

MRO

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MRO software market showing signs of a rebound

It's been a turbulent year for the aviation aftermarket and services industry so it's encouraging to see that the MRO software market has proved fairly resilient in the wake of the Covid pandemic. The feedback we have received from some of the key players in this field points to a clear rebound for this sector which is good news for the MRO business as a whole.

In this edition we have delved into some of the issues surrounding the challenges and opportunities in the MRO software market and some of the innovations that have paved the way for what looks like a positive rebound. TRAX for instance are developing new solutions and incorporating enhanced functionality due to operators' changing expectations. In addition to completely mobilising the maintenance operation via web-based and iOS apps in the eMobility product suite, TRAX is leveraging Artificial Intelligence (AI).

It's probably fair to assume that MRO software platforms have been put through their paces over the past year. As an independent MRO, the folks at AAR told us they had a unique vantage point to see how different players across the industry are thinking about the evolution of these tools and platforms and especially how they can create more modular, end-to-end digital, reusable platforms that make it easier for all the players - carriers, MRO's, OEM's, etc. to interact.

Certainly, many of the solution providers we spoke to said survival strategies and rethinking working practices are high on corporate agendas but that businesses are starting to understand that technologies, such as MRO software, are helping them to work better, cheaper and faster.

Keith Mwanalushi
EDITOR

Technology plays an important role in improving efficiencies.

Photo: AFI KLM E&A



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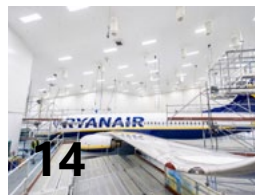
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AerFin officially launches its Engine MRO Lite Service

AerFin has launched Engine MRO Lite, a scope of leading engine MRO services from its 100,000 ft², CAA/EASA and FAA approved facility in Caerphilly. Focussed on optimizing engine residual value to provide efficient and sustainable solutions, this new service offers a range of in-house and off-wing engine maintenance solutions, including quick-turn services, hospital shop repairs, and engine transitions across CF34-8, CFM56-5 & 7, and RB211-524 platforms. The MRO facility, which recently achieved its approved Repair Stations accreditation by the Federal Aviation Administration (FAR 145) is complete with OEM engine line tooling, a ten-ton gantry overhead crane and has the capacity to store up-to 55 fan engines. Bob James, CEO of AerFin, said: "The launch of our Engine MRO Lite services is a fantastic opportunity to further strengthen our relationships with airlines, lessors and MROs, and will help us to build substantially on our ability to deliver cost-effective sustainable solutions to the aviation industry."

Honeywell and SR Technics Malaysia sign five-year authorized repair and overhaul license agreement

On April 1, 2021, SR Technics Malaysia signed a five-year authorized repair and overhaul license agreement with Honeywell International as an authorized licensee for both mechanical and avionics components. SR Technics Malaysia will support worldwide air transport and commercial airline customers and engine shops. Since opening in April 2014, SR Technics Malaysia has significantly grown its capabilities and expertise. From initially focusing on the Airbus A320 family, the A330 and A340, and the Boeing 737NG, the company also now focuses on engine components for the CFM56 and PW4000 to support its engine shop in Zurich as well as other engine shops. The company operates an 8000 m² facility in Shah Alam, Selangor, employing over 50 highly skilled technicians and engineers. With an average 12-day turnaround, the company offers services on more than 750 different part numbers.

HAECO completes first Airbus A330F C-check for Air Hong Kong

HAECO Hong Kong, a member of the HAECO Group, has completed its first Airbus A330F C-Check for Air Hong Kong. The aircraft is one of five A330 freighters that Air Hong Kong has introduced to its fleet to meet growing cargo demand. Based in Hong Kong, the freighter airline currently operates nine Airbus A300-600F and five Airbus A330-200/300F. This redelivery marks another significant milestone in the relationship between the two companies and reaffirms HAECO Hong Kong as a leading maintenance service provider for customers based in Hong Kong. The close partnership between HAECO and Air Hong Kong dates back to 2004 when HAECO began providing light maintenance services for the Air Hong Kong fleet. In addition, HAECO provides an array of services including comprehensive technical assistance, certificate of release to service (CRS), and AOG support for Air Hong Kong.



Photo: HAECO has completed the first A330F C-check for Air Hong Kong

ST Engineering and Temasek to establish freighter aircraft leasing JV to meet growing demand

The wholly owned aviation asset management unit of Singapore Technologies Engineering (ST Engineering) and the Singapore-headquartered investment company Temasek have announced the intention to create a 50-50 joint venture for freighter aircraft leasing to meet the expanding demand for freighter aircraft as e-commerce and air cargo volumes expand globally. The JV has set a five-year target of establishing a US\$600 million portfolio of passenger aircraft for conversion to highly efficient freighters. Additionally, ST Engineering will provide the associated maintenance, repair and overhaul services to these aircraft and will be the asset and lease manager to the JV. The portfolio will be made up of narrow-body aircraft, providing an option to operators to reuse older passenger aircraft and give them a new lease of life as more fuel-efficient freighters. The JV will set relevant environmental, social and governance (ESG) criteria for its investments and work with prospective clients to help reduce their carbon footprint through the use of sustainable aviation fuels and enhanced engine maintenance programs. The JV will also target the purchase of passenger aircraft at lower prices as their value has fallen owing to the fall-off in passenger demand during the COVID-19 pandemic, the financing of which will be through a mix of equity and debt.

Lufthansa Technik Shenzhen resumes investments and capability build-up conversion of bonded warehouse in MRO space



Photo: Lufthansa Technik Shenzhen (LTS)

With the recovery of the Chinese aviation market, Lufthansa Technik Shenzhen (LTS) has resumed its investments into new capabilities. The company is currently converting its bonded warehouse to a 2,100 m² maintenance workshop as well as climate-controlled material storage. The corresponding conversion measures are scheduled to be completed in June 2021 and will enable LTS to further build up its capabilities. These will include providing component repair services for more than 70 Honeywell-shipped components onboard the Airbus A350, for which the company will be the only licensed facility in Asia-Pacific. The increase of capabilities will also include a cooperation of LTS with its partner TAT Technologies. LTS will soon provide the Asia-Pacific market with the largest capability of heat transfer component repairs, overhaul, and core replacement services, supporting most major platforms and components on the environmental control, bleed air, and fuel inerting systems. Additionally, LTS also plans to build up service capabilities for components of Meggitt fire & safety systems, valves, sensors, and fuel systems, with LTS serving as a Meggitt OEM center of excellence in China.

Triumph Group sells three aerostructures sites to Arlington Capital Partners

Triumph Group has completed the sale of three of its aerostructures sites to Arlington Capital Partners. The transaction was effective May 7, 2021 and includes the Triumph Composites business consisting of the Milledgeville, Georgia and Rayong, Thailand operations, as well as its structures operations in Red Oak, Texas. Combined, the businesses encompass approximately 1.8 million ft² of factory space and employ approximately 900 people. The Triumph Composites businesses provide structural and engine composite fabrications and assemblies across commercial, business jet, and defense platforms. The Red Oak operations specializes in the manufacture of large, complex composite and metallic structures such as wing, empennage, and fuselage assemblies. Arlington Capital Partners plans to continue operations at all three locations under the business name "Qarbon Aerospace" and will maintain the leadership and employees currently supporting the business. Pete Wick, formerly Executive Vice President of Triumph Group who ran all of Triumph Aerospace Structures, will lead Qarbon Aerospace as CEO. Triumph Group, headquartered in Berwyn, Pennsylvania, designs, engineers, manufactures, repairs, and overhauls a broad portfolio of aerospace and defense systems, components, and structures. The company serves the global aviation industry, including original equipment manufacturers and the full spectrum of military and commercial aircraft operators.

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Recaro Aircraft Seating integrates SL3710 and BL3710 seats into hybrid layout on TAP's new Airbus fleet



BL3710 seats for TAP Air Portugal's new Airbus fleet Photo: Recaro Aircraft Seating

Recaro Aircraft Seating (Recaro) has integrated its SL3710 and BL3710 seats into a hybrid layout on TAP Air Portugal's (TAP) new Airbus fleet. TAP was the first announced customer for the SL3710 seat, and its A320 is the first Airbus aircraft to be equipped with

the economy class seats. TAP took delivery of its new A320 in April and entered into service on May 18. To maximize efficiency, Recaro collaborated with TAP on the hybrid seat configuration of the SL3710 and BL3710 seats. As the first customer to select the SL3710, TAP was heavily involved in the research and development phase of the new economy class seat. Weighing in at eight kilograms, the seat is the lightest in its class. The ergonomic backrest concept, developed by Recaro, allows for maximum comfort for passengers of all sizes. To ensure seamless integration, TAP chose to outfit the SL3710 in the same colors as the Recaro BL3530 and SL3510 aircraft seats that are currently flying on TAP aircraft.

