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Ryanair continues to invest in heavy maintenance programmes

Low-cost carriers (LCCs) are more likely to depend on third party providers for their maintenance needs but for larger carriers like Ryanair they will likely use a mix of internal facilities and external suppliers to conduct heavy maintenance.

The airline just opened its first aircraft heavy maintenance facility in Ireland at Shannon Airport on May 18 worth an investment of €10 million. It is a three-bay facility, leased from Shannon Group and will support the airline's maintenance programme as it grows its fleet to 600 aircraft by 2026. Ryanair says it is creating 200 high-skill jobs locally including licensed engineers, mechanics, and support staff.

Earlier in the month Ryanair also entered into an agreement with STS Aviation Group in the UK for a new winter maintenance agreement which will see the airline undertake two lines of heavy maintenance at its MRO facility in Birmingham. The agreement allows Ryanair to use two heavy maintenance slots, with aircraft coming in nose-to-tail for the upcoming winter season.

The arrangement with STS follows another similar agreement with UK based MRO provider, Caerdav, to also undertake two lines of heavy maintenance. It certainly looks like the agreements are strategic to ensure that the airline has flexibility as to where it places its aircraft for the upcoming winter maintenance season.

The option for LCCs to perform their own maintenance is usually dependent on the airline and the country or region in which it mainly operates. In some countries where the labour cost is high and, more importantly, where there are legal obstacles to hiring and firing individuals, it is a viable option for LCCs to outsource the maintenance activities to a dedicated independent facility.

However, where labour restrictions are fewer and well-qualified and certified maintenance technicians are available at a market-acceptable price for the LCC, for certain A and B-checks (even possibly C-Checks), those maintenance activities as determined by the LCC are prioritised accordingly and can be managed to fit in best with the LCCs own flight schedules and business plans.



Keith Mwanalushi
EDITOR

Ryanair has opened its first aircraft heavy maintenance facility at Shannon Airport.

Photo: Ryanair

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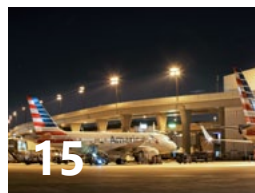
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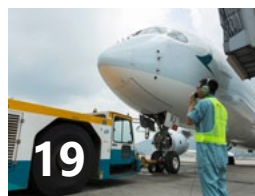
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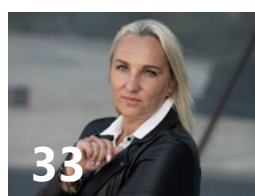
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IAI to convert four B777-300ER aircraft for Cargojet

Israel Aerospace Industries (IAI) has signed an agreement to carry out passenger-to-freighter (P2F) conversions for Cargojet Canada's Cargo Airline. The agreement was signed as a result of the growing global demand for cargo aircraft and includes the conversion of four B777-300ER aircraft and additional options in the future. IAI has recently signed a number of new agreements for cargo conversions, including converting B777-300ER aircraft for Emirates and establishing new conversion lines worldwide, including in Abu Dhabi, Ethiopia and other locations around the world. This agreement with Cargojet strengthens IAI's strategy to expand its growing cargo conversion lines globally. Cargojet is a leading Canadian provider of time sensitive premium air cargo services to all major cities across North America, providing dedicated ACMI and international charter services and carries over 25,000,000 pounds of cargo weekly. Cargojet operates its network with a fleet of thirty-one aircraft and is a long-term IAI customer for aircraft conversions. Currently, IAI is converting



Photo: IAI will convert four B777-300ER aircraft for Cargojet

the first B777-300ER aircraft for AerCap Cargo, who are also the co-investor on the programme, in a process which is expected to finish in 2022. This is the very first conversion of this model.

AEI to provide EGYPTAIR with its first B737-800SF freighter conversion

Aeronautical Engineers (AEI) has released that EGYPTAIR has signed a contract for an AEI B737-800SF freighter-conversion. The aircraft (MSN: 35560) is scheduled to commence modification in October 2022. Touch labour for the conversion and maintenance requirements will be accomplished by the authorized AEI Conversion Centre, Commercial Jet, in Miami, Florida. EGYPTAIR currently owns three Airbus A330-200 freighters, with a capacity of 60 tonnes per aircraft. EGYPTAIR's cargo operations have grown during the COVID-19 period. The company has started new routes to accommodate the need to transport medical items and agricultural crops. Once completed, this will be the first AEI B737-800SF converted freighter to be owned and operated by EGYPTAIR. EI is currently the only conversion company to have ETOPS 180 approval on the B737-800 freighter conversion. Additionally, AEI can convert all B737-800-line number aircraft including those with Split Scimitar winglets.

Ryanair announces winter maintenance agreement with Caerdav

Ryanair has announced a new winter maintenance agreement with UK-based MRO provider, Caerdav, which will see the airline undertake two lines of heavy maintenance with Caerdav at its modern MRO facility in Cardiff. Ryanair's fleet will grow to over 600 aircraft over the coming years and this agreement will ensure that the airline has flexibility as to where it places its aircraft for the upcoming winter maintenance season. Ryanair uses a mix of internal facilities and external suppliers to conduct its heavy maintenance. The carrier continues to invest in its internal heavy maintenance facilities and this agreement will complement these facilities to ensure the maintenance requirements are more than met over the coming years.

easyJet partners with GKN Aerospace to accelerate adoption of hydrogen in aviation

easyJet has announced it is working with GKN Aerospace, a leading multi-technology Tier 1 aerospace supplier, to work toward reducing carbon emissions in aviation through the adoption of zero carbon emission technologies. easyJet will support the development of GKN Aerospace's Hydrogen Combustion (H2JET) and Hydrogen Fuel Cell (H2GEAR) technology, including exploring the options for flight demonstration, as part of the airline's ambition to de-carbonise aviation. easyJet will provide insights into operational requirements and economics. H2GEAR is a GKN Aerospace-led ground-breaking UK collaboration programme aiming to develop a liquid hydrogen propulsion system for sub-regional aircraft that could be scaled up to larger aircraft. Liquid hydrogen is converted to electricity within a fuel cell system, which subsequently and efficiently powers the aircraft, eliminating carbon emissions and creating a new generation of clean air travel. The H2GEAR programme is supported by £27 million of ATI funding, matched by GKN Aerospace and its industrial partners. H2JET is a Swedish collaborative two-year programme led by GKN Aerospace to push the development of key subsystems for gas turbine-based hydrogen propulsion of medium-range civil aircraft.

Iberia Maintenance to maintain Volotea's fleet of A320 aircraft until 2028

Volotea, the airline for small- and medium-sized European cities, has signed a contract with Iberia Maintenance to perform C-check overhauls on Airbus A320 aircraft at its facilities in Madrid and Barcelona for the next five and a half years. Volotea will send its A320 aircraft to Iberia MRO for a comprehensive maintenance service to be carried out during the winter seasons. This agreement, which will come into force in January 2023, will run until 2028. The airline selected Iberia Maintenance after an exhaustive bidding process in which the Spanish provider was the winner due to the excellent quality of its services.



