

Facing the future: tackling the MRO skills shortage

Today's commercial MRO organisations are facing mounting challenges with an ageing workforce and a scarcity of skills. At the same time, teams are under pressure to keep older aircraft mission-ready despite ongoing supply chain challenges, all the while gearing up to support a new generation of advanced engine platforms. It's a perfect storm of operational complexity that calls for smarter, faster and more adaptive solutions. Rob Munro spoke to four MRO professionals who are meeting these challenges head-on.

Engaging the community

Securing and developing a steady pipeline of skilled technicians is paramount for any MRO provider. For Aero Norway, a leading CFM specialist based in Stavanger, Norway, the answer lies in deeply embedding its recruitment and training strategy within the local community.

Siv Janne Aarrestad, the company's Training & Facility Manager, tells how Aero Norway is strategically cultivating the next generation of engine technicians, ensuring not only a consistent supply of talent but also fostering regional economic stability.

She says: "Our partnerships with the relevant upper secondary schools help us to tap into a pool of students trained in relevant disciplines. This ensures a consistent supply of skilled technicians familiar with aviation standards and technologies."

Crucially, these partnerships are two-way. Aero Norway works closely with teachers, providing them with hands-on training and helping to align educational content – especially for CFM56 engine types – with current industry needs.

This focused training covers all essential MRO processes: disassembly, inspection, repair, assembly, and engine test.

HANDS-ON EXPERIENCE

The transition from student to professional is accelerated through Aero Norway's apprenticeship schemes, which offer substantial hands-on experience and immediate team integration.

Apprentices receive appropriate training and experience designed not only to enhance their technical skills but also to foster loyalty and interest in long-term careers at the facility. The structure ensures rapid, broad exposure.

Aarrestad says: "Within the first three months, apprentices have had the initial introduction and hands-on experience on every shop module of the engines."

A significant benefit of engaging with local institutions is the positive impact on regional talent retention. By providing world-class career opportunities locally, Aero Norway helps retain skilled individuals within the greater Stavanger region, which reduces the need for costly relocation and actively supports the local economy.

"Through the schools' engagement programme, we are highlighting that young people can follow their dreams in the global aviation sector from our base here in the greater Stavanger region," says Aarrestad, emphasising the facility's role as a major local employer with global reach.



Siv Janne Aarrestad. Image: Aero Norway

MANAGING THE LEAP TRANSITION

As the venerable CFM56 fleet is gradually replaced by the new-generation CFM LEAP engines, Aero Norway's strategy includes a detailed long-term plan for introducing LEAP-specific training and tooling.

The initial phase of LEAP training has focused on strengthening core capabilities, including work on the Reverse Bleed System service bulletin on the -1A. Current preparations are targeting upcoming production demands, specifically the -1A and -1B High Pressure Turbine Rotor and Stage 2 Nozzle Shop Module assemblies.

For current apprentices, the pathway involves continuing through their established training with targeted upskilling modules introduced to align with new LEAP capability requirements.

Newly hired technicians will benefit from onboarding and technical training fully integrated with the updated curriculum, ensuring consistency in standards and performance expectations from day one. »»

Hitting the ground running

Rachel Hugonnet, Director of Workforce & Training at Vallair and CEO of the Aircraft Academy, outlines how their Structured On-Job Training (SOJT) model provides an exceptional pathway for trainees to enter the workforce with immediately applicable skills.

The foundation of the Aircraft Academy's success is its commitment to moving beyond simulated training environments. Instead, trainees are fully immersed within Vallair's live maintenance facilities, working directly alongside experienced engineers on commercial aircraft projects.

"The SOJT delivered through Vallair's Part 145 MRO provides Aircraft Academy trainees with exceptional exposure to real-world maintenance operations," explains Hugonnet.

"Rather than completing their practical modules in a simulated environment, our students are fully immersed within Vallair's live maintenance facilities, working alongside experienced engineers on commercial aircraft projects."

This hands-on engagement creates a highly effective learning process, seamlessly blending EASA Part 147 theoretical instruction with practical, Part 145-compliant experience.