Finnair's ATR fleet to be fitted with HEPA filters for improved air quality



Finnair will install HEPA filters on its ATR turboprop fleet Photo: AirTeamImages

Finnair is installing high-efficiency particulate absorbing (HEPA) filters on the recirculation system of its entire ATR turboprop fleet. The HEPA air filtration system is the most effective technology for cleansing and purifying aircraft compartments' air. The particulate filtration removes dust, allergens, bacteria, viruses, and other irritating particles from the cabin's air with an efficiency of 99.97%. Finnair's Airbus and Embraer aircraft are already fitted with HEPA filters, and now HEPA filters are also being installed on its ATR aircraft. Finnair's ATR fleet currently consists of twelve aircraft, operated by Finnair's partner company Norra on short-haul routes in domestic and regional traffic. The installations of the HEPA filters in the ATR fleet will begin in June and be completed by early 2022.

Faradair adds Dunlop Aircraft Tyres to growing list of partners

Established more than 100 years ago, Dunlop Aircraft Tyres quickly became a significant player in the newly born, rapidly expanding aircraft industry. It has remained a key supplier in this evolving sector ever since. Today, the Birmingham, U.K.-headquartered business is partnering Duxford, U.K.-based Faradair, a new U.K. aerospace manufacturer, as it helps usher in a new era of sustainable aviation. The companies have agreed to work together on the BEHA (Bio Electric Hybrid Aircraft) development program, creating a new, more sustainable aircraft tire, as part of the U.K.'s drive to net zero. The BEHA is a British clean-sheet-designed, net-zero-capable commercial aircraft that will not only create new manufacturing jobs, but also significantly support the



BEHA (Bio Electric Hybrid Aircraft)

Photo: Faradair

U.K. aerospace supply chain, which has been hit hard by the global pandemic. This partnership between two British aerospace companies marries Dunlop's rich heritage with a fantastic opportunity for the future of sustainable aerospace manufacturing. Under its "Build Back Better" plan for economic growth, the U.K. Government has declared its intention to support programs such as this, especially with the UN climate change conference of the parties, known as COP26, coming to Glasgow, U.K. in November.

StandardAero continues to support Austrian Airlines' APS 2300 APUs



Austrian Airlines Embraer E195 jet

Photo: AirTeamImages

StandardAero has been selected by Austrian Airlines, the national flag carrier airline of Austria, to continue providing maintenance, repair, and overhaul (MRO) services for the airline's Pratt & Whitney Canada APS 2300 auxiliary power units (APUs). This exclusive multi-year contract extends a long-running relationship between the two companies since StandardAero signed its initial APS 2300 support agreement with Austrian Airlines in 2007. Under the agreement, StandardAero will continue to provide MRO services for the APS 2300 APUs equipping the fleet of Embraer E195 regional aircraft operated by the carrier. StandardAero's Maryville, Tennessee location, which is an OEM-approved Authorized Repair Facility (ARF) for the APS 2300, provides Austrian Airlines with customized MRO programs offering maximum support and flexibility to meet its specific operational needs.

AeroCentury reports first quarter 2021 net loss of US\$5.4 million

AeroCentury, an independent aircraft leasing company, has reported a first quarter 2021 net loss of US\$5.4 million, compared to a net loss of US\$10.2 million for the first quarter of 2020. Revenues and other income decreased by 47% to US\$2.5 million in the first quarter of 2021 from US\$4.8 million in the first quarter of 2020. The decrease was primarily a result of a 43% decrease in operating lease revenues to US\$2.7 million in the first quarter of 2021 from US\$4.8 million in the first quarter of 2020 as a result of reduced rent income from the sale of aircraft during the fourth quarter of 2020 and first quarter of 2021 and reduced rent for two assets in the 2021 quarter as a result of lease amendments related to the COVID-19 outbreak. The results for the quarter ended March 31, 2021 also reflected reduced depreciation expense compared to the first quarter of 2020, primarily as a result of aircraft sales, and increased professional fees and other expenses, primarily due to higher legal expenses. During the first quarter of 2021, the Company recorded a bad debt allowance of US\$821,000 related to one of its sales-type finance leases. During the first quarter of 2021, the Company recorded an impairment loss of US\$1,940,400 on its two assets held for sale, based on expected sales proceeds, which had an aggregate fair value of US\$347,400. The results for the quarter ended March 31, 2020 included impairment losses totaling US\$6.7 million, arising from estimated sales proceeds for three regional jet aircraft and an older turboprop aircraft that is being sold in parts. Results also included a US\$1.2 million bad debt allowance related to two of the Company's aircraft that are subject to finance leases and a US\$1.9 million non-cash charge related to the Company's interest rate swaps, which is included in interest expense.

IBC Advanced Alloys swings to profitability in the quarter ended March 31, 2021

IBC Advanced Alloys has reported income of US\$139,000 in the January-March quarter, reversing a loss posted in the preceding quarter, and as compared to income of US\$171,000 in the prior-year period. The Copper Alloys division posted income of US\$205,000 in the quarter, a 109% jump over the prior-year period, and the Engineered Materials (EM) division's income in the quarter of US\$490,000 was 84.9% higher than the prior-year period. IBC's Engineered Materials (EM) division sales of precision beryllium-aluminum

products rose 14.8% year over year, fueled largely by sharply higher demand from semiconductor chips used in the ongoing build-out of 5G networks and in vehicles, data centers, appliances, and other components of the Internet of Things (IOT). In the nine months ended March 31, 2021, the division posted sharply higher income of US\$579,000, a 916% increase over income of US\$57,000 in the prior-year period. In the quarter, IBC swung to profitability as compared to the quarter ended Dec. 31, 2020, with consolidated revenue increasing 110%

and Adjusted EBITDA rising by 151%, both as compared to the preceding quarter. Consolidated gross margin improved to 30.5% in the quarter, as compared to 17.0% in the preceding quarter and 19.9% in the prior-year period, with fixed costs being spread over higher sales volumes. Gross margin in the Copper Alloys division rose to 20.5%, as compared to 10.6% and 14.1% in the preceding and prior-year periods, respectively. EM gross margin expanded to 45.6% in the quarter, as compared to 26% and 32.1% in the preceding and prior-year periods, respectively.



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Embraer appoints JETS (Bournemouth) as Authorized Service Center for Phenom-family

Embraer has appointed JETS (Bournemouth), located in the United Kingdom, as the new Embraer Authorized Service Center (EASC) for the Phenom 100 and Phenom 300 family of executive jets. Strategically located in southern England at Bournemouth International Airport, JETS (Bournemouth) will support customers from the EMEA region. "We are pleased to announce this new partnership with JETS, which will help to bolster the network of the ever-increasing fleet in the Western European region, offering an additional option for maintenance of the Phenom 100 and Phenom 300 aircraft," said Frank Stevens, Embraer MRO Global Vice President Services and Support. The new EASC will perform scheduled and non-scheduled maintenance, component, and part exchange, and inspections at different levels of complexity for those aircraft platforms.