Volotea Airbus A320

Photo: AirTeamImages

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Air Transport Components to open MRO facility in Tulsa, Oklahoma

During this year's MRO Americas in Dallas, Texas, Air Transport Components (ATC) has announced plans to establish a new MRO facility in Tulsa, Okla. The company has selected a 60,000 ft² facility located on Historic Route 66. At the Tulsa facility, ATC will offer HVOF thermal spray coatings, grinding, NDT and painting, and plans to expand these offerings in the future. ATC plans to employ 50 staff in Tulsa and will make an overall investment of approximately US\$5 million (£4 million) in the building as well as technology and equipment. "Due to increased volume, new capabilities, and the unique opportunities that the state of Oklahoma provides, ATC decided to expand its strong industry brand into Tulsa," said Jimmy Newman, CEO, ATC. "The MRO and aerospace workforce in Oklahoma is unmatched and was certainly the deciding factor when looking at expansion options." ATC has operated an FAA/EASA Repair Station in Gilbert, Ariz., for more than 20 years. Approved by all major airlines, ATC has a large portfolio of services including repair of airframe, structural and hydraulic components as well completing full landing gear overhauls. This second location will expand capabilities with HVOF thermal spray, grind, NDT, and paint with additional capabilities coming soon. ATC is a privately-owned company now with over 130,000 ft² to support its valued and strategic customers.

Embraer partners with Fokker Services to provide E-Jets components maintenance

Embraer has chosen Netherlands-based Fokker Services to provide maintenance, repair and overhaul (MRO) services, covering a series of engine line replaceable units (LRUs) enrolled in Embraer's Pool Programme, supporting Embraer's first-generation E-Jets aircraft, including the E170, E175, E190 and E195. The multi-year agreement includes more than 60-part numbers of engine LRUs. The engine LRUs will be repaired in-house at Fokker Services' repair facilities. To ensure outstanding reliability of these critical components, the team will utilise state-of-the-art equipment, such as twin-wire electric arc spray and an eddy current dynamometer test stand. Fokker Services will now provide its specialist knowledge to support these CF34 engine LRUs based on existing knowledge and experience with CFM56 and CFM LEAP LRUs. Fokker Services combines this with more than 30 years of experience in managing integrated programmes and drives continuous improvement by expanding its in-house repair capability portfolio.

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ST Engineering and United Airlines sign MOU for long-term airframe maintenance at Pensacola

The Commercial Aerospace business of ST Engineering, Mobile Aerospace Engineering and United Airlines (United) have signed a Memorandum of Understanding (MOU) at the MRO Americas 2022 conference in Dallas, Texas, U.S., that aims to have ST Engineering see part of United's long-term airframe heavy maintenance needs move to the Pensacola International Airport in Florida, U.S. ST Engineering currently supports United's Airbus A320 family out of its facility in Mobile, Alabama. Under the MOU, ST Engineering will extend its heavy maintenance support to the airline by servicing additional narrow-body aircraft at the airframe MRO complex that ST Engineering is constructing at the Pensacola International Airport. The MRO complex is an expansion to an existing two-bay wide-body hangar facility currently operated by ST Engineering. Estimated to be



Ground-breaking of MRO complex in Pensacola

Photo: ST Engineering

completed by end 2024, the expansion will add three large state-of-the-art hangars and associated support shops and around 1.5 million manhours to ST Engineering's annual capacity in Pensacola.

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CDB Aviation signs facility agreement for US\$530 million unsecured syndicated term loan

CDB Aviation, a wholly owned Irish subsidiary of China Development Bank Financial Leasing (CDB Leasing), has signed a US\$530 million (£434 million) unsecured syndicated term loan with BNP Paribas and a group of leading global financial institutions. The facility was led by BNP Paribas as agent with funding from such leading aviation lenders as: BNP Paribas, acting through its Singapore branch, MUFG Bank, as the mandated lead arrangers and bookrunners; Bank of Communications Hong Kong Branch; China CITIC Bank London Branch; The Hongkong and Shanghai Banking Corporation Limited; and Agricultural Bank of China, acting through its New York branch. The proceeds will fund new capital expenditure, debt refinancing, general corporate, and working capital.

Willis Lease Finance Corporation reports first-quarter pre-tax loss of US\$27.7 million

Willis Lease Finance Corporation has reported first-quarter total revenues of US\$68.8 million. For the three months ended March 31, 2022, aggregate lease rent and maintenance reserve revenues were US\$53.0 million and spare parts and equipment sales were US\$6.6 million. The company reported increased total revenues in the first quarter when compared to the prior-year period, primarily due to an increase in lease rent revenue and short-term maintenance revenue. Quarterly performance was negatively impacted by the effects of the Russian military action in Ukraine and related sanctions. In the first quarter, the company recorded a US\$20.4 million impairment on two engines located in Russia, which are expected to be unrecoverable and wrote down US\$0.9 million of receivables associated with Russian leases. Furthermore, through its joint venture Willis Mitsui & Company Engine Support (WMES), the company recorded an additional net impairment of US\$2.4 million, presented through loss from joint ventures, for one engine located in Russia, which is also expected to be unrecoverable. Lease rent revenue increased by US\$6.6 million, or 21.0%, to US\$38.1 million in the first quarter of 2022, compared to US\$31.5 million in the same quarter of 2021, primarily reflecting an increase in the number of engines placed on lease. This increase was partly offset by a US\$0.3 million reduction in lease rent revenue associated with Russian leases which was determined to be uncollectible as of March 31, 2022. Maintenance reserve revenue was US\$14.8 million in the first quarter of 2022, a decrease of 25.1% compared to US\$19.8 million in the same quarter of 2021. (£1.00 = US\$1.22 at time of publication).



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Embraer and NAC sign first P2F conversion deal for up to ten E190F/E195Fs

Nordic Aviation Capital (NAC), the regional aircraft leasing company, will be a launch lessor of Embraer's E-Jet passenger-to-freighter (P2F) conversion. NAC and Embraer have reached an agreement in principle to take up to ten conversion slots for E190F/E195F aircraft, with first deliveries starting in 2024. Aircraft for conversion will come from NAC's existing E190/E195 fleet. Norman C.T. Liu, President and CEO Nordic Aviation Capital, said, "We look forward to working with Embraer on developing an operator base for the E-Jet freighter as cargo conversions are a key element of our full-life cycle portfolio strategy for the future." The conversion-to-freighter will



Nordic Aviation Capital will become a launch lessor for Embraer's E-Jet P2F conversion

Photo: Embraer

be performed at Embraer's facilities in Brazil and includes main deck front cargo door; cargo handling system; floor reinforcement; Rigid Cargo Barrier (RCB) – 9G Barrier with access door; cargo smoke detection system, including class "E" extinguishers in upper cargo compartment; Air Management System changes (cooling, pressurisation, etc.); interior removal and provisions for hazardous material transportation. The E190F can handle a payload of 23,600lb (10,700kg) while the E195F a payload of 27,100 lb (12,300 kg).



