

Keeping the world's fleets flying

aviationbusinessnews.com

OCTOBER 2025 • VOLUME 27 • ISSUE 7

MRO

Management

INDEPENDENT & AMBITIOUS

DAE Engineering's chief Jeff Wilkinson on Joramco's transformation story and continued expansion plan

P.20

In association with
JORAMCO | Committed to Excellence
A DAE COMPANY

ENGINE MRO

New approaches to planning and supplier relationships

P.46

REGION OUTLOOK

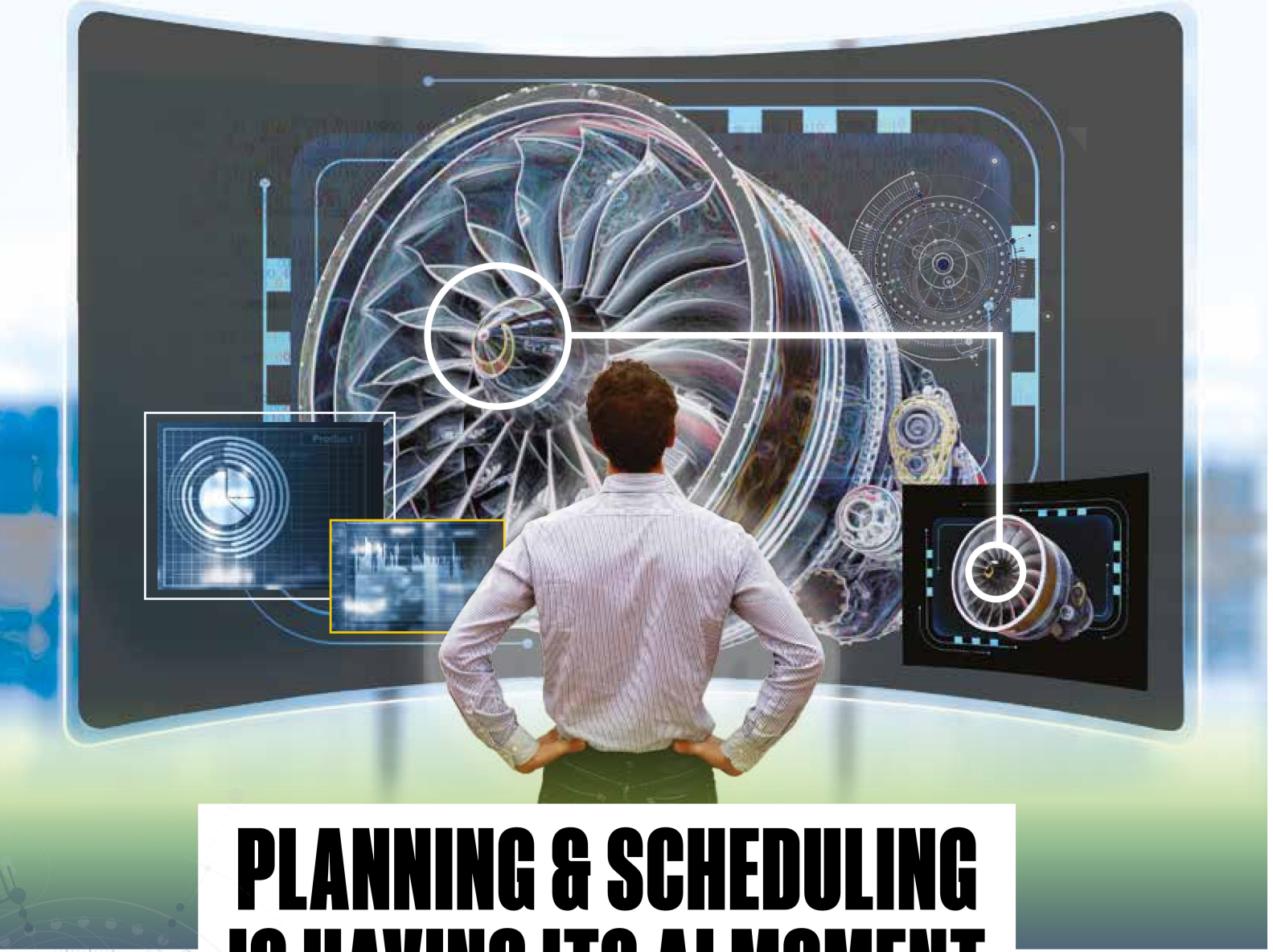
Observations of MRO activity in Europe

P.70

DATA-DRIVEN SOFTWARE

Planning and scheduling is having its AI moment

P.102



PLANNING & SCHEDULING IS HAVING ITS AI MOMENT

While MROs are deploying better software, the pace is variable, and necessarily so. **Kevin Rozario** reports

Digitalisation of aviation MRO continues apace. Machine learning (ML) and now artificial intelligence (AI) – sometimes even at a basic level – have increasingly become part of the suite of software services that help to monitor critical aircraft systems in real time. And there is a need for more of it.

