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Having spare parts and components available for every piece of scheduled maintenance is vital, as is being ready and able to support unscheduled aircraft grounding. Companies dedicated to keeping supply chains moving are helping operators overcome such challenges

It's no secret that since the global pandemic at the start of the decade, aviation's supply chains have been having difficulties. Many of the original equipment manufacturers (OEMs) have suffered in obtaining raw materials, while in the maintenance sector, it has been one step removed with the major difficulty being the challenge of getting spare parts.

In the latter area, many airline departments (and sometimes large MRO providers) opt to use companies who make supply chain work their speciality. Jana Toompuu, procurement manager at Magnetic MRO, outlines the advantages of this approach: "Outsourcing supply chain activities to an experienced MRO partner gives airlines flexibility and access to specialist expertise that would be costly and time-consuming to build in-house," Toompuu begins. "For regional and low-fare operators in particular, this support helps them stay responsive and operational, even during seasonal peaks or periods of internal resource pressure.

"It also reduces the airline's internal workload and removes the need to maintain large procurement and logistics teams, allowing operational staff to focus on flight operations and fleet management," she continues. "In addition, third-party providers typically have deeper know-how in the latest technologies and market developments, so they can offer innovative, cost-effective solutions that would require significant investment to develop internally.

"Overall, outsourcing supply chain services is a practical way for airlines to maintain reliability and competitiveness without taking on the full complexity and cost of managing the supply chain themselves," says Toompuu.

Simon Merriott, SVP customer service at AJW Group agrees regarding the advantages of outsourcing supply chain activities and describes how some of the company's programmes help to deliver such benefits: "Central to our success are the strong relationships with numerous OEMs and third-party MROs, including our in-house facility, AJW Technique, enabling us to manage and outsource

ABOVE: ***Many airline departments opt to use companies who make supply chain work their speciality*** MAGNETIC MRO

repairs efficiently on behalf of our customers. This gives us the economies of scale to procure and supply components more efficiently than airlines possibly could," he explains. "AJW's power-by-the-hour (PBH) model holds immense strategic value for airlines, especially as the global fleet undergoes a significant technological transition. As carriers increasingly adopt next-generation aircraft, such as the Airbus A321neo and Boeing 737 MAX, they are faced with the challenge of managing more complex component ecosystems," Merriott notes. "Our PBH programme offers airlines an integrated solution that covers advanced component support, streamlined warranty management and predictive analytics capabilities."

The SVP highlights how these support contracts offer airlines defence against financial unpredictability: "By shifting maintenance risk to a company such as AJW and setting fixed rates »

LEFT: ***Simon Merriott, AJW Group's SVP customer service*** AJW GROUP

per flight hour, airlines gain a higher degree of cost visibility and budget control, an essential factor during periods of economic volatility or high inflation. This model converts maintenance costs from unpredictable capital expenditures to manageable operating expenses," he remarks. "Another benefit lies in the Group's ability to scale across geographies. AJW's deployment of warehousing and logistics capabilities across its global locations exemplifies how regional reach enhances fleet reliability and AOG responsiveness."

Inventory optimisation

Helping airlines keep an optimum inventory (just-in-time) level, often at different locations and related to the size of the airline, is just one of the challenges facing a supply chain specialist like AJW Group. Responding to these in customer offerings shows potential clients how the company delivers a differentiated service for them.

"The skilled labour shortage and delay in aircraft and engine deliveries remain challenges, so I would say supply and demand issues are the most challenging," states Merriott. "Component TAT (turnaround time) is probably the most common challenge as the longer it takes to repair unserviceable material, the more inventory is required to support the in-service fleet.

"As such, efficient inventory management is essential. AJW Group has adopted a multifaceted approach that addresses both immediate concerns and long-term goals. We're investing in resilience measures, enhancing collaboration among stakeholders, and innovating towards enhanced process efficiency.

"By implementing automated inventory tracking systems, we can help streamline tracking and management processes, reducing errors and delays," he reports. "These forecasting tools can improve the ability to meet customer needs effectively, thus reducing inefficiencies in the supply chain.

"AJW drives a sophisticated pooling strategy for our 450,000 line items of inventory. By strategically placing this inventory across our global hubs, we can deploy components wherever they are needed, getting them to the right place at the right time," Merriott emphasises. "This service offering is supported by the Group's 24/7 AOG support desk – we're there for airlines whenever they need our support."

Toompuu agrees that maintaining an optimum just-in-time inventory level is one of the biggest challenges for both operators and MROs: "Demand in aviation is inherently unpredictable: component reliability varies, lead times can change quickly, and wider supply chain disruptions often affect material availability. For operators with multiple stations, the risk of holding stock in the wrong location is even higher," she comments. "This often results either in excess stock tying up capital or in costly AOG (aircraft-on-ground) situations that disrupt operations. These dynamics require a highly agile, data-driven approach to inventory management, leveraging predictive analytics and strong supplier partnerships to stay ahead."