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Daher reimburses its loan guaranteed by the French government and secures €180 million in new funding

Daher has completed the company's total reimbursement of the €110 million French government guaranteed loan (Prêt Garanti par l'État, PGE) granted in June 2020, while also securing funding of €180 million from new American investors and from its banking pool. These two new operations illustrate the confidence of Daher's financial partners in the company's management of the consequences stemming from the COVID-19 crisis – which demonstrated its strong rebound capacity – while also taking into account the strengthening of its presence in the United States. In June 2020, Daher obtained a loan of €170 million from its historic banking pool, guaranteed by the French government. This funding made it possible to cover the company's cash needs as well as the implementation of its transformation plan that is aimed at positioning Daher as a recognised player in its markets at the time of industry recovery. Two years later, after having quickly

and successfully carried out its restructuring plan, Daher has been able to finalise total reimbursement of the PGE loan – the initial €60 million portion of which had already been reimbursed in June 2021 – based on the good performance of its aircraft manufacturing and logistics activities following the strong resumption of global activity and the positive recovery of air traffic. This €180 million refinancing – including €105 million in the form of a U.S. private placement with a pool of new American investors and €75 million in loans from its banking pool – illustrates the confidence that benefits Daher in terms of the company's activities, its strategic choices and governance. The initial amount of €150 million was oversubscribed at a total of €180 million, enabling an extension of the loan's duration, thereby providing Daher with additional means for its strategy as a consolidator in the sector. (£1.00 = €1.17 at time of publication).



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The **digital** revolution also extends to the materials buying process

Aircraft operators will look to digitise and automate material purchases.
Photo: Airbus / Lufthansa

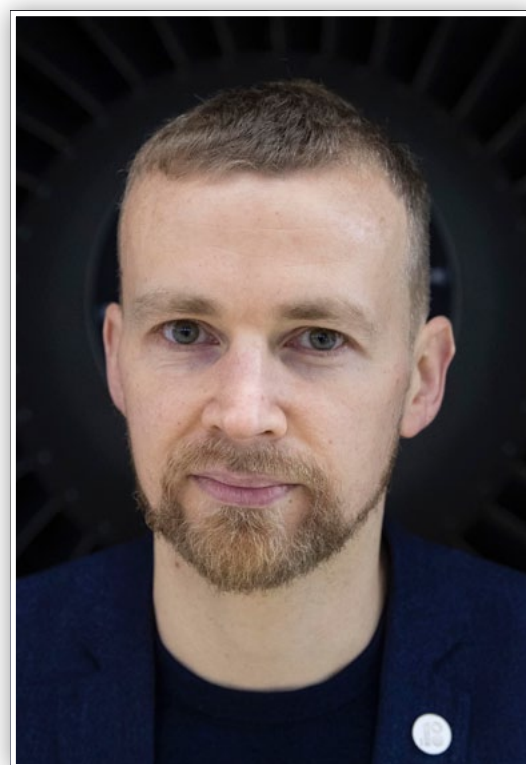
New processes and technologies enabling airlines to digitise and automate material purchases are coming to the fore, and ever more critical, as airlines bounce back to operations. **Keith Mwanalushi** gets the lowdown from Erkki Brakmann, CEO and Founder at SkySelect.

Material purchasing by airlines and MROs is undergoing a technological revolution with start-ups like SkySelect stepping on the scene in 2017 with a clear mission to connect aircraft material buyers and suppliers through touchless transactions. The aim, according to the tech-company is to make the commercial aviation sector leaner by building a world class aircraft material supply chain.

In April, SkySelect unveiled its eProcurement-as-a-Service (ePaaS) platform for aircraft material as a solution to what is often an offline, slow and inefficient MRO supply chain. ePaaS remedies these problems by bringing in

greater supply chain visibility, eliminating capacity constraints, automating previously manual and tedious tasks, and reducing excessive costs.

Erkki Brakmann, CEO and Founder at SkySelect discussed with *AviTrader MRO* about the implementation process for airlines or MROs looking to adopt the ePaaS platform and dismissed the industry mindset that implementation (and digitalisation overall) is complex and time-consuming. To demystify this belief and show the value of ePaaS, SkySelect has introduced a two-month complimentary risk-free pilot to make this transition and onboarding process as easy as possible. – “In reality, it takes



Erkki Brakmann, CEO & Founder at SkySelect

“With ePaaS, our customers do not need to deprecate existing systems and processes. The platform can offer material buyers additional capacity in parallel.”

Erkki Brakmann, SkySelect

airlines and MROs around four hours to kick off the pilot,” he said.

“Once we have shown the value of the ePaaS pilot, we sign a long-term agreement, and in parallel to managing the airline’s day-to-day purchasing, we start working on the fully integrated process flow at no extra cost to the user,” Brakmann explains. SkySelect, relies on its proprietary and customisable plug-in to establish a link with the client’s maintenance information system to replace manual tasks with automated business rules. The typical implementation time is about two months, he reports.

SkySelect suggest that adopters of its platform are seeing up to 20% price savings and 90% automated purchasing and it is interesting to see how this plays out for instance with some aircraft materials seeing fluctuations in material prices, like a rise in materials currently for the CFM56 engines. “Airlines and MROs typically have their material plans made six to 12 months prior to the expected requirements, or even further out,” Brakmann responds. He says they also forecast, and schedule funding required based on such plans. “The purchasing algorithms of the SkySelect platform make it easy to track on a single dashboard the budget against the actuals to spot when it is the right time to buy more or less.

“Depending on the market fluctuations and changing requirements the available option can significantly differ from the budget. There will likely be an opportunity to buy the material at as good or better terms, which has often been the case with a large group of materials, especially during the COVID times,” he adds.

Brakmann suggests that at times, its advantageous to have long-term contracts with the supplier of choice by fixing terms

– “and sometimes it is better to acquire the material from the spot market when the airline or MRO actually needs the part. Technology gives the airline the flexibility to do both to achieve the best result.”

The tag line at SkySelect is that today’s procurement is 100% digital and is pushing the industry to unlock unlimited capacity with an ePaaS solution but not all airlines are going with the movement with some certainly holding back. Brakmann is adamant that, airlines and MROs have accepted that digitalisation is the way to solve capacity issues and make existing processes more efficient. “However, some of them do not know how to start and how much effort is involved in modernising their operation, so they are held back. To address their concerns, we introduced ePaaS which offers smooth and easy onboarding to achieve their

digitalisation goals. Our two-month pilot shows them tangible value and gives them peace of mind to continue implementing a fully digitised procurement.”

Additionally, Brakmann points out that some airlines are hesitant in discontinuing old processes until the technology has fully proved its value. “With ePaaS, our customers do not need to deprecate existing systems and processes. The platform can offer material buyers additional capacity in parallel, allowing staff to focus on strategic tasks. Our users are not required to unplug old processes until they are ready to become fully digital.”

Also, airlines and MROs are constrained for labour and sometimes struggle with technology adoption, but so far SkySelect reports positive feedback from users of the new platform.

Brakmann stressing that the ePaaS platform provides tangible results for airlines and MROs by eliminating the exact pain points those users have been experiencing. “It’s our ambition to enable functional excellence in the entire supply chain and create a better air travel ecosystem for everyone involved, from the MROs and airlines down to the passengers.”



An often slow MRO supply chain would benefit from new technologies for material purchases.

Photo: AEROSTAR

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Business as usual as the MRO industry returns to The Americas

NEWS ANALYSIS



Dallas played host to the 2022 MRO Americas gathering.
Photo: DFW

The MRO community reconnected last month in Dallas, Texas and **AviTrader MRO** looks back at some of the announcements tied to the event demonstrating a clear bounce back of activity following the pandemic.

The return of Aviation Week Network's MRO Americas in April was described as hugely successful bringing together the key players in the aircraft maintenance and aftermarket sectors at a time when airlines and MROs have faced tremendous challenges.