At Ametek MRO – a broad-based component MRO holding authorised repair centre (ARC) agreements with major OEMs – its recent migration to Salesforce has marked a shift toward better visibility and opportunity tracking, according to Stanislav Djuric,

director of information technology at Ametek MRO Europe. The company's approach is pragmatic; it is layering modern tools on top of legacy systems to gradually improve visibility, collaboration and data quality without disrupting core operations.

“We’re beginning to explore AI tools like Squint and Copilot, which offer intuitive ways to gain insights from complex data and improve decision-making,” explains Djuric. “These tools don’t require deep technical integration, making them ideal for environments with legacy systems, like our Quantum ERP (enterprise resource planning).”

In the quest for better cost-effectiveness and efficiency, OEMs like Boeing, Airbus and Embraer want the MRO business to innovate more in order to anticipate and speed up decisions for improving aircraft availability and reduce costs to operators. It also seems obvious that better predictive maintenance software will prevent failures before they occur, thus avoiding expensive disruptions.

Just over a year ago, Embraer introduced substantial updates to its AHEAD (aircraft health analysis and diagnosis) platform for this precise purpose. In particular, it is leveraging data to foresee potential maintenance needs for the company's E-Jets fleets. Identifying patterns of aircraft systems degradation, tracking exceedance and adverse events – and suggesting preventive actions – are features of the platform that help to improve maintenance operations.

Carlos Naufel, chief executive of Embraer's Services and Support division – which supports commercial aviation, executive jets and defence customers – comments: "Integrated data ecosystems are key to success as they allow service centres to work with high volumes of data, generating intelligence with AI and ML tools. Cloud-based and modular platforms offer

scalability and real-time data access, while cross-team collaboration plays an important role as well."

Most of the software and processes at Embraer Services and Support were developed in-house and the company is testing new MRO tools to advance its process and data integration strategy. "Data-driven intelligent automation and workflow enhancement are relevant to optimising the capacity of technicians in adapting to a changing environment," says Naufel.

Slow to deploy?

However, not all MRO players are on the front foot with their planning. At IFS, a top provider of industrial AI and software, vice president of the company's aerospace and defence industries, Robert Mather, says: "Many



▲ Carlos Naufel, chief executive, Embraer Services and Support

"With the advance of technology and data intelligence supporting operations, planning and scheduling software is now closer to achieving better results and supporting MRO challenges"

Carlos Naufel, chief executive, Embraer Services and Support

THE BEATING HEART OF AEROSPACE

We care about the aerospace engine industry and don't believe in 'one size fits all solutions'.



www.farsound.com

FARSOUND



“Tools that offer predictive maintenance, automated scheduling and natural language interfaces are especially promising”

Stanislav Djuric, director of information technology, Ametek MRO Europe

organisations still haven’t deployed some of the fundamental planning tools that have been available for years – things like constraint-based scheduling, single-planning views, or templated planning across different horizons, and even sequencing of line visits and task assignments. Those capabilities on their own can unlock tremendous efficiency, and yet a large portion of the industry hasn’t taken advantage of them.”

Also urging better uptake and review is Saravanan Rajarajan, associate vice president and head of consulting for aviation, aerospace and defence at Ramco Systems, another aviation software provider. He comments: “It’s

essential to revisit data platforms and data quality. The effectiveness of planning and scheduling software is dependent on the availability of the right data at the right time.”

He adds: “To achieve this, full integration must be established with the maintenance execution, inventory, tooling, manpower and flight operations systems. Cloud-based systems enable the capability for effective information sharing through APIs (application programming interface).”

Ramco has a proprietary platform for planning and scheduling with its own set of logics and algorithms to optimise the results. “This gives our customers flexibility to plan their works strategies and control individual maintenance visits,” says Rajarajan. According to him, the platform can create multiple ‘what if’ scenarios based on variable parameters like aircraft utilisation and capacity constraints.

▲ Embraer is leveraging data to foresee potential maintenance needs

He adds: “Comparative outputs showing the impact on the desired objectives like cost optimisation or TAT (turnaround time) protection help the user in firming up their final plan.” In its current form, the planning and scheduling module leverages AI to sequence tasks and assign staff – and by learning from historical data and operational constraints, AI systems continuously improve their scheduling capabilities.

IFS's aviation maintenance solutions span all the key planning horizons from long-range fleet planning and network-level line and overnight planning to individual heavy maintenance visit planning and dynamic resource allocation in the line environment. The company provides these to MROs and airlines including Air France/KLM, Qantas and Southwest Airlines.

On the heavy maintenance side, IFS offers its cloud-based Production Planning & Control module (PP&C) – a Gantt-style planning tool; and IFS EmpowerMX's burn-down style planning tools. Both enable major check planning and execution at scale. For long-range planning, its Fleet Planner is used by China Airlines and JAL to build and maintain their heavy maintenance schedules.

Mather explains: “The strength of IFS is that these solutions don't sit in isolation. Because they are integrated with compliance and supply chain systems, customers gain visibility across the entire maintenance value chain. That integration is what allows organisations to unlock efficiency; not just planning more effectively, but also ensuring materials and manpower are in the right place at the right time.”