JETS (Bournemouth) to become EASC for Phenom jets
Photo: Embraer

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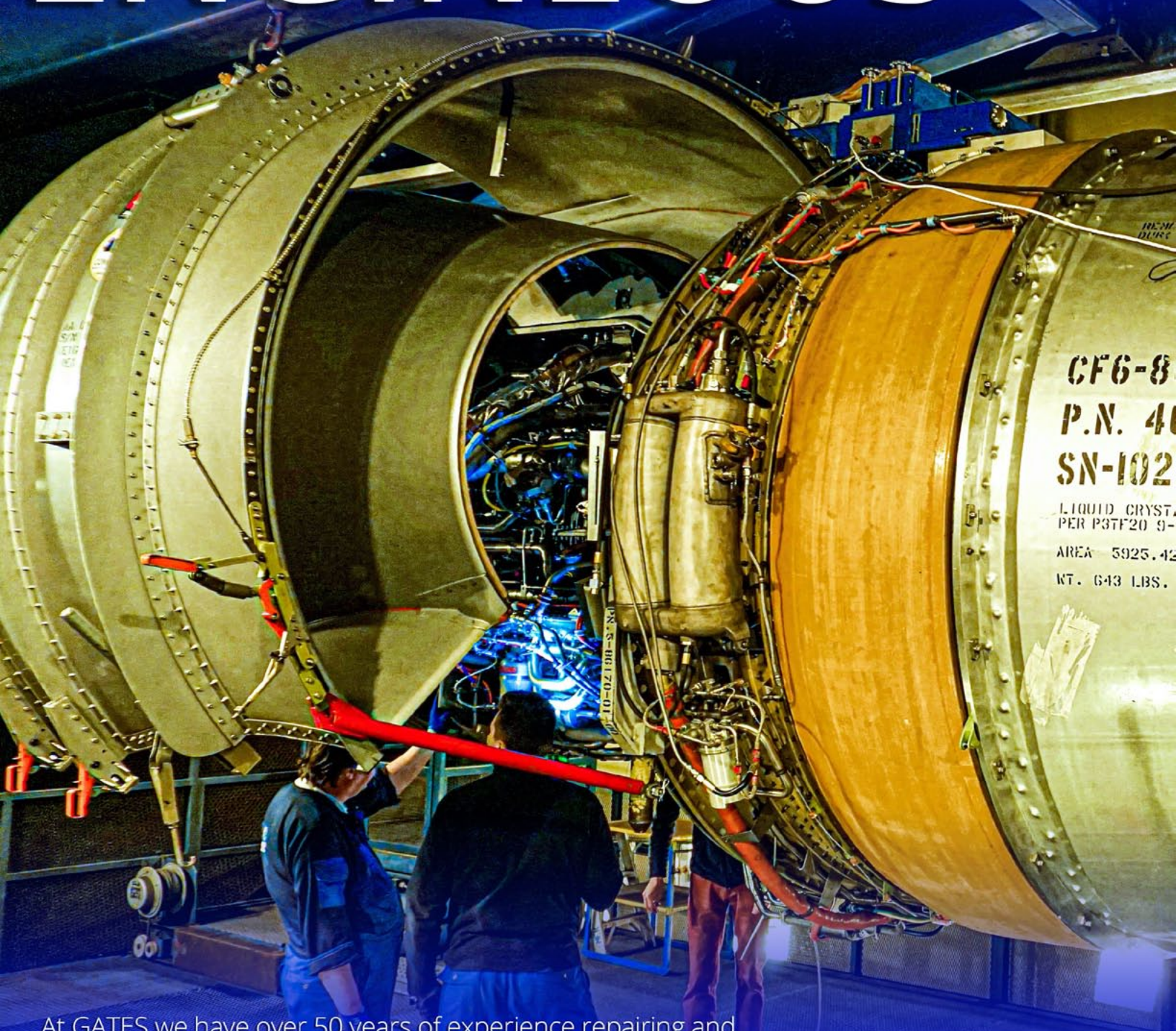
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Ripe for conversion



The AEI converted B737-800SF delivered to Ethiopian.
Photo: AEI

Keith Mwanalushi looks at recent headlines for narrowbody conversions and finds significant opportunities as a wave of Boeing 737-800 freighters prepare to take off.

Since the peak of the COVID crisis in May last year, some 200 aircraft have joined the global freighter fleet according to data from IBA's InsightIQ platform with newly converted Boeing 737-800s making up a significant chunk of recent conversions.

In March, GA Telesis announced the delivery of its first 737-800SF passenger-to-freighter (P2F) conversion to Ethiopian Airlines. The converted freighter was delivered from the Aeronautical Engineers, Inc. (AEI) facility in Miami. "GA Telesis converted the aircraft and is the lessor to Ethiopian Airlines on a long-term lease," clarifies Marc Cho, Chief Investment Officer and President of L.I.F.T. (Leasing, Investments, Finance & Trading).

GA Telesis' LIFT division entered the air cargo sector with its first commitment with AEI signed in July 2020, followed by a second option taken in September of that year due to the remarkable growth in main deck air cargo as demand for

freighters continued to grow strongly as a result of the pandemic.

Despite the complications of a pandemic, Cho says the conversion and delivery to Ethiopian went as planned. "Our conversion slot was in Miami, which was very conducive to our project, given that our headquarters is nearby in Fort Lauderdale, so we did not encounter any issues managing the conversion. Ethiopian Airlines is well versed in taking aircraft deliveries and sent a technical team for inspection and a ferry flight crew once the delivery timeline was confirmed."

Cho sees interest for additional main deck freighters in many regions worldwide; however, he stresses that experienced operators understand the significant dislocation in belly cargo capacity resulting from the sudden drop in passenger flights last year will eventually reverse course.

"Passenger to freighter conversion has become extremely popular over the

last year, but it should not be viewed as an easy alternative to the passenger market. There is increasing availability of feedstock considering premature lease returns and retirements; however, not all 737NG aircraft are optimal candidates for conversion." He says considerations as fundamental as cost basis and as specific as avionics can significantly impact the business case to build a freighter.

Cho highlights that GA Telesis is a very capable organisation from a technical perspective with engine capabilities in Finland and landing gear, component, and aerostructures repair shops in the US. "We utilise all the GA Telesis ecosystem elements to identify the best available feedstock and, where required, use our MRO capabilities to produce the best possible freighters for our customers. We are committed to the freighter sector and are evaluating other narrowbody and widebody conversion programmes to expand our fleet mix," Cho adds.



Marc Cho, CIO at GA Telesis and President of L.I.F.T.

As recently as 2018, demand for 737-800 conversions was still rather slow, with a price tag that was still too high for most potential convertors. By early May this year AEI had announced EASA approval of AEI's STC for the 12-pallet position B737-800SF freighter conversion. The -800 is a step up from the -400 Classic and the AEI converted -800SF freighter offers a main deck payload of up to

52,700 lbs. (23,904kg) and incorporates eleven full height container positions, plus an additional position for an AEP/AEH. The conversion also incorporates new floor beams aft of the wing box, a large main cargo door with a single vent door system.

During the last six months, AEI said it secured an additional 40 orders for the B737-800SF. Currently, AEI has a total of 14 simultaneous freighter conversion production lines, nine of which are dedicated to the B737-800SF and is on track to deliver 24 freighters in 2021 and over 30 in 2022.

Interestingly, over at Boeing, the airframer has also just announced it had received more than 180 orders and commitments for its 737-800 Boeing Converted Freightier (BCF). Boeing said a new partnership with a Costa Rica-based MRO provider would create additional conversion capacity for the 737-800 BCF.

Boeing will open two 737-800BCF conversion lines with COOPESA in Alajuela, Costa Rica. The first of the new conversion lines is expected to open in early 2022, with the second anticipated later that year. Boeing forecasts 1,500

freighter conversions will be needed over the next 20 years to meet growing demand. Of those, 1,080 will be standard-body conversions, with nearly 30% of that demand coming from North America and Latin America.