By all indications it was business as usual again with all the key players in the market in attendance and displaying the various solutions that will boost MRO activity as airlines ramp up their operations.

Utah-based Breeze Airways chose Airbus to provide long term material services support for its A220 fleet through its Flight Hour Service (FHS) programme. The deal with Airbus includes spare parts pooling, multiple on-site stocks, components repairs, and engineering.

The impacts of the pandemic have been extremely challenging for the flight

hour programme sector, considering that a typical type of flight hour solution relies upon a commitment to operate a baseline number of flight hours during a given period. It is encouraging to see the market bouncing back for flight hour services.

Breeze has an order for 80 A220-300 aircraft and is the second A220 customer to choose FHS in the U.S., following JetBlue's selection in 2021. This FHS contract will support Breeze's network development on the USA's East and West Coast and in future destinations.

The event in Dallas also highlighted the growing momentum to digitise records management within the industry. A growing number of senior airline executives accountable for managing the efficient transition of aircraft assets are leveraging the power of digitalisation to support this segment.

Kalitta Air and Connect Airlines both announced the deployment of GE Digital's Asset Records Management Software to manage operations and streamline records management including moving to a paperless process.

Kalitta Air chose this software solution to manage external maintenance work in their burgeoning MRO division and to simplify the way documentation is managed to drive efficiency. Connect Airlines is a new operator that is using QR code technology to facilitate a paperless operation.

In the landing gear sector, Landing Gear Technologies (LGT) and ITS entered into a strategic cooperation agreement to support the 737 Next Gen market with 737-700/800 landing gear solutions. ITS's strategic fleet retirement solutions on the 737s platform combined with LGT's capabilities on the 737-landing gear

maintenance should further establish reliable, global support for 737 Next Gen operators. Together, LGT and ITS will provide solutions for landing gear maintenance, leases, flat rate exchanges, and outright landing gear sales.

This agreement was the next step in the final plans to bring the two organisations together in supporting the global landing gear market on the 737 platform in all aspects of support and to formulate a relationship that creates added solutions to the market. ITS are in Arizona offering custom solutions to airlines, lessors, MROs, OEMs.

Air Transport Services Group (ATSG) selected Safran Landing Systems for the retrofit of more than thirty Boeing 767 freighters operated by the company's subsidiary airlines. This transition to Safran's wheels and carbon brakes allows ATSG to operate with a common wheel and brake configuration across its operating fleet of freighters with carbon brakes.

As part of this long-term agreement, Safran Landing Systems will supply ATSG with the on-wing shipsets, the initial provisioning spares, the piece parts and carbon heat sink exchanges, and will perform the MRO of their carbon brakes.

In addition, Canada Jetlines also signed an agreement for its A320 fleet. Under the long-term agreement, Safran will supply wheels, brakes and carbon heat sinks manufactured in its US-based plant in Walton, Kentucky, while the maintenance and logistics services will be provided by Hope Aero Propeller and Components, a Canadian wheels and brakes MRO specialist.

Canada Jetlines plans to launch leisure services this summer serving Canadian, US, Caribbean and Mexico destinations from its main hub in Toronto, Ontario.

In the Auxiliary Power Unit (APU) sector, United Airlines selected Honeywell's 131 - 9A auxiliary APUs to equip 120 of its scheduled deliveries of Airbus NEO and XLR aircraft. These APUs, according to Honeywell, provide good operational performance, low maintenance cost and considerable fuel savings. Honeywell has also released a High Efficiency Mode (HEM) upgrade for



Kalitta Air has selected GE Digital's Asset Records Management Software.

Photo: Kalitta Air



ATSG and Safran Landing Systems signing ceremony at MRO Americas.

Photo: Jeff Smith



Wencor and Turkish Technic announced the signing of a multi-year parts agreement.

its 131-9A APU for single-aisle Airbus aircraft. HEM meets the aviation industry's need for more power on the aircraft, greater fuel efficiency and a smaller environmental footprint. Larger operators may realise estimated savings of up to 15% in terms of cost for spares due to longer time-on-wing.

Aeromexico and AFI KLM E&M formalised the extension of two maintenance agreements, one dedicated to the component support of the Boeing 737 NG and Boeing 737 MAX aircraft and the other dedicated to the APU support of Aeromexico's 787 aircraft.

The renewal of the 787 APU support agreement (APS5000 product) covers repair services and availability solutions, including the provision of spare APUs, as well as a dedicated operational condition monitoring system via the predictive maintenance programme PROGNOS for APU.

Wencor and Turkish Technic announced the signing of a multi-year parts agreement, and Wencor will provide consumable and expendable parts to support Turkish Technic's maintenance

agreement through its worldwide stocking facilities with local oversight from its Istanbul office.

AJW Technique and TDA-Touchdown Aviation, finalised a component agreement in which TDA will hold inventory of high-demand components at AJW Technique's MRO facility in Canada. The components will be repaired and certified by AJW Technique and ready to ship on demand to TDA's clients. AJW Technique's 220,000 sq. ft. MRO facility is situated next to Montreal's International Airport and home to some of the most comprehensive component maintenance capabilities in the world with customisable equipment built for future technologies.

The partnership is expected to bring benefits to both companies as well as value for operators in the Americas and more specifically the North-eastern region



AJW Technique finalised a component agreement with TDA .

operations. The agreement follows a 30-year long-standing partnership between the two companies. The agreement should enable both parties to work together to accurately forecast, efficiently supply, and quickly respond to the expanding supply chain requirements in the current aerospace market.

Wencor indicated it would support the

of the USA and the East side of Canada.

And finally in the freighter conversions sector, Kansas Modification Centre (KMC) revealed it had produced the first structural parts for its 777 P2F conversion programme. The parts were machined a mere 12 miles from their point of design and where they will be installed on the first conversion aircraft.



SIMPLICITY **FOR THE** **WIN**

WHEELS AND BRAKES
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Global influences point to mixed recovery for line maintenance



HAECO Group operates line stations in Hong Kong and 15 cities in the Chinese Mainland.
Photo: HAECO



Kevin Kruger, Director and General Manager of HAECO Hong Kong

Keith Mwanalushi looks at how the line maintenance sector is shaping up and responding to differences in the pace of market recovery while dealing with anticipated labour shortages.

HAECO Group operates line stations in Hong Kong and 15 cities in the Chinese Mainland. In Hong Kong, Kevin Kruger, Director and General Manager of HAECO Hong Kong says the quarantine requirements for crew have changed the profile of transits they traditionally saw there. "Now generally short turns, operators are looking for swift solutions to any technical issue to ensure that the transits support crew duty times. Disinfection of aircraft cabin has also become a standard requirement and we now deploy a robotic dispenser to ensure an even and more comprehensive spray."

Meanwhile, Jacqueline Jiang, Chief Operating Officer of HAECO Xiamen reports that the conventional needs of Chinese Mainland operators in the line maintenance business, such as technical

capability, regulatory approval and service quality, remain unchanged under the pandemic. "That said, many aircraft operators are increasingly valuing MROs who have a broad network, flexibility to provide services at multiple locations as well as ability to provide other associated services such as spare parts logistics."