Such challenges at Magnetic MRO are addressed through very close integration between the company's purchasing, logistics and maintenance teams. "Our customers benefit from our consolidated purchasing volume, integrated digital workflows and long-standing supplier relationships, which translate into shorter lead times, priority handling and more competitive pricing, which are advantages that are particularly valuable for smaller operators," Toompuu stresses. "To keep inventories lean, we use shared stock solutions, buffer levels and short-term consignment options. This keeps the operator's own stockholding low while still ensuring rapid access to

BELOW: ***Helping airlines keep an optimum inventory (just-in-time) level, often at different locations and related to the size of the airline, is just one of the challenges facing a supply chain specialist like AJW Group*** AJW GROUP

RIGHT: ***AJW says it drives a sophisticated pooling strategy for its 450,000 line items of inventory***
AJW GROUP

the right parts, in the right place, at the right time," she adds, echoing Merriott.

Stock level decisions

Definition of the minimum on-site stock requirement for customers is important, and increasingly involves IT solutions to aid the process. Toompuu discusses Magnetic MRO's approach to the task. "Every operator has its own fleet profile, utilisation pattern, reliability history and maintenance concept. Our approach combines operational data, technical input and real-time material analysis," she says. "We work very closely with our airline customers to define minimum on-site stock requirements. This begins with detailed planning for scheduled maintenance slots, which allows us to anticipate the type of work that will take place in the hangar and ensure that high-probability, high-usage materials are either available in our stock or can be accessed quickly through our supplier network.

"For unplanned demand, we use advanced technology solutions such as the AI-driven SkySelect platform," notes Toompuu. "This tool enables us to source parts rapidly and identify the best supply options during maintenance events, reducing turnaround time and minimising operational disruption.

"By combining proactive planning with advanced digital tools, we ensure inventory levels are continuously optimised, balancing efficiency, availability and cost control. Unlike traditional advisors, we take a hands-on role in actively managing and fine-tuning stock. What sets us apart is our dual expertise as both an MRO and a supply chain partner," she declares. "We don't just track numbers, we understand the real-world technical impact of material shortages on aircraft performance and operations."

BELOW: ***Jana Toompuu, Magnetic MRO's procurement manager***
MAGNETIC MRO

Inventory requirements

Similar to Magnetic MRO, AJW Group's experienced teams work closely with airline customers to ensure the best definition of the latter's inventory needs: "We also employ predictive maintenance analytics to monitor trends across aircraft systems and component lifecycles," Merriott reports. "These insights enable early intervention, reduce in-service failures, and extend component life, further amplifying the reliability and operational value of service agreements. By combining technology, financial efficiency, AJW's global support infrastructure, and our nine decades of legacy knowledge and expertise, we can ensure reliable service and consistent on-site inventory supply."

Beyond parts and components supply for planned maintenance, is the need to move spares when an AOG »

situation arises. Arrangements for swift transportation of parts from the pool need to be in place, with customers knowing the expected period of time to transport the necessary parts to the required location.

"In an AOG scenario, speed begins with proximity," Merriott declares. "The main base kit of no-go items is located on-site at the airline's own facilities, enabling the carrier to pull the required component immediately, avoiding handover delays and reducing overall recovery time when urgency is at its peak.

"Where parts are not locally available, we route demand through our network of strategically positioned global hubs, supported by automated warehousing systems to accelerate picking, packing and dispatch," he adds. "All shipments move under tightly governed process control, including in-house certified Dangerous Goods (DG) packers and qualified DG packing capability for regulated components such as batteries, oxygen systems and other hazardous aircraft materials.

"Once a part is released into transport, it is monitored from end to end using GPS tracking and live visibility tools, underpinned by GPS telemetry, milestone monitoring and proactive exception management," Merriott elaborates. "Because requirements vary significantly between carriers and fleets, delivery commitments are not one-size-fits-all. We establish bespoke SLAs (service level agreements) and KPIs (key performance indicators) per customer, all commercially negotiated and codified at contract stage, ensuring that measurable AOG performance targets, service escalation paths and response governance are formally embedded.

"Our contracts at AJW typically define commitments in terms of response time to release parts for shipment, delivery performance to agreed priority lanes, and service availability, rather than fixed timescales published externally. This allows airlines to hold us accountable to contractual AOG targets that reflect their own operational requirements, regulatory constraints and station locations," Merriott confirms.

LEFT: *Magnetic's approach to defining minimum on-site stock levels for clients combines operational data, technical input and real-time material analysis* MAGNETIC MRO

At Magnetic MRO, according to Toompuu, resolving AOG situations is always the highest priority: "We react to AOG requests immediately upon notification, with a maximum response time of two working hours and parts dispatch from Tallinn completed within three working hours," she says.