Momentum is variable

Key software players like Ramco and IFS will continue to push for bigger and better planning systems in aircraft maintenance where feasible. But MRO houses must look to their own specific needs and adapt accordingly. For instance, over the next year, Ametek MRO is expecting to move in the direction of more ‘plug-and-play’ AI solutions that can work alongside existing systems.

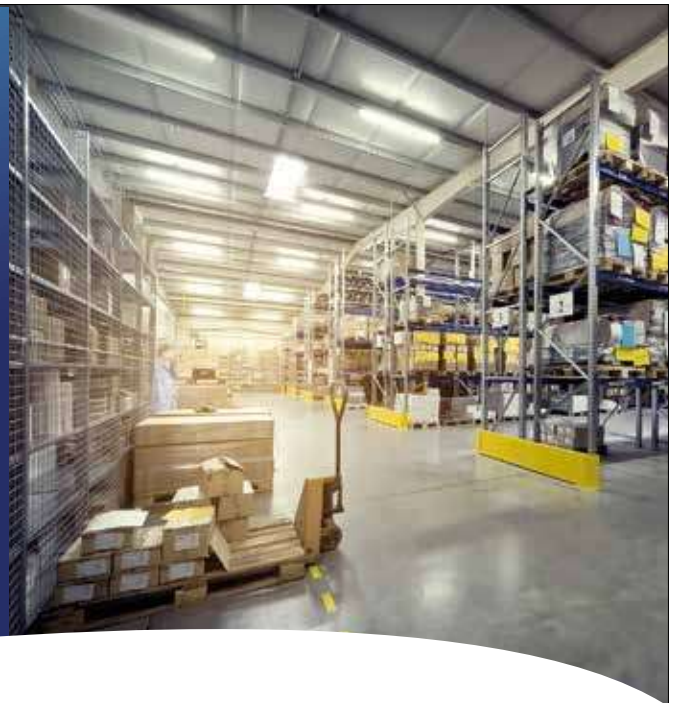
Djuric says: “Tools that offer predictive maintenance, automated scheduling and natural language interfaces are especially promising. We're also planning to explore data warehousing and ETL (extract, transform and load) design, which will allow us to unify data



▲ Stanislav Djuric, director of information technology, Ametek MRO Europe

Over 15 years of experience with success in:

- Ready to go stock from Amsterdam on Rotables – Airbus, Boeing & Embraer
- Exchange pool on high demanded parts
- Consignment sales
- Warehousing
- Repair management



Are we in contact already?

If not, catch us via sales@aviarena.com
or call us at +31 172728008

aviarena
www.aviarena.com



◀ Ametek MRO is using technology to unlock better forecasting, compliance tracking and strategic planning



▲ Saravanan Rajarajan, associate vice president and head of consulting for aviation, aerospace and defence, Ramco Systems

from Quantum, Salesforce, and other sources. This will unlock better forecasting, compliance tracking and strategic planning – all critical for scaling our MRO operations.”

Embraer’s Naufel adds: “With the advance of technology and data intelligence supporting operations, planning and scheduling software is now closer to achieving better results and supporting MRO challenges.” These challenges can start small. For example, Vervon’s Publications software allows MRO teams to have the most up-to-date OEM manuals at their fingertips every time they open the system. This cuts out guesswork, reduces compliance risk and ensures every maintenance action is backed by accurate technical content.

At IFS, Mather comments: “If I look ahead, what I’d most like to see is broader adoption of the tools already available – both the conventional advanced planning tools that have been industry-proven for years, and the new AI optimisation tools that can deliver immediate benefits today. The opportunity is here now; it doesn’t need to wait.”

IFS is expanding its proprietary AI optimisation engine – Planning & Scheduling Optimization (PSO) – across more use cases with every semi-annual release. “Each time we apply it to a new planning scenario, the efficiency gains are compounded. That ongoing development is where we’ll see significant customer benefits over the next 12 to 18 months,” says Mather.

Ramco’s Rajarajan is also confident that aircraft maintenance planning software will advance as more sophisticated AI/ML models are deployed along with high quality data. “Planning software shall extend beyond the boundaries of the MRO organisation connecting ecosystems like suppliers, customers and OEMs to leverage data. However, these require that AI models remain transparent, explainable and auditable to satisfy regulatory requirements.”

In the regulatory arena, which has the potential to be a minefield with the arrival of AI, IFS is quietly confident. Mather says: “Of course, we must always be careful in how AI is deployed. The regulatory framework today requires that decision-making in maintenance execution remains firmly with certified personnel. But the activity of planning itself is not a regulated function – and it’s exactly the type of domain where AI can be safely and effectively applied early. That makes planning and scheduling the perfect entry point for AI in aviation maintenance, fitting squarely within the safety and compliance boundaries while delivering real, measurable gains.” ●

“The effectiveness of planning and scheduling software is dependent on the availability of the right data at the right time”

Saravanan Rajarajan, associate vice president and head of consulting for aviation, aerospace and defence, Ramco Systems