Jiang points out that manpower availability to support any unexpected AOG situation is of high interest among operators as it remains challenging to dispatch an AOG team within a reasonable time across national borders into the Chinese Mainland – "Commercial airlines operating in the Chinese Mainland prior to the pandemic are now starting to put assurance for continuity of supply under the changing government regulations as high priority. For charter operators

The line maintenance sector is seeing far more variations in recovery based on several factors, including geopolitical situations, labour issues and the resurgence of COVID in places like China where at the time of this writing, *Flightrader* showed a steady flow of commercial and cargo traffic considering tighter COVID restrictions lately.

LINE MAINTENANCE

“The increased cost of living and the shortage of engineers as well as competition for work outside aviation, in our belief, will become the driving factor in cost levels.”

Jacco Klerk, Direct Maintenance



Direct Maintenance is expanding its network of stations and services across Europe and Africa.
Photo: Direct Maintenance

that operate with a more flexible flight schedule, they may be additionally looking to accomplish certain out-of-phase tasks on the line when these become due,” Jiang states.

On the other side of the world, Direct Maintenance - a member of the Magnetic Group, has been successfully navigating the industry’s demand by opening new stations and adding new services to its portfolio. Chief Executive, Jacco Klerk says the market is still very transient, although there is a clear pick-up. “We are seeing airlines open new routes and new customer demands into new locations, which may be temporary as they capitalise on new markets,” he suggests.

Areas to reduce costs is a key focus for many line maintenance providers, especially in challenging times. Aside from enhanced aircraft technology and supporting

solutions for cost optimisation, Direct Maintenance is also focusing on utilisation of the workforce, down to supporting infrastructure and administrative duties. “Line maintenance, in essence, is about engineers with multiple licenses on a station ensuring an efficient operating model,” Klerk states.

He adds that innovative virtual theoretical training can also significantly reduce related investment costs – “this concept still needs development and improvement to replace classroom-based training for newer aircraft generations.” Klerk also mentions that cost savings can be achieved by supporting infrastructure development across the industry including at airports and airlines.

“Regarding technical administration, currently, the available software solutions for line maintenance operations from

airlines to service providers are not generating cost savings due to limited integration across systems.” Klerk questions why there are so many different tech logs. “I can only hope we have a universal blockchain approach across the whole value chain from airlines to line maintenance providers, so we can yield improvement.”

Kruger from HAECO indicates that poor on-time performance is a substantial cost to any operator. “In our Hong Kong operations, staff are very sensitive to current restrictions and our focus is on supporting operators to meet their scheduled departure times. During the quieter periods of the pandemic, we have utilised line maintenance staff to support base maintenance teams on specific tasks. This helped to keep Hong Kong operations costs down. We are constantly looking into



It remains challenging to dispatch an AOG team within a reasonable time into the Chinese Mainland.
Photo: HAECO

“Commercial airlines operating in the Chinese Mainland prior to the pandemic are now starting to put assurance for continuity of supply under the changing government regulations as high priority.”

Jacqueline Jiang, HAECO Xiamen

productivity gains and are now making good use of more digital solutions. To achieve higher efficiency and quality service, the team continuously looks to expand the use of digital solutions. Kruger explains.

The sourcing of new suppliers and continuous monitoring of service delivery standard is one of the key line maintenance costs for airline operators. At HAECO they feel this is especially critical when an operator launches a new route and is supported by an MRO that is already on the supplier list and familiar with the operator's quality procedures and standards.

As an MRO with multiple line stations,

HAECO can assign technicians who are already servicing the same operator to the newly contracted line station. “Training can be provided to ensure that newly contracted station can offer services of the same standards that the operator is accustomed to,” Jiang mentions.

On the supply side, the ability to share manpower resources across different locations helps to reduce operating costs and benefit aircraft operators. Leveraging on its manpower pool, HAECO can support operators' ad-hoc or seasonal flights utilising a just-in-time approach- “We are committed to continuously strengthening

our technical capabilities and manpower development, so that our people will be ready when our customers' needs arise,” Jiang continues.

Shortages in the labour market

As with numerous other MROs out there, the most significant challenges are labour shortages and the supply of highly skilled workers, as Klerk from Direct Maintenance observes. He reckons that undoubtedly, much of the cost is labour-related – “The increased cost of living and the shortage of engineers as well as competition for work outside aviation, in our belief, will become



Jacqueline Jiang, Chief Operating Officer of HAECO Xiamen

the driving factor in cost levels, with other industries paying more and current inflation figures over past years running into double digits."

At the outset of COVID, HAECO took a conscious decision to not put any redundancy packages in place and managed its capacity for work through natural attrition. "Unfortunately, the extension of the pandemic has led to higher numbers of leavers due to the loss of confidence in the industry, part of which being the speed of return-to-normal operations in passenger flights and layover periods are still unknown," Kruger explains. Besides, local government regulations and policies on disease prevention could place additional limitations on the personal lives of aircraft mechanics handling international flights, thus exacerbating this trend.

With the reduction in available manpower in the short-term, HAECO foresees daily operations may be affected to a certain extent when the market starts to recover. "This requires calls for changes from a management perspective – a vision of the upcoming market trends in line maintenance that would direct recruitment and in-house training efforts to cope with future growth, and our continuous drive at HAECO towards a zero-harm and inclusive work environment for attracting and

retaining talents. HAECO is also in constant contact with our customers, trying to ascertain their plans so that we can ensure optimal resources available," Jiang notes.

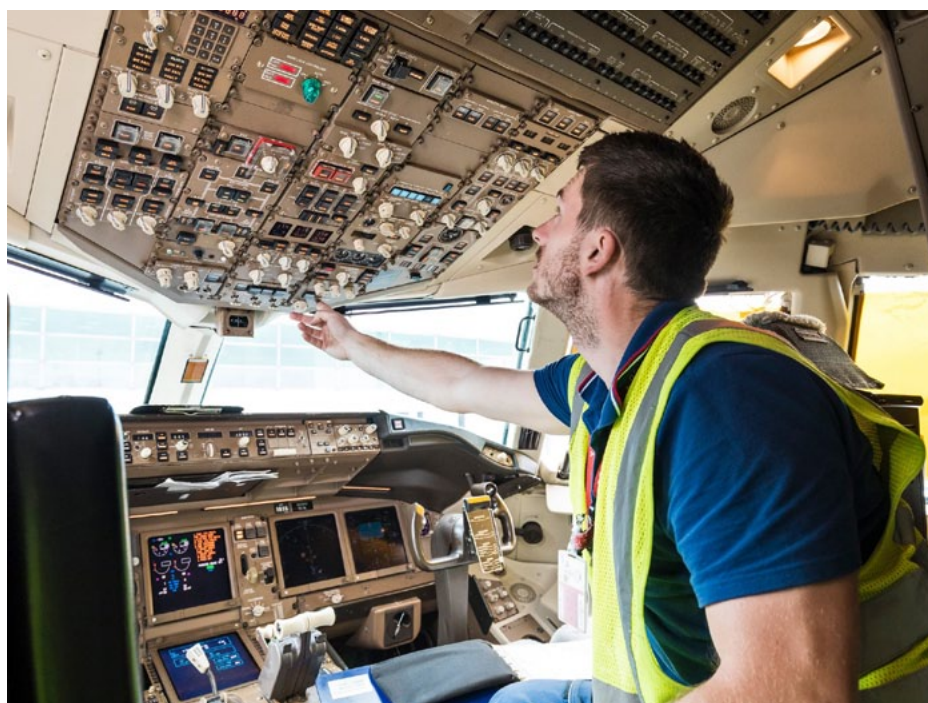
How realistic is the recovery for line maintenance?