"To ensure swift delivery, we work with a trusted network of freight forwarding partners capable of handling shipments of any size, including onboard courier options when speed is critical. Whether or not prior framework agreements are in place, we collaborate closely with each customer to define the most suitable transport solution for their specific situation, ensuring grounded aircraft return to service as quickly as possible," Toompuu remarks.

The industry expects the supply chain scenario to improve over the next two to three years. Companies that have been implementing initiatives such those discussed should be in pole position to benefit from the resurgence.

LEFT: *Magnetic says it takes a hands-on role in actively managing and fine-tuning stock levels for clients* MAGNETIC MRO

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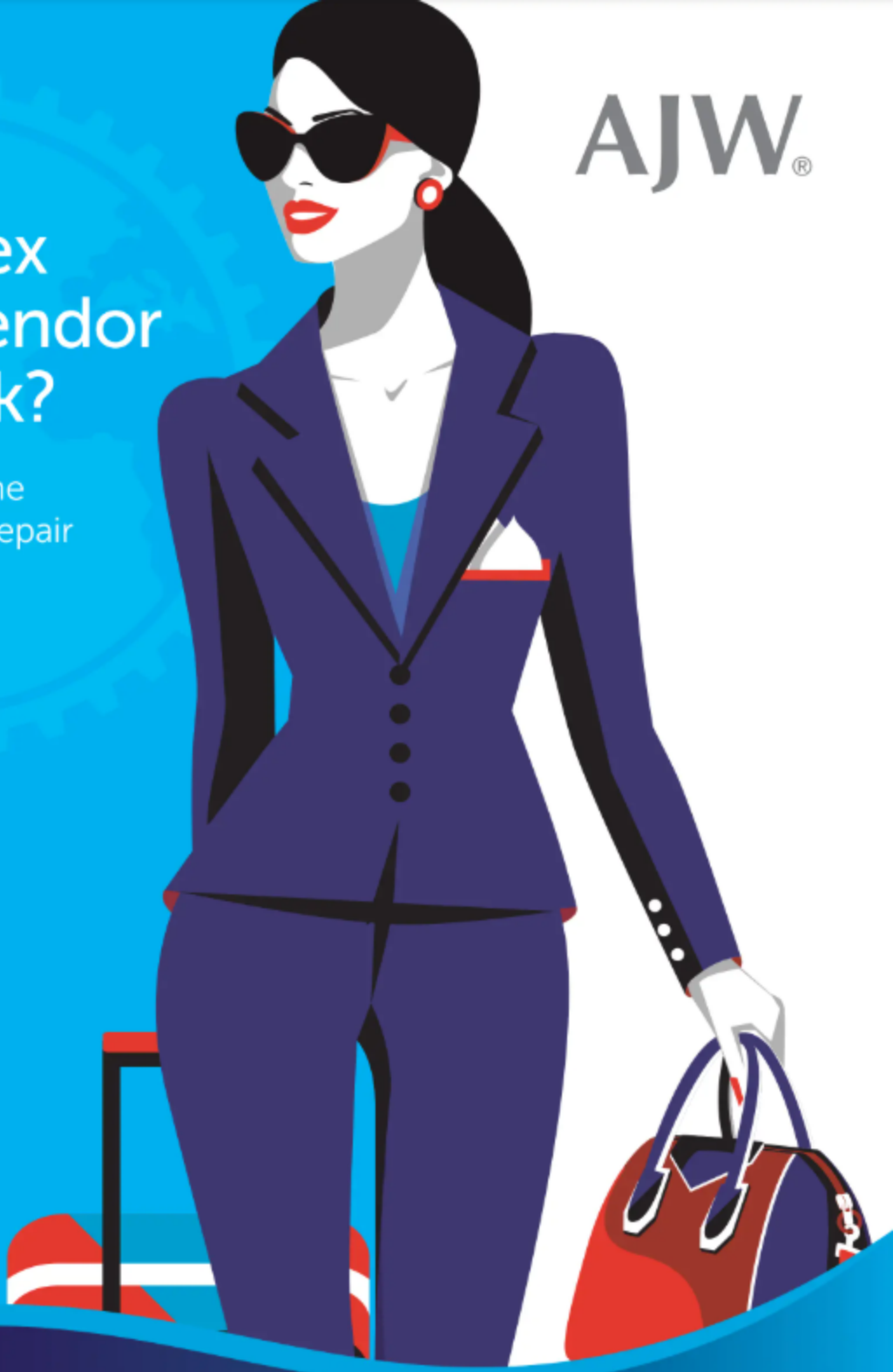

AJW Group is the world-leading, independent, parts, repair, lease, engine, flight hour programme and supply chain solution integrator, transforming efficiency in commercial, business and defence aviation.

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

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