable business growth. Before joining STS Aviation Group, Amato served as Chief Financial Officer at MRS-CMC and American Elevator Group. He also held several senior finance positions at Schindler Elevator Corporation. His experience spans ERP implementation, acquisition integration, shared services, treasury management, executive reporting, financial planning, pricing strategy, working capital optimisation and operational restructuring. Amato holds an MBA from Penn State University, a Bachelor of Science in Economics from Brigham Young University and completed postgraduate studies in Finance and FP&A at UniFae in Brazil. He is fluent in Portuguese, English and Spanish.

PEOPLE

»»»» — on the move



Louis Philippe Mallette

AJW Group has named **Louis Philippe Mallette** as Chief Executive Officer (CEO) of AJW Technique. Based at the Group's Montreal MRO facility, Mallette will lead the strategic and operational direction of AJW Technique while working closely with **Clyde Buntrock**, Chief Executive Officer of AJW Aviation, as part of AJW Group's integrated leadership structure across its global operations.

Reporting to **Christopher Whiteside**, Chairman of AJW Group, Mallette's appointment reflects the company's confidence in his strategic vision and leadership within the business. "Louis Philippe's appointment marks an important step for AJW Technique," said Christopher Whiteside, Chairman of AJW Group. "His strategic vision positions us well for continued growth and excellence in the global aviation MRO sector."



Robert Geckle

Robert Geckle will take on the role as CEO of Thales USA and Thales North America, effective July 1, 2026. The appointment follows the planned retirement of **Alan Pellegrini**, who will step down as CEO of Thales USA and Thales North America on June 30, after nearly two decades with the company. During his tenure, Pellegrini led Thales North America through a period of significant growth

and transformation, strengthening its market position and expanding its presence across aerospace, defence, digital identity and cybersecurity. He will remain with the company through the end of 2026 to support a smooth leadership transition. Geckle brings extensive industry experience to the role, having previously served as Chairman and Chief Executive Officer of Airbus U.S. Space & Defense, Inc. He will lead Thales' operations and strategy across North America as the company

continues to expand in both the United States and Canada. "This is an exciting time for Thales. With a 130-year legacy in North America, and more than US\$5 billion in annual global R&D investment driving our innovation, we have a powerful platform for continued growth and investment in the region," said Robert Geckle.



Lee McConnellogue (l) and Simon Nolan (r)

ecube has announced the departure of Chief Executive Officer **Lee McConnellogue** and Chief Operating Officer **Simon Nolan**, with both stepping down from their roles with immediate effect as the company enters a new phase of integration. The company paid tribute to the pair for their leadership, commitment and contribution to ecube's growth and success over the years. Their departure comes as ecube advances its integration within the Satair, Unical and VAS ecosystem, a strategy designed to create a more connected aircraft lifecycle offering. The combined platform aims to provide customers with a seamless service covering aircraft disassembly and storage, repair management and global parts distribution. To oversee the transition, **Pete Allwood**, currently Senior Vice President EMEA at Unical Aviation, has been appointed interim CEO. He brings nearly two decades of aviation experience, including extensive expertise in aircraft disassembly, component harvesting, USM management, programme development and global supply chain solutions. "Our goal is to deliver a simplified, powerful flow of material for our customers," said Allwood. "I look forward to working with the talented teams across all our entities to ensure that we are moving in the same direction, leveraging our combined strengths to provide unmatched value in the aircraft lifecycle market."

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Malte Tamm [Linked in](#)
malte.tamm@avitrader.com
+49 (0) 162 8263049