The result is a graduate cohort that is truly workforce-ready, possessing familiarity with current maintenance practices, established safety procedures, and the operational culture of a major MRO organisation.

A DIVERSE AERONAUTICAL ENVIRONMENT

Vallair's MRO network provides a uniquely diverse setting for its SOJT, significantly enriching the trainees' exposure to

multiple maintenance contexts.

The primary facilities at the Châteauroux site offer substantial versatility. The large-capacity hangars can accommodate all aircraft types for heavy maintenance, complemented by specialised painting and structural repair workshops, and long-term storage operations.

A contrasting yet equally valuable experience is offered at the Montpellier facility, which specialises in short- and medium-haul aircraft.

This dual-facility approach ensures trainees gain a comprehensive understanding of maintenance requirements across different operational scales and aircraft types.

ADDRESSING THE FINANCIAL BARRIER

The Aircraft Academy is keenly aware that the cost of approved Part 147 training remains a major obstacle for aspiring aircraft maintenance technicians.

In response, the Academy is actively developing practical solutions to reduce training costs and enhance career accessibility.

"Aircraft Academy is fully aware that the cost of approved Part 147 training remains one of the main barriers for aspiring aircraft maintenance technicians," says Hugonnet.

The Academy currently offers several options, with solutions tailored to the



Rachel Hugonnet, Director of Workforce & Training, Vallair

duration of the SOJT required by each candidate. The most significant financial relief is being developed for local French students.

Aircraft Academy is working towards certification to allow French trainees to access major national funding schemes like the Compte Personnel de Formation (CPF) and OPCOs. This will substantially reduce the financial burden for local students.

For the international market, the Academy has established distinct programmes:

- **Corporate Training:** Accelerated training and scaled pricing with flexible payment options are offered to international companies seeking to qualify or upskill their maintenance staff.
- **Individual International Trainees:** The Academy can arrange part-time employment with Vallair Industry during extended SOJT periods, enabling students to offset training costs and gain industry experience faster.



The cost of inexperience

Rob Mather, VP Aerospace & Defence at IFS, says the MRO recruitment problem extends beyond simple headcount.

I managed to grab some time with Rob at MRO Europe 2025 in London and he began by saying that the departure of senior, experienced personnel, often replaced by new hires, means the industry is facing a challenge in terms of a qualitative skills gap, not just a quantitative one.

Mather highlights that the seasoned technician possesses implicit knowledge that dramatically accelerates workflows.

He says: “The person who’s been there a long time knows where to go in the manuals to find the right information. They’ve been through the troubleshooting process so many times that they know that step one and two aren’t going to do it when it’s like this. They can identify certain things because they’ve seen them before and don’t have to do as much look-up as a brand new person would.”

While a new hire may possess the skills to execute a repair, the lack of experiential knowledge results in a measurable drop in productivity.

As Mather puts it, experience is about “all those one thousand little things that shave minutes that add up to hours”. Whereas inexperience translates to “adding minutes that add up to hours”.

The strategic goal, therefore, must be to give new hires tools that help them “approach the speed and efficiency of some of the more senior experienced technicians that have already left”.

DIGITAL TOOLS AS EXPERIENCE MULTIPLIERS

The solution lies in adopting digital tools that act as an “experience multiplier”, helping to bridge this qualitative gap.

While technology cannot replace

experience, it can significantly boost the capabilities of new personnel, bringing them closer to the experienced benchmark.

The initial and most easily integrated tier of this technology involves using advanced chatbots. These are similar to consumer-facing artificial intelligence (AI) models but are strictly controlled and trained only on an organisation’s approved technical documents.

Mather stresses the crucial requirement for this application: the use of a Retrieval Augmented Generation (RAG) method to eliminate AI “hallucinations” and ensure traceability.

“That first level is really about speeding up your ability to navigate the sourced documents, not supplanting the source documents,” he says.

The tool’s primary function is to act as a “co-pilot” – a sophisticated search mechanism. A technician can prompt it with a query such as “Give me all of the repair documents for the auxiliary pump on this system” and the AI provides the relevant information with citations.