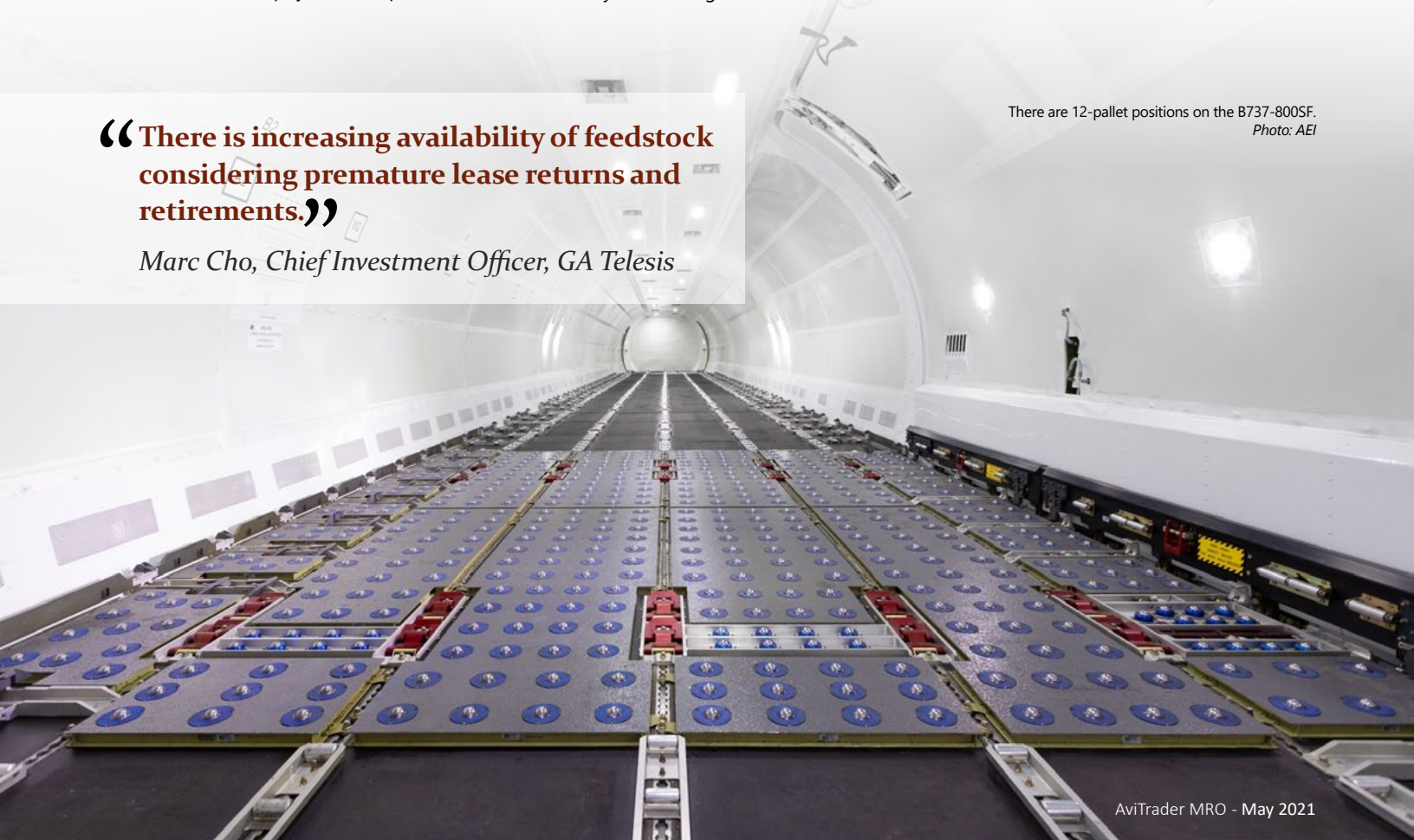
Currently, Boeing converts 737-800 passenger aircraft to freighters at three locations: Boeing Shanghai Aviation Services (BSAS) in Shanghai, China; Guangzhou Aircraft Maintenance Engineering Company Limited (GAMECO) in Guangzhou, China; and Taikoo (Shandong) Aircraft Engineering Co. Ltd. (STAECO) in Jinan, China.

Back at GA Telesis, they recently announced a further four additional B737-800SF freighter conversions after immediately exercising an option for a second aircraft. GA Telesis has stated that multiple candidate aircraft are under consideration for conversion. Three production slots have been reserved in the second half of 2021 and one slot reserved in the first half of 2022. All modification touch labour and maintenance requirements will be performed by AEI in Dothan, Alabama.

“There is increasing availability of feedstock considering premature lease returns and retirements.”

Marc Cho, Chief Investment Officer, GA Telesis

There are 12-pallet positions on the B737-800SF.
Photo: AEI



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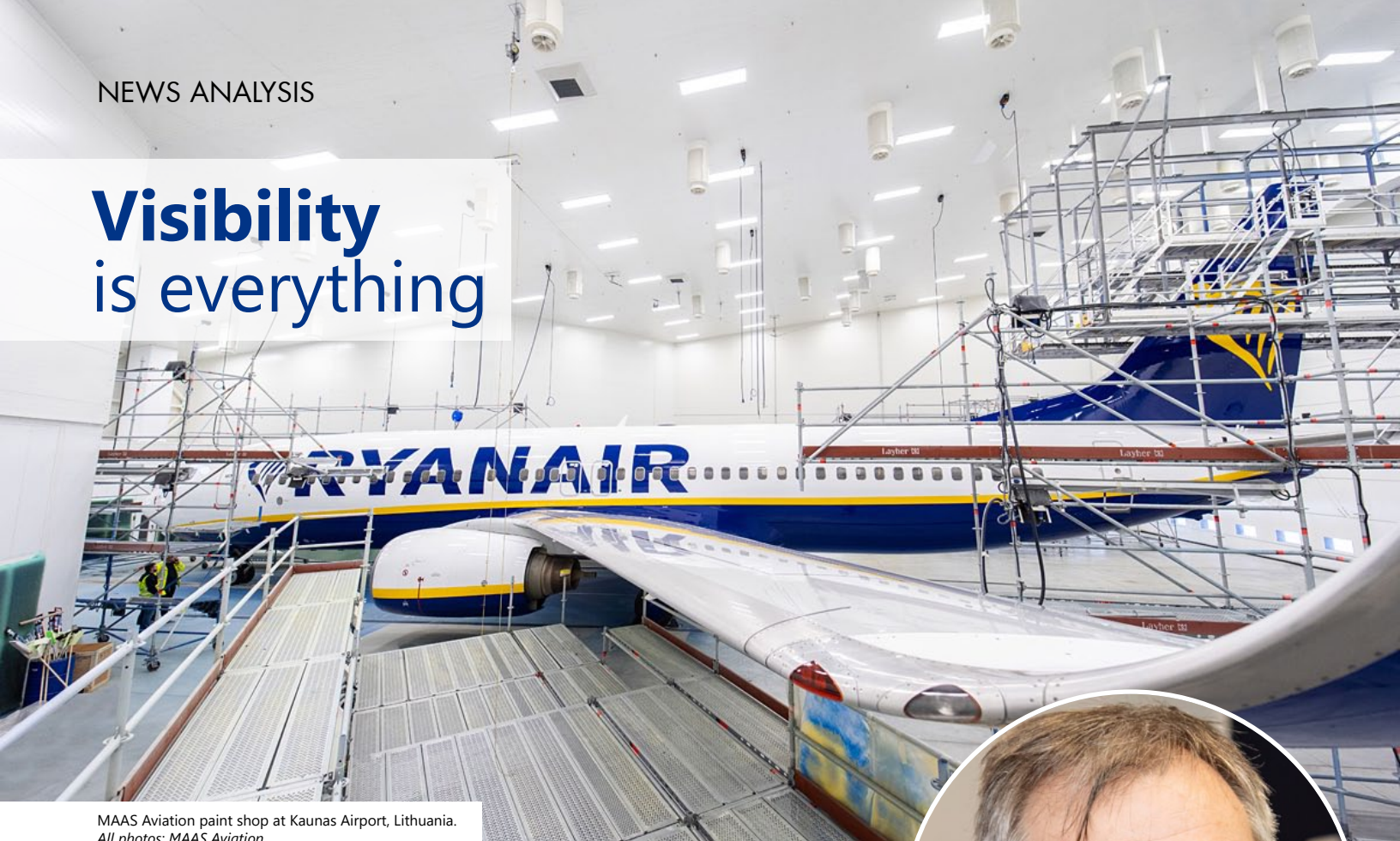


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Visibility is everything



MAAS Aviation paint shop at Kaunas Airport, Lithuania.
All photos: MAAS Aviation

MAAS Aviation is positioning for greater visibility in the aircraft paint and coatings market. Chief Executive Tim Macdougald talks to **Keith Mwanalushi** about the multi-year strategic plan for the company.

Despite the complications of a pandemic, aircraft paint and coatings specialist, MAAS Aviation opened a new paint and redelivery facility in Lithuania earlier this year. The new facility is based at Kaunas Airport adjacent to the FL Technics' MRO facilities.

While COVID had put the brakes on many aviation services around the world things were not as severely affected at MAAS as CEO Tim Macdougald tells *AviTrader MRO*. "MAAS benefits from multi-year customer contracts and our customers have maintained their commitments to have their aircraft painted. Some are utilising the enforced ground time of their parked fleets to both catch up and bring forward maintenance routines. To a small extent we have benefited from this."