Undoubtedly, the pace of recovery varies by region and markets. At HAECO, they feel the recovery will take some

more time, but are confident that the line maintenance business will return to and exceed the pre-pandemic level, and this will happen rapidly once governments begin to relax travel restrictions. "As travel demand recovers, the demand for line maintenance will follow – this is just a matter of time. We see that such recovery is already taking place in Europe and the Americas, and we trust that Asia will also take the same path sometime soon," Jiang anticipates.

However, Jiang stresses on the issue of manpower shortage that will likely remain a limiting factor post-pandemic in the aircraft maintenance industry as a whole – "with the challenging work environment in line maintenance, MROs shall consider effective methods to attract talents to join the industry and retain such talents."

Over at Direct Maintenance, Klerk remains positive of a buoyant market development currently and in the coming year to combat the challenges. "During the pandemic we have demonstrated making a positive impact in significantly expanding our network of stations and services across Europe and Africa, from line maintenance, ad hoc and AOG operations, to heavy line maintenance, storing, parking and several lease transitions – we are ready."



The shortage of engineers as well as competition in the job market is an issue.

Photo: CSAT



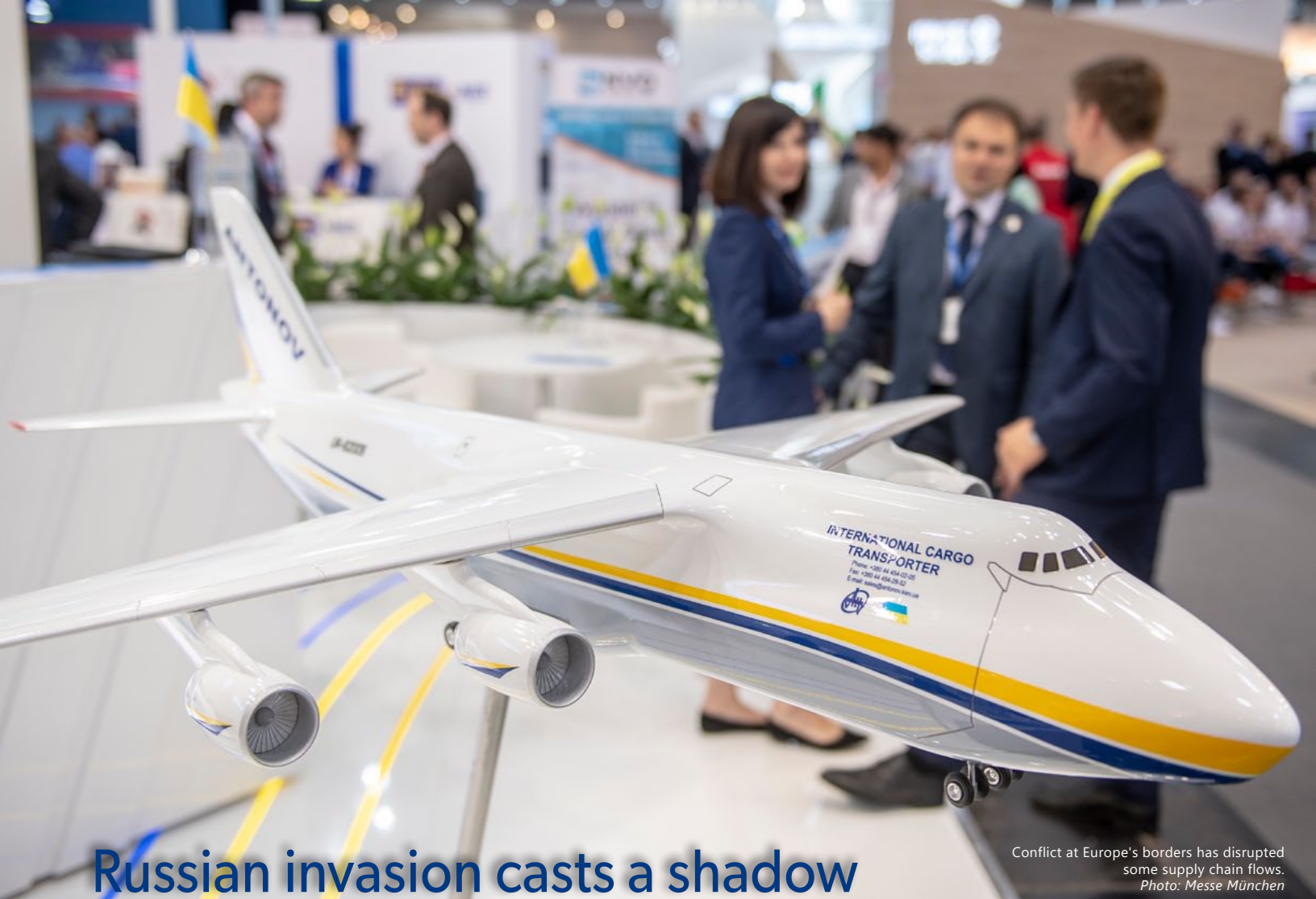
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says CEO Swiss AviationSoftware Ltd

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

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Conflict at Europe's borders has disrupted some supply chain flows.
Photo: Messe München

Russian invasion casts a shadow over Europe's recovery

Ongoing geopolitical issues threaten to derail Europe's fragile recovery but as **Keith Mwanalushi** finds, the MRO and aftermarket sectors remain resilient despite instability at the doorstep.

The Russian – Ukrainian conflict has created some disruptions in various sectors of the MRO and supply chain with operators based in both countries severely challenged by the supply of parts due to the sanctions imposed. Analysts at IBA have observed that airlines who have been unable to source or pay for spare parts will cannibalise aircraft to enable the continued operation of a smaller fleet and this trend will likely continue with Russian airlines as sanctions continue to bite.

With the sanctions in place on Russia, a report published last month by IBA suggested that the likely lack of access to spares is already having an impact on aircraft and engines at different stages

of their maintenance cycle. Using IBA's *InsightIQ* aviation intelligence platform, IBA can identify 72 western manufactured aircraft being operated in the Russian Federation which require 6/12 year or landing gear maintenance in 2022. As the report indicated, it is highly unlikely these maintenance operations will be completed without components that are restricted by sanctions.

Also, another report released by *Cirium* in May 2022 showed 67 western built commercial jet and turboprop aircraft parked at eight different airports within Ukraine – these will likely stay at these locations throughout the crisis and exposed to the possible risk of damage.

International operating lessor exposure

does appear relatively limited according to the *Cirium* report. Only 23 of the 67 aircraft currently AOG in Ukraine are managed by 11 different lessors, with only four of those having more than one aircraft in country at present. During AerCap's Q4 2021 earnings call CEO Aengus Kelly said in compliance with these sanctions, AerCap had terminated all aircraft and engine leases it has entered with Russian entities.

At GA Telesis, the Russian and Ukrainian sectors are key markets in the region. "The Russian market is a significant market to lose; however, we have been able to make up for the lost revenues in other markets," indicates Abdol Moabery, President and CEO. As it

relates to European supply chain issues, GA Telesis is feeling some impact from certain OEMs and MRO providers that could not operate at full capacity during the pandemic – “However, they also have issues with suppliers as well as raw materials that come from Asia. As a result, they, too, are working through similar issues. Overall, we are working through plans with our partners to make sure we get back on track with their commitments to us within a relatively short period of time while simultaneously exploring other options,” Moabery tells.