This traceability is essential for regulatory compliance. The technician cannot action the summary provided by the AI; they must still refer to the specific page and paragraph number (PAN) in the source document.

The AI summary, at this stage, merely points the user to the correct reference, ensuring that the “last mile” of the process remains compliant with existing MRO regulations.

THE PATH TO AGENTIC AND CERTIFIED AI

The next step is turning AI into a more “agentic” tool by integrating it with broader maintenance data. In this mode, the AI can become proactive. It might prompt a technician by saying “I see you’re raising a fault on this system. Is it this common fault?”



Rob Mather, VP Aerospace & Defence, IFS

and then pre-filling information or pointing to the repair used successfully last time.

The long-term vision, however, involves navigating a significant regulatory evolution toward Certified AI.

Mather draws a parallel to human training: technicians are trained, supervised, tested, and ultimately granted a licence.

He tells LARA: “We’re going to need to get to a similar place with AI, where we have certified AI, that we’ve said ‘This AI is now approved to go out and do these type of activities in a regulatory environment.’”

The challenge for regulators will be defining the testing and certification regime. A key consideration in this debate is the nature of errors.

While human technicians make transcription errors, legitimate mistakes, and suffer from fatigue, advanced AI solutions, when ready, are anticipated to make fewer mistakes on aggregate than a human.

The difficulty lies in the fact that the mistakes an AI does make often appear “weird” or unpredictable to a human observer, leading to scepticism.

Ultimately, the goal is to reduce the total number of errors and improve safety by applying AI to the tasks humans are weakest at: dealing with large quantities of data and performing highly repetitive tasks where boredom and loss of focus can occur. »»»

The challenge of MRO training in a niche industry

For companies like Ametek MRO, sometimes based in areas not traditionally known for industry, the struggle to attract young talent into a world of traditional processes and classic machinery is a challenge.

Andy Wheeler of Ametek MRO's Ramsgate facility in the UK says the local talent pool may not be instinctively drawn to the specialised demands of aviation MRO.

As such, he thinks a concerted effort is needed to onboard younger people and invest heavily in internal training and apprenticeships to ensure continuity of expertise.

THE PROBLEM OF THE 'UNSEXY'

The core issue lies in the perception of the work itself. While the aviation sector is undeniably high-tech, the MRO component repair process often relies on established, hands-on skills – think toolmakers, individuals who enjoy tinkering with cars and motorcycles, and operating milling machines, lathes, and grinding equipment.

As Wheeler puts it: "There's nothing sexy about what we do."

This lack of perceived glamour clashes with the modern aspirations of many young people, who may favour roles involving digital platforms, laptops, and fast-paced tech environments.

The gap is further highlighted by the limitations of external educational partners. While Ametek MRO engages with local institutions, the highly niche nature of repairing and overhauling specific components such as landing gear and heat exchangers often means the required technical depth is not readily available through general vocational education.

EMPOWERING THE DIGITAL GENERATION

While the fundamental requirement for hands-on, mechanical aptitude remains, the path forward must involve adapting to the new generation's digital fluency. Rather than fighting this preference, Ametek MRO is exploring ways to harness it.

A promising strategy being implemented is the integration of younger team members into the deployment of new technological tools.

By inviting younger employees to participate in the planning and rollout of digital platforms – and framing it as an opportunity to "help us solve our problems" – the company is shifting the focus. This approach gives them ownership and leverages their intuitive understanding of technology.

Wheeler believes that the younger generation will have a "much better idea" of how to effectively use new digital resources.



Andy Wheeler on the shop floor. Image: Rob Munro

While acknowledging that there will always be a dedicated cohort of individuals who enjoy hands-on mechanical work, MRO providers must creatively connect traditional skills with modern digital frameworks to secure a sustainable talent pipeline.

By making the workforce part of the digital solution, the industry can better bridge the skills gap, ensuring that the critical yet "unsexy" work of component repair continues. ■

A heat exchanger undergoing refurbishment at Ametek MRO. Image: Rob Munro