MAAS Aviation's new Lithuanian facility is a twin-bay narrowbody paint shop capable of accommodating up to two A321 sized aircraft simultaneously and is the first of its kind in Lithuania. Macdougald says the MRO repainting sector is normally cyclical with winter peaks and for many years MAAS has juggled capacity constraints during these periods due to demand from its long-term contracted customers.

In the build up to establishing this new facility MAAS Aviation has experienced a dynamic growth trajectory surpassing 180%

over the past six years.

In 2015 the company had three paint shops in two locations and 130 aircraft were painted. In 2021, MAAS has eleven paint shops (three in Hamburg; two in Kaunas; two in Maastricht; one at Fokker Woensdrecht; and three in Mobile, Alabama) and the company forecasts painting over 300 aircraft.

Opening a new facility during a pandemic is no mean feat but Macdougald explains that the investment at Kaunas Airport represented a long-term strategy to position MAAS to benefit from increased capacity and market share during the COVID pandemic and, more importantly, once it is behind us. "Due to differing COVID regulations across the multi-jurisdictions in which we operate, the biggest challenges we faced were the restrictions placed on the movement of those teams of people necessary to support the construction, commissioning, and entry-into-service of the paint shops."

Macdougald also says recruitment of local painting operatives was another challenge. "It was difficult to coordinate interviews due to the restrictions. We overcame this by utilising local agencies and we are happy with the outcome. Ultimately,



Tim Macdougald, CEO, MAAS Aviation

the combined quality of the contractors we engaged, and the considerable effort and dedication of the specialist MAAS teams enabled the project to be delivered on time and on budget. We did not allow the pandemic to alter our plans.”

MAAS are now fully focused on customer delivery and Macdougald reports – “every slot at our Kaunas paint shop has been fully utilised since the facility opened in January. We’re now used to operating under pandemic rules, so we are well equipped for whatever lies ahead.”

According to MAAS Aviation, all their paint shops are operated to OEM standards of performance and from a lessor’s perspective, combining painting with the base maintenance capabilities offered by FL Technics is a clear advantage including the management and coordination of aircraft redeliveries which is expected to take on an increased relevance post pandemic due to the number of aircraft likely to change operator.

And looking ahead at the possibility of increased aircraft and asset transitions

that will support growth ambitions for paint services, Macdougald is cautiously optimistic saying as in all crises, there will be winners and losers and not all aircraft operators will survive. It is expected that many of the aircraft currently parked will either exit the market or will change hands.

“By locating an additional European paint shop facility at Kaunas airport to operate alongside FL Technics, MAAS is well positioned to contribute to the transition of aircraft assets as it is highly conceivable that many aircraft will require reconfiguration and changes of branding which will include paint.”

Macdougald stresses that despite the possibility to benefit from the post-COVID environment, this was not the reason MAAS invested in Lithuania. “We had identified Kaunas as a potential location for painting several years before the COVID crisis hit. Our investment in Lithuania represents just one component of MAAS’ multi-year strategic plan which is unaffected by COVID.”

MAAS are also working on other specific projects to deliver further growth and to broaden their reach and capabilities. “We are also looking to

connect with other MRO organisations operating in our sector to amalgamate our services with theirs to offer integrated aircraft transition excellence. We believe airlines and lessors will benefit from combined specialist services coordinated by multiple service providers at a single location, and we are targeting global partnerships as a mechanism to deliver these objectives.” Macdougald concludes.

The continued growth at MAAS Aviation is a good news story in incredibly challenging times for the industry.

“We’re now used to operating under pandemic rules, so we are well equipped for whatever lies ahead.”

MAAS Aviation Chief Executive,
Tim Macdougald



Every slot at the Kaunas paint shop has been fully utilised.



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Turning a setback into a comeback

Operators are increasingly keen on having a fully integrated ERP MRO software system.
Photos: AAR

Keith Mwanalushi looks at the impact of Covid-19 on the MRO software market analysing the challenges and opportunities as the pandemic continues to evolve.

In these challenging times, both airlines and MROs are looking to control and monitor maintenance costs, especially for non-scheduled work and making MRO processes more efficient through technology."

Operators are increasingly keen on having a fully integrated ERP MRO software system that includes the tracking of financials and a robust materials management component that helps with balancing the cost of retaining optimal inventory levels with maximising profitability, thus helping to control unscheduled maintenance costs.

In the case of airlines and MRO providers, Omar Santos Vice President, Global Services and Support at TRAX indicates that unexpected maintenance problems and protracted downtimes can take a heavy toll on profitability and customer goodwill. He says in 2019 the FAA estimated the annual cost of delays to airlines and passengers at \$33 billion.

Reduced aircraft maintenance delays can save an average of \$4,690 per hour, he reveals.

In response to the need to control costs for unexpected maintenance, TRAX developed QuickTurn as part of its suite of eMobility iOS mobile apps that allow real-time information, anytime and anywhere. QuickTurn allows mechanics to conduct the necessary gate activity for aircraft defects upon flight landing or prior to take-off. Features include delay recording, aircraft part number transactions, troubleshooting, defects deferrals or closings, dent mapping, parts requirements, notifications, among others.

"QuickTurn is an example of how mobile add-ons to the MRO software system can assist in making the maintenance process more efficient," states Santos. He adds: "A pilot can raise a defect during a flight, which when connected through the aircraft on board Wi-Fi system, streams down to the ground

and presents a notification to a technician assigned at that location. The mechanic can prepare in advance by reviewing the OEM manuals, accessing the tools, and ordering potential replacement parts in advance." Santos explains that



Omar Santos Vice President, Global Services and Support at TRAX

MRO SOFTWARE

this minimises the need to return to the hangar to access manuals, get parts, or enter transactions. "Having off-line capability when connectivity is lost allows the technicians to continue working at the gate. They can continue to view documents and input their transactions which will automatically synchronise when back in wireless range. Crew chiefs will be able to view real-time information for ongoing work," he continues.

TRAX believes that technology plays an important role in improving efficiencies, processes, and lowering of costs. "This is what has driven us to develop a maintenance system with the capacity to be paperless and which will continue to incorporate innovative artificial intelligence technology, as well," says Santos.

As a software provider, SWISS-AS caters to both aircraft operators and MRO providers, to satisfy the requirements of both sections. "From the perspective of an MRO, we do want to be able to analyse the unscheduled maintenance previously performed and utilise this to not only provide more accurate quotations, but also to be able to account for expected findings against the scheduled items," says Chris Clements Sales Representative at SWISS-AS.

Approval control of findings on a customer aircraft is also fully implemented in SWISS-AS software AMOS meaning that as defects are created as findings, they can trigger an approval request to the customer representative ensuring that no chargeable services are performed until approval is granted. "AMOS also allows the customer to have their stock levels managed based on previous historical consumption to potentially make savings in storage costs without increasing the risk of having expensive nil stock situations."



Chris Clements, Sales Representative
at Swiss-AS



MROs are exploring how they can use their technology to simplify and improve process.
Photos: AAR

From the airline perspective, they have the advantage of having access to the history of their aircraft and all relevant transactions. Clements says many tools exist in AMOS to allow the operator to identify rogue units and repeated items and this supports the back office in making maintenance decisions. "To handle unscheduled events efficiently requires having access to data and accurately identify the source of the issue and release the aircraft safely whilst ensuring the configuration is also updated."