Most of the disruption to the supply chain might creep up if the situation depreciates as aircraft remain grounded, but this will likely remain minimal.

Andy Wheeler, DVP and Managing Director of AMETEK MRO AEM sees that the wider industry continues to experience sporadic material shortages and obsolescence as a direct consequence of the supply chain disruptions caused by the pandemic and perhaps a further added layer of complexity as the Ukrainian Russian conflict impacts manufacturing facilities in the region.

He says within the AMETEK MRO division, procurement teams continue to work closely with OEMs and distributors to ensure they can secure



Abdol Moabery, Chief Executive at GA Telesis



Barry Swift, SVP Operations at AJW

“The biggest impact for the whole industry is the doubling in the cost of jet fuel, this will be placing additional pressure on older and less fuel-efficient aircraft and consequently accelerating retirements.”

Barry Swift, AJW

sufficient material to support a global client base. “We also have a team of procurement and engineering specialists looking at material risk and are actively bolstering inventory on strategic parts and platforms. AMETEK MRO Europe also has extensive experience in USM management which continues to play a major part in our global provisioning strategy,” says Wheeler.

On the impact from the Ukrainian and Russian conflict on the MRO and aftermarket supply chain in Europe, there have been some occurrences of suppliers identifying force majeure conditions for a small selection of specified repairs conducted in Russia, but Barry Swift, SVP Operations at AJW feels the impacts concerning MRO have been minimal thus far. “The biggest impact for the whole industry is the doubling in the cost of jet fuel which as an airline’s first or second largest cost this will be placing additional pressure on older and less fuel-efficient aircraft and consequently accelerating retirements,” he says.

The invasion of Ukraine certainly

caused a spike in oil prices with brent crude reaching the \$100 per barrel mark for a short period following the invasion.

Ismael Fadili, Sales and Marketing Director for AMETEK MRO ANTAVIA also cited the rising fuel, freight and transport



Andy Wheeler, DVP and Managing Director, AMETEK MRO AEM



Aavo Kuus, Sales Manager, Magnetic MRO

costs as certainly a concern and they are working to find cost effective, sustainable solutions for both the business and clients.

With Magnetic MRO based in Eastern Europe, it may have felt the harsh reality of the conflict more than most and not just from a business perspective but also with people's lives. "What changed for us of course is the partnership and cooperation with both countries and beyond," says Aavo Kuus, Sales Manager at Magnetic MRO. He says in some form or another, it has impacted business dealings in aviation, for airlines, asset owners or maintenance organisations.

"We have several customers in Tallinn, Estonia that have been directly affected by the conflict, keeping their fleet in storage who are waiting for better days. The supply chain for materials and spare parts has been heavily affected making

maintenance ground time longer and more expensive," Kuus describes.

However, Magnetic has continued to sign new contacts and become leaner, as Kuus indicates and is finding new ways to deal with the issues at its doorstep and to support operators – "but it all comes with a price tag unfortunately and we need to remember that this is not just in aviation but affecting other industries," he reminds.

At Aero Norway they had multiple business engagement within Ukraine and Russia. "We complied with the applicable sanctions as soon as they arose and realise that business with Russia will be under sanctions for the upcoming years and that Russian market opportunities will be unavailable," declares Ramon Peters, Global Sales & Marketing Director at Aero Norway.

“The supply chain for materials and spare parts has been heavily affected making maintenance ground time longer and more expensive.
Aavo Kuus, Magnetic MRO”

Other regional challenges

The regional challenge that Peters foresees is finding the qualified personnel to facilitate growth, logistics challenges as air cargo capabilities are limited due to the Eastern Europe crises, rising fuel prices, and when to expect the upraise in CFM56 MRO requirements.

In the wider European context and on the challenges facing the region, Swift from AJW observes that logistics lead times are driving greater regionality in MRO sourcing; "so OEM centres of excellence say in the US are sharing work with their European sister sites, to mitigate capacity constraints.

"There have been for example, raw material shortages around aluminium and other metals," notes Swift. He adds that operators are focussed on managing their pandemic induced debts and need cost-effective solutions to help keep their costs under control. "The need to be reactive, adaptable and flexible to meet operator changing needs will remain for the foreseeable future."

To further meet the demands of local European operators, last year AJW expanded its global MRO footprint





There are questions on when to expect the upraise in CFM56 MRO requirements.
Photo: Aero Norway

with the opening of AJW Technique Europe, which operates as a centre of excellence for aircraft batteries and is set to expand into a series of other capabilities to compliment the repair services offered at AJW Technique in

Canada. "We also added AJW Technique Interiors, with manufacturing facilities in Europe, offering new product lines to our capability list and helping airlines who need to refit cabins, replace seat covering and carpets by reducing costs and supplying a superior alternative," Swift comments.

As many of the speakers taking part in this article have stated, the key regional challenge will be retaining skilled labour and recruiting new talent. Craig Skilton, Director of Business Development and Operations at SkySelect says this means the MRO industry in Europe is up against severe capacity constraints to fulfil material requirements and ensure operations flow without interruptions. "With the constant time pressure and lack of resources, organisations don't have time to find ways to improve and implement more flexible and efficient processes," he states.

It's clear that the European market is very mature, and therefore its resilience to bounce back from the pandemic has

been seamless as it relates to aftermarket support of materials – However, the greater issue we are all facing is labour shortages, which will impact MRO throughput and keeping an eye on a disruptive neighbour.



Ramon Peters, Global Sales & Marketing Director,
Aero Norway



Craig Skilton, Director of Business Development
and Operations at SkySelect

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Strategic support **services** as airlines bounce back

StandardAero had a successful show at MRO Americas 2022.
All photos: StandardAero

AviTrader MRO editor **Keith Mwanalushi** talks to Lewis Prebble, President - Airlines and Fleets at StandardAero to discuss MRO recovery in the region and expanding engine maintenance capabilities.

StandardAero recently concluded what looks like a very successful MRO Americas event in Dallas, Texas in April which saw attendee numbers on par with pre-COVID levels. This was the first MRO Americas event to be held since StandardAero completed the acquisition of Signature Aviation's Engine Repair and Overhaul (ERO) business last July.

Like StandardAero, ERO is an OEM-aligned engine MRO services provider with two overhaul facilities, one situated in Dallas and other in the UK and in addition to ten regional turbine centres, one component MRO site and two parts and distribution facilities.

"MRO Americas was a great opportunity for us to welcome across new customers, as well as to introduce existing customers to the new capabilities which we now offer," says Lewis Prebble President - Airlines and



Lewis Prebble, President - Airlines and Fleets at StandardAero

Fleets at StandardAero, and not least the former Dallas Airmotive MRO facility and test cell complex at DFW Airport.

The additional facility adds to the existing presence in Texas, in terms of StandardAero's 577,000 sq. ft. overhaul facility in San Antonio, which is now in its fourth year of supporting the Rolls-Royce RB211-535, plus the existing location in Grapevine, which has recently introduced heavy repair capabilities for the PT6A engines.