Perhaps the most talked about subject when it comes to managing unscheduled maintenance is the ability to predict failures before they occur and therefore reduce unplanned ground time and

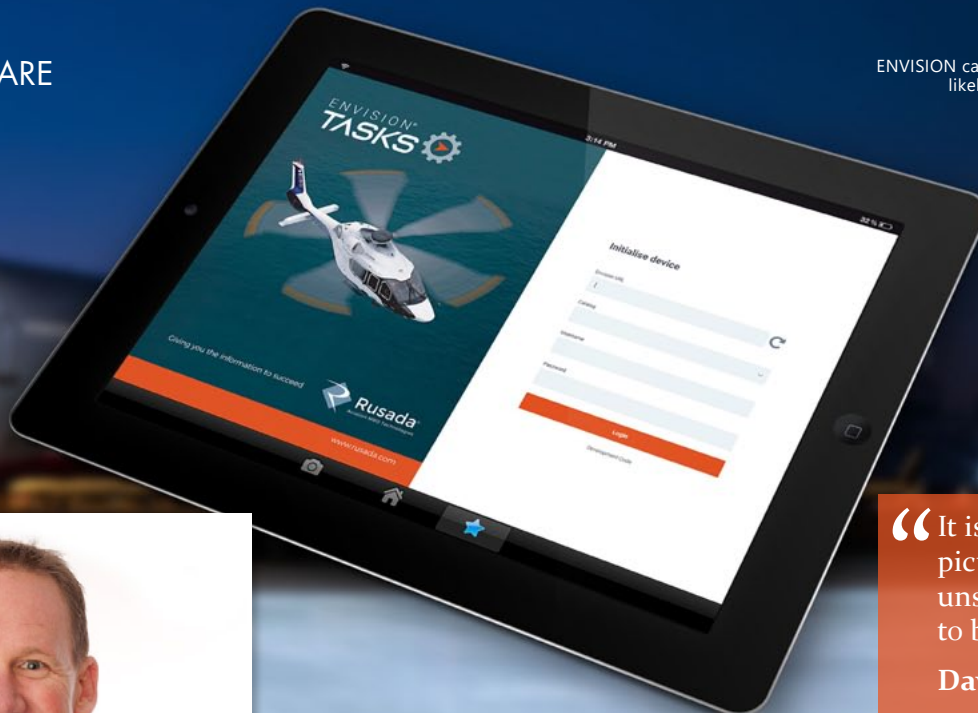
facilitate a more efficient supply chain. "Whilst we have made a conscious decision to not implement predictive maintenance directly into AMOS this type of data analysis can bring benefits to operators. We have ensured that standard interfaces are available for the community to utilise and transfer data to and from third party solutions

that can possibly draw data from a bigger fleet than just the customer, and in some cases install additional data gathering equipment on the aircraft to increase the parameters measured," Clements states.

David Purfurst, Global Pre-Sales Director at Rusada says when it comes to planning maintenance and managing costs, it is critical to have a clear picture of the amount of unscheduled work likely to be involved. "The only way to successfully do this is by analysing your past performance."

ENVISION, the solution developed by Rusada can use past events to predict the likely amount of unscheduled work and feed that into your maintenance forecasts. "This allows for more accurate budgeting and time allocation, and significantly reduces your exposure to risk," Purfurst highlights.

In neuroscience, attention management is the study of how we allocated our finite internal resources, and they have interesting parallels in MRO software, which they try to capitalise on at AAR. As an example - when a technician comes across a repetitive task or one that lacks connection to moving the maintenance process forward, he/she naturally will be less engaged and more prone to multi-tasking or not engaging at a sufficient level to produce high quality results. "From that perspective, at AAR, we see software's role as either managing or automating any non-value add aspects of a given process



“It is critical to have a clear picture of the amount of unscheduled work likely to be involved.”

David Purfurst, Rusada



David Purfurst Global Pre-Sales Director at Rusada

or project, preserving that valuable time and attention for the instances where it really matters - creative problem solving, critical thinking, attention to safety and even the interpersonal relationships that make up a successful team,” stresses Matthew Kammerait, Director Digital Product Management at AAR.

Over at Component Control, the Quantum-ERP solution improves efficiency and productivity by utilising best practices and workflows built into the system, comments Daniel Tautges, SVP at Component Control. “Our mobile solutions streamline operations, allowing users to effectively complete their jobs from across the shop or hangar, accommodating both scheduled and non-scheduled work. Additionally, Quantum-ERP has capabilities to automate daily processes, ensuring accurate data is maintained in the system.”

Over the last year, business intelligence and analytics have been a focus at Component Control. When they introduced the integration of Power

BI with Quantum in their version 12 application, Tautges says they added more than just a new reporting platform to Quantum, “we added actionable business intelligence, real-time reporting, and an enterprise toolkit for companies to build competitive intelligence.

“MRO is a complex task whereby work can vary by what is being repaired, complexity of repair, and chain of ownership of the repair. In-source, out-source, parts requirements, labour, all factor in the turn-around time and cost. With analytics from Component Control, data gathered from information already in the system can predict on-time deliveries, profitability, and capacity,” Tautges highlights.

Fluctuations in demand for aviation MRO software services

The aviation industry has been especially hard hit during the pandemic, meaning survival strategies and rethinking working practices are high on corporate agendas.

As such CordobaQ has been contacted by many MRO facilities wanting to explore how they can use their technology to simplify and improve process flows, save costs and ensure that employees are being utilised in the most productive and effective ways.

“Technology has become more important than ever for businesses

during the pandemic, and I see this trend continuing. Yes, we are all very much looking forward to less video calls and more face-to-face connection again in the future, but I also see that businesses are starting to understand that technologies, such as MRO software, are helping them to work better, cheaper and faster. Once they discover the edge this gives them, there is no turning back,” comments Jason Cordoba, CEO of CordobaQ.

At the beginning of the pandemic when aircraft were being grounded and travel was severely restricted, at TRAX, they thought that demand for aviation MRO software would plummet, however, the reverse was true. Santos says it was not long until cargo operators and start-up airlines seized on industry opportunities. “It was no surprise that cargo rebounded somewhat due to the uptick in online purchasing of goods and commodities for populations that were homebound, as well as the movement of urgently required PPE products. The cargo market has further expanded in the past half year due to the shipment of vaccines. MROs saw an increase in cabin modifications work to make pandemic adjustments.”

What was unexpected was the appetite of start-ups to launch their airlines amidst the Covid crisis, which has won TRAX new clients. “This, combined with the foresight of many of our customers to use this



Matthew Kammerait, Director Digital Product Management at AAR.

time to push forward their technological advancement plans for mobile maintenance, has kept TRAX remarkably busy during the past year."

Airlines and MROs are still feeling the pain but understand the centrality of the aviation industry. "Therefore, they know that the trajectory for a return to normal is upward. This explains the willingness of those in a position to do so to expend capital now on projects to build a more efficient, digital, and paperless operation that will drive efficiency and future earnings. Our expectations are that we will experience continued demand for MRO software and services in the mid-term," suggests Santos.

In general, demand has remained firm for AMOS and SWISS-AS has adapted well to having to deliver implementation services remotely. In fact, SWISS-AS succeeded in inducting more new customers to the AMOS community in 2020 than in 2019, which was already a healthy year, reports Clements. He says 2021 shows no signs in slowing and projects which may have paused last year have been keen to re-start. "It is clear that the market situation has made those seeking to improve their market position more cautious and it could be argued that the pre-sales period has increased slightly with budgets tightened and risks having to be mitigated."

Perhaps a slight fluctuation that could be observed are the businesses

that SWISS-AS are attracting. "As well as airlines and MRO organisations we have welcomed more rotor wing and executive aviation operators to the community and more increasingly sectors of the industry that may not have considered AMOS, such as pure CAMO and aircraft transition and recycling. As different areas of aviation have seen an increase in business, they must also look towards identifying how they can streamline and digitalise their business. Another unexpected outcome of the pandemic is that we already see a greater variety of customers finding that a solution such as AMOS not only has the potential to bring efficiency to their business, but to also align themselves with other sectors of the industry that may not



Daniel Tautges, SVP at Component Control

have been considered in the past."

AAR has over 1700 global aviation customers, and they have seen a fluctuation in the demand for their products but as Kammerait states, AAR's clients continue to push for productivity utilising digital paperless solutions and actionable analytics. "Gaining efficiencies, reducing risk, and driving more top line revenue are the main advantages of our ERP software. The pandemic has driven a leaner operating environment and support for remote workforce, so the take-up of our cloud solutions continues to grow. We project continued efforts for digital transformation and process automation using ERP software solutions

such as Quantum Control. Predictive maintenance continues to be a focus for many MRO organisations as well. Many are still figuring out details on the best way to deploy these processes in their facilities, but it appears to be more of a priority now than ever before. MRO software solutions are a key element to these efforts."

Demand for services at Rusada has continued to grow over the last 14 months, albeit at a slower rate than prior to the pandemic. "There was an initial lull in the first three to four months as operators and maintainers took some time to assess the situation and redraw their plans for the future. However, since that time things have picked up again and we are having more discussions with more potential clients. We predict this demand will continue to increase as restrictions begin to ease and the world opens up again," says Purfurst.

He points out that potential clients are now taking longer to make their selections and diving deeper into the product before signing. "While this has lengthened the selection process, it improves their understanding of the system and results in a speedier implementation. Our belief is that by this time next year things will probably revert to a slightly longer sales cycle than pre-pandemic but shorter than at present. Overall, the level of interest has been surprisingly high given the circumstances," Purfurst concludes.



Jason Cordoba, CEO of CordobaQ

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Building digital skills through training

Digital training innovations will be vital post crisis.
Photos: AFI KLM E&M

The restrictions caused by the Covid pandemic meant airlines, MROs and training academies had to reinvent their technical training strategies and in doing so, pushing digital capabilities. **Keith Mwanalushi** reports.

The pandemic posed a major challenge for maintenance training and at Lufthansa Technical Training (LTT) this compelled them and their customers to think in new directions. Distance training through video conferencing tools combined with digital media took on an important role says Harald Schween, Head of Sales, Key Account Management and Marketing at Lufthansa Technical Training. "We didn't just shift face-to-face training into a video format but combined traditional and digital learning methods in such a way that the development of knowledge and skills was guaranteed without being compromised."

For instance, Schween says LTT provided trainees with additional e-learning modules for the preparation and follow-up of learning units that were carried out over distance and the necessary practical training was carried out in strict compliance with hygiene and

safety requirements.

The AFI KLM E&M training network adapted quickly by adopting new methodologies and approaches and applying them to their already established courses. "As a result, all our training centres have been able to successfully deliver several synchronous online courses. With this option now established and officially approved by our regulators for some of them, we can continue to develop and deliver courses to meet the ever-changing demands for quality training options, ensuring the ability to plan and secure course slots according to our clients' training needs," tells Chris Tubby – AFI KLM E&M Training Sales Manager at KLM UK Engineering in Norwich, UK.

At Magnetic MRO Training, they launched virtual courses almost a year ago and Allan Arjut, Sales Manager says several other companies have followed suit, with online theoretical training

becoming almost the norm today. "It seems also that some operators have closed down their own training facilities to cut down costs because of the lower demand for engineers due to the low volume of flights. However, this might influence the training market where some of the more established lines of business might be re-written," says Arjut.

In terms of training apprentices, at Aero Norway in Stavanger they've had to rely more on the job training rather than classroom work due to the restrictions surrounding social distancing. "In actual fact, for those apprentices, COVID actually enhanced their training and enabled them to progress quicker than they would have done in a theoretical environment," explains Chief Executive Glenford Marston. He says for each apprentice working on an engine, there is a dedicated a senior mechanic supervising them. "This has actually made our shop more versatile as we were practicing this right across the

“We combined traditional and digital learning methods in such a way that the development of knowledge and skills was guaranteed without being compromised.”

Harald Schween, Lufthansa Technical Training

field and moving our apprentices from core performance to LPT to fan, but it was also essential as we needed a multi skilled workforce to man our additional repair bays.”

Marston feels Aero Norway is fortunate to have a loyal and dedicated team on the shop floor, many of whom have been with the MRO since they were apprenticed themselves. “Although they did not require any additional training, we did have to undertake this for the inspection department as we had to redistribute our bench inspectors across all repair bays to fulfil the demand of our customers. The reality of this was instead of the parts going to the inspectors once they had been cleaned, and subjected to NDT, the inspectors were required to go to the repair bays to carry out their duties as we were endeavouring to complete the surgical strikes as quickly as possible.”

Impact on the labour market

Prior to the pandemic, the MRO sector was largely struggling with a shortage of technical expertise. Since the onset of the crisis, several shops have reduced the volume of engines inducted as well as their technical staff. Marston reports that Aero Norway was fortunate enough to keep the skilled workforce intact which they achieved by taking a 20% pay cut right across the board. “Our people are passionate about the business and we have always had a thriving apprentice scheme taking in six apprentices every year, and this last year has been no exception. Our apprentices are the future of the company and investing in them,

is investing in Aero Norway - we are one of the few companies that guarantee their apprentices a job providing they pass all their examinations. Our apprentice programme is supported by the government and is something we take extremely seriously,” Marston stresses.

Over at FlightSafety International they witnessed the turndown in MRO training at the start of the pandemic, partly because several operators were taking advantage of no aircraft travel to complete impending maintenance and speeding up other items. Keith McGann, Regional Sales Manager says as the pandemic continued, MROs took advantage of the ‘LiveLearning’ programmes to access regulatory-approved training without travel – “By removing the expense of travel for the theory portion of our training programmes, it has provided better access for technicians to be trained at the MROs. We also know that MROs worldwide took advantage of the slow down to get caught up on training opportunities,” he states.

With COVID lurking in the background, the dilemma for many MROs is how to facilitate internships for future engineers and keep innovating when budgets are consistently under revision. Wanda Manoth-Niemoller, the AFI KLM



Glenford Marston, CEO, Aero Norway.
Photo: Aero Norway © Siv Sivertsen

Harald Schween, Head of Sales, Key Account Management and Marketing at Lufthansa Technical Training.

TECHNICAL TRAINING



VR has become a major component to improve the quality and efficiency of training.
Photo: AFI KLM E&M

E&M Training Sales and Development Manager in Amsterdam says due to the current situation, they are seeking close cooperation with the schools both for intern jobs as well as in innovation projects. "For instance, we did a project on an assessor app in cooperation with the ROC, in which students developed the assessor app together with us. The upcoming year we are working together with the schools and government funding for schools and innovations, to keep the developments going."

Manoth-Niemoller emphasises that training is changing from classroom to online and hybrid, to facilitate the changing customer needs and taking budgets into consideration.

Currently, Schween from LTT reckons it is not yet fully foreseeable how the current crisis in aviation will affect medium and long-term qualification and personnel requirements. However, he is convinced that the demand for highly educated and experienced personnel in the MRO sector will remain high due to constant

technological developments. "There is already a shift from older aircraft models to new generation platforms, due to economic and environmental considerations of future aircraft operations so such shifts will most probably lead to additional training needs."

Using new technologies to advance technical training

New systems and techniques are increasingly finding their way into the training room. Virtual Reality (VR) has become a major component to improve the quality and efficiency of training programmes. At AFI KLM E&M they have been involved in several inter-company working groups that also include researchers, doctors and psychologists that have helped to compare and define ways of using VR. "These methods allow us to optimise the educational impact of our training through virtual reality while ensuring complete physical and mental integrity to our trainees," indicates

“We are endeavouring to move all information regarding inspection, as well as full documentation for the engine on to digital platforms.”

Glenford Marston, Aero Norway

Denis Clement, Head of AFI KLM E&M's Training Centre in Paris. He explains that they introduced 3D real time and VR where hangars, aircraft, engines or equipment were inaccessible for training purposes. "After implementation of VR, and working on our training needs, the first results from the analysis was the efficiency of the training and the time saved," adds Clement. He adds that recent developments in training have propelled it to the forefront, turning it into one of the priority issues of corporate strategies.

Clement however, reminds that the technology requires specific servers, professional devices, proficient computers and warns that the high costs of implementation does not offer a suitable

The pandemic posed a major challenge for maintenance training.
Photo: FlightSafety International



Allan Arjut, Sales Manager, Magnetic MRO

ROI. They are working to transfer their technology on consumer devices to reduce the cost. He says in the future, VR trainings will be ATAWAD (anytime, anywhere, any VR device).

Besides the use of "complex and expensive VR devices," Schween says these can be limited in the sense of a broad learning experience, LTT strongly

emphasise on a hybrid of traditional and digital learning methodologies, for example, the utilisation of tools for spherical panoramic views of aircraft, systems and sub-systems within the instructor-led class, or through the provisioning of e-learning modules for the self-paced exam preparation. The latest example is LTTs distance training solution OnlineDistanceLearning, which was introduced as the first EASA certified training company last year.

At Magnetic MRO, the main initiative has been the incorporation of online synchronous learning and they are exploring the options of moving parts of the practical training to online as well, using the tools that the IT-sector is rapidly developing. "One of the major benefits for any operator is the possibility to train their staff from the comfort of their home or office. This way, there are no expenses for travel and accommodation. From the first year of learning, we can already see that in a virtual classroom setting the student is more focused on the task of learning and the percentage of the people passing the

exams is on the rise," says Arjut.

Speaking to Marston about technology touchpoints, one of the main changes they are seeing at Aero Norway is that the industry is trying to go paperless at every point. "We are endeavouring to move all information regarding inspection, as well as full documentation for the engine on to digital platforms to reduce our carbon footprint."

Within their facility, Aero Norway have invested heavily in new technologies to increase the offering and reduce turnaround times. "By bringing these capabilities in house, we hope we are extending the Aero Norway quality to these areas, work for which would normally have been outsourced. For example, the addition of our high-speed grinder has allowed us greater control over the overall performance as we were relying on external sources for what is a difficult part of the process. Our plasma machine has also opened up a new repair avenue for us and will ultimately benefit our customers improving TAT and



AMOS. AGAIN.

"We are convinced that AMOS is the perfect match for DRF Luftrettung. The fact that the very first AMOS customer was also an air rescue company – who still relies on AMOS after almost 30 years – reflects the versatility of AMOS to cater for the unique needs of rotary wing as well as fixed wing aircraft."

says CEO Swiss AviationSoftware Ltd

DRF Luftrettung goes for AMOS, the world-class M&E software solution.

DRF Luftrettung, one of Europe's major air rescue companies providing rapid assistance to emergency patients, joins the fast-growing AMOS helicopter user-group. AMOS complies with the special requirements of helicopter maintenance by providing dedicated functions only relevant for helicopters, such as vibration monitoring, engineering requirements, dynamic counter options to optimise maintenance control and performance, mission logic or in-depth effectivity rule logic to track fleet uniformity or customer preference.

Q & A

IN THE HOT SEAT.....

What attracted you to this business?

I have always worked in the software business, although my career in aviation software started with Aerogility. I must admit I love working with both military and civil aircraft and I get real kick out of working in the aviation industry. Working with my co-founders at Aerogility, our initial objective was commercialising multi-agent software – a technology that originated in research into AI and autonomous systems that we were sure had the potential for some very powerful applications. We did some research modelling long-term “Power-by-the-Hour” contracts and realised the potential in the aviation aftermarket. Since then, we have been very focused on enterprise decision support for aerospace and defence with our what-if simulations for forecasting and planning.

Gary Vickers
Chief Executive Officer
Aerogility



SAS uses Aerogility's cloud-based predictive maintenance planning and forecasting solution.
Photo: SAS

What does a typical day's work entail in your job?

Well, it is a cliché for a CEO to say every day is different, but it is true. I work closely with our management team delivering our business strategy and inevitably I am very focused on business development and the commercial management of the company. This includes talking to our customers regularly and ensuring that they are very happy with what we are doing.

I work closely with our board and investors, and I am fortunate that they have a lot of expertise in software companies and excellent knowledge and contacts in the aerospace and defence sectors. We have a strong technical leadership team and a highly talented group of developers. This is a real strength of the company and they produce a constant stream of innovation and product development. My role is to help prioritise this work and make sure that we get the balance right in terms of ensuring our customers get what they want and that we are breaking new ground – as a small company we cannot afford to stop innovating.

Briefly, tell us about your AI-based software for aviation?

Aerogility is a model-based AI predictive analytics solution, with a key capability for forecasting and planning in an aviation business. The system utilises an intelligent model of an entire fleet operation, where AI software agents play out the role of aircraft fleets and major systems, plus all the supporting facilities and operational infrastructure, in a realistic future simulation of the business. A simulation of an operation can run over almost any time frame, from the next 18-months to the next 50-years.

Our simulation capability means users can explore a wide range of different what-if scenarios. A fleet can be flown forward, and you work through the impact of decisions, policies and plans, comparing and optimising different what-if scenarios for an operation. The usual measure of success is increased fleet and aircraft availability, maximising planning yield and minimising whole-life costs.

How has COVID-19 affected the business?

It is quite clear that the impact of COVID-19 on the travel and aviation is extremely severe – 12 months ago our airline operator business was expanding rapidly and, not surprisingly, things have slowed down. We are fortunate that our defence business is less affected.

Having said that, our airline customers are using Aerogility extensively. They are facing the challenge of a lot of uncertainty and planning volatility, which has greatly increased the workload while having to work remotely or with resource constraints. These teams are dealing with the challenges of localised lockdowns and restrictions, and many airlines are in a state of flux with their carefully planned long-term maintenance schedules now in need of constant review.

Aerogility helps these airlines by making it a lot easier and faster to review and update their plans with new information and respond to the changing levels of demand for aircraft availability. The need to continually monitor, adapt and re-forecast operational plans has been exacerbated by the uncertainty caused by the pandemic and we do not see this changing anytime soon. Our customers have given us the feedback that the capability of Aerogility to quickly forecast the long-term impact of short-term changes on their plans has been invaluable and we are pleased to be helping.

What ought to be the key priority for airlines returning to service?

When things improve, we are facing a possibly unique situation where many aircraft and major systems will need to return to service after a prolonged period of being parked or stored. This is creating a huge workload for engineering and maintenance teams planning and preparing the aircraft for re-entry. We think it is important to take the time now to work through all the planning options, so that an organisation can work out the best strategy and optimise the best plans. This will help the engineering and maintenance teams when all eyes are on them to get aircraft back flying. Aerogility can help play out these scenarios and forecast new maintenance schedules quickly in response to different re-entry options and timetables.

Whatever decisions are made, airlines are likely to be in recovery-mode for quite some time. Re-entry into service may take many months, if not years, and will differ depending on local regulations and restrictions, as well as passenger demand. Maintenance planning is key to recovery and airlines should begin optimising a return to service strategy now.

What are your main objectives for 2021?

In 2021, we hope to see a resurgence in travel and that the airline industry will begin to grow once again. Our aim is to be there to support them as they plan for future demand and fleet expansion. Another objective is to diversify our proposition across more areas of the airline operation, in particular operational planning and commercial optimisation.

In April this year, we launched a major overhaul of the Aerogility user interface – known as version 9 – which utilises the latest browser technologies to deliver high performance and powerful user interaction capabilities. The updated software enables both expert and occasional users to understand complex decision-making and resolve challenging forecasting and planning issues more easily and intuitively.

As mentioned earlier, as a small company we cannot stop innovating, so we will be constantly working on new product updates and applications – watch this space!

»»»»→ *on the move*



Keith Mwanalushi

There is exciting news for us at AviTrader Publications with the announcement that our very own Editor **Keith Mwanalushi** has been nominated for two awards at the Aerospace Media Awards 2021 in June. He is a finalist in two categories Best MRO Submission and Best Propulsion Submission for two feature articles recently published in our e-magazine AviTrader MRO. We are proud to be a part of these nominations and it demonstrates the product improvements that we are undertaking in our quality of editorial and product design for the AviTrader MRO magazine, despite the challenging times for the aviation industry. With these nominations, we would like to thank the organizers and judges of the Aerospace Media Awards, our editorial partners and advertisers for their continued support and participation. We wish Keith the best of luck on the night! Please follow, support and get more information on the awards here:

<https://www.aerospacemediadinner.com>



Michael Weiss

ABL Aviation, the global independent aircraft investment management firm, has appointed **Michael Weiss** as Chief Commercial Officer. Weiss' appointment further strengthens ABL Aviation's senior leadership team as the company pursues its growth strategy, underpinned by independent decision making and an innovative approach to aircraft financing. In his new role, Weiss will be responsible

for further solidifying ABL Aviation's close airline and institutional investor relationships and spearheading growth. He will bring over 30 years of broad-ranging aviation industry experience and expertise with him. During his long career he has held senior positions at a number of financial institutions including Investec, where he was Head of Aircraft Finance & Leasing and instrumental in driving the bank's strategy of establishing dedicated aircraft-related funds. More recently, Weiss was Head of Aircraft Trading at SMBC Aviation Capital, where he led the Aircraft Trading team into new markets and built up a presence in Asia, specifically Japan, by offering new, and innovative solutions to investors, alongside the company's Japanese shareholders.



Brent Wiggins

Stevens Aerospace and Defense Systems (Stevens), has promoted **Brent Wiggins** to Senior Manager of the company's 24-hour/365-day AOG team. Wiggins brings years of hands-on experience to Stevens, holding positions ranging from technician to director of maintenance with companies such as L-3, Nicholas Air and Wing Aviation Group. He is also well-versed in Part 91, 135, and 145 operations.

First Aviation Services has appointed **Paul Bolton** as Chief Operating Officer effective immediately. Bolton joined First Aviation in 2013 and has since demonstrated leadership and a commitment to the strategic vision of the company. He is a highly respected member of the senior management team and previously served as the Technical Director for the company's Piedmont Propulsion Systems, and Aviation Blade Services subsidiaries.



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