StandardAero also supported the Aerospace Maintenance Competition (AMC) which was held during the event, and which this year saw 74 teams compete in 27 maintenance skill events. The competition saw teams work on a variety of engines and other major sub-assemblies, including a TFE371 business jet engine provided by StandardAero. In addition, StandardAero

supported two of the conference sessions at the show: Senior Vice President of Strategy, Alex Trapp, participated in the 'MRO M&A in a Post-Covid Environment' session, while Prebble joined industry colleagues from Delta TechOps, HAECO Americas and MTU Maintenance in a session which provided a '2022 Engines Market Update.'

Building new capabilities for the CFM56

Last month, StandardAero revealed plans to further expand its CFM56-7B capabilities, with a hospital shop to be established in Dallas-Fort Worth (DFW) at the end of this year and with engine test capability in DFW to follow in the first half of 2023. Since launching its CFM56-7B programme in 2009 StandardAero has now undertaken over 700 shop visits.

As the recovery continues in most global regions, several MROs have reported an increase in demand for quick access engine maintenance and hospital visits. At StandardAero, they expect to see demand increasing for all types of services, from inspections and light shop visits to heavy repairs and overhauls. "While heavy shop visits are likely to be driven by pent-up demand, i.e., due to maintenance that has been deferred over the past year or two, hospital shop visits will in part be driven by airlines seeking to use their engine assets more efficiently, with quick turn repairs offering one way of minimising the amount of time that an engine spends off-wing."

Prebble explains that this new hospital shop will provide quick turn support to



StandardAero expects to see demand increasing for all types of services.

airlines and other asset owners in the U.S. and will help operators with light worksopes such as top case repairs, boroblend repairs, gearbox changes and lease return inspections and avoid long lead-times as overhaul facility slots are taken up by heavy repair inductions.

Generally, MROs are seeing demand for CFM56 maintenance progressively return following the COVID downturn. Much of the recovery is coming from the U.S and Europe where MROs are increasing their activity and airlines are rapidly increasing flying schedules.

Most fundamentally, StandardAero is seeing a return in demand for CFM56-7B MRO, across all worksopes and across all regions, as Prebble affirms. "The 737 NG family remains a hugely popular type across multiple market segments, and the low level of retirements seen during 2020 and 2021 surprised many observers." As Prebble highlights, while the 737 NG family has now been superseded in production by the LEAP-1B powered 737 MAX, the large in-service fleet of over 6,000 aircraft will ensure that the type remains in service for decades to come, and the 737 NG is also proving to be a popular replacement for 737 Classics in the air cargo sector.

When speaking to some MROs lately about access to CFM56 engine materials

and the trends in costs, supply and demand, some have suggested that there is a rise in material repair costs associated with CFM56 engines. Prebble feels that while the ramp-up in demand inevitably brings concerns over the potential for new material supply delays – especially given the fact that 50% of the CFM56-7B fleet has yet to undergo its first shop visit, StandardAero has yet to experience any significant issues.

Likewise, he says while the whole of the industry faces the same inflationary pressures that 2022 has brought with it, for instance due to the rise in oil prices, StandardAero has yet to see any CFM56-specific cost increases above what the industry overall is experiencing – "USM does of course represent one way to alleviate new material supply issues, and to reduce shop visit costs, and StandardAero recently acquired PTS Aviation, a worldwide supplier of engines, modules and USM for the CFM56-3, -5 and -7B engine models, to expand our service offerings for customers," he comments.

Supporting the regional jet resurgence

Regional jet operations have seen some of the fastest recovery from the COVID crisis and as industry analysts

“While heavy shop visits are likely to be driven by pent-up demand, i.e., due to maintenance that has been deferred over the past year or two, hospital shop visits will in part be driven by airlines seeking to use their engine assets more efficiently.”

Lewis Prebble, StandardAero



StandardAero revealed plans to further expand its CFM56-7B capabilities.

have observed, secondary market trading volumes for regional aircraft have also made a strong come back, so undoubtedly, support services for the return to operations in the regional jet sector will be ramping up quickly.

StandardAero just recently signed a multi-year agreement with Air France subsidiary HOP! to provide maintenance services for the Pratt & Whitney Canada APS 2300 auxiliary power units (APUs) equipping the airline's fleet of Embraer E170 and E190 regional jets.

"For StandardAero, the recovery in the APU repair and overhaul market has generally tracked the recovery in the regional airline market, the majority of the APUs that we support being in this segment."

The Embraer E-Jets E1s have proven highly resilient during the pandemic, with the 70-100 seaters proving to be right-sized for many carriers as they returned to health. This in turn has driven MRO demand for Pratt & Whitney Canada's APS 2300 APU, which equips the type. American Airlines is the latest carrier to attest to the continued popularity of the E1s and placed an order for three additional E175 aircraft with Embraer in February. All three aircraft will be operated by regional subsidiary Envoy Air.

At the other end of the scale, Prebble



Mechanic availability is an industrywide concern.

points to the health of the dedicated freighter market that bodes well for the P&WC PW901A/C, which continues to see strong service with the Boeing 747-400F and -8F, despite the 'four-holers' having largely disappeared from commercial passenger service.

An optimistic recovery

The April edition of *AviTrader MRO* gathered several industry leaders to discuss the rate of MRO recovery in North America and we saw a ramp up in aircraft utilisation across the board meaning that as utilisation rates recover, demand for aircraft, engine and component MRO is also strengthening.

The labour shortfall issue was also debated at length by our speakers. Some MROs have reported significant concerns

as the situation is beginning to impact their business, driving delays in turnaround time. Others warned that the global supply chain may face continuing challenges in addressing that demand quickly due to raw material shortages, cold start production of parts leading to lead time challenges, MRO TAT challenges due to late delivery of repair details and a surge in demand for specific services relative to capacity.

Prebble expresses some similar observations saying a continued MRO recovery in the Americas is, of course, a key barometer to the health of the industry

considering the region represents over a third of the global fleet. "The regional airline market in the Americas was one of the first to recover after the pandemic, and daily TSA checkpoint travel numbers are now regularly showing passenger volumes which are within single digit percentages of pre-COVID levels."

Prebble notes that while the MRO recovery is continuing to make good progress, the airlines themselves continue to face uncertainties – "not only in terms of the continued impact of the pandemic [on both passenger confidence and earnings] but also in terms of pilot and mechanic availability."

Nonetheless, Prebble remains confident about the industry's continued return to health.



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Q & A

In the
hot seat...

Laura Roke
Engine Sales Executive
Magnetic MRO





The engine workshop has been busy with the CFM56 engines.

Photo: Magnetic MRO

What attracted you to this industry?

When I decided to join this segment eight years ago, I had the feeling that this is where I belonged. I like the fast pace of the market, multi-tasking, travelling and meeting different people from various countries, and attending all the conferences and MRO expos is a bonus too. Aviation is such a close-knit society just like a big family where everybody knows each other, it is fantastic!

Throughout my career, I have worked in sales, however, working in aviation sales is probably the most challenging and exciting position, because it allows you to be a bit of an engineer, a bit technician, a bit manager, a bit psychologist, a bit paranoid and a bit of a dreamer all at the same time. You must always be flexible, open-minded, and able to resolve complex situations. This is a fantastic area to be in.

What are your thoughts on the advancement of women in aviation?

Woman in aviation has seen many advances

and but there is still a way to go. Generally speaking we know that women have a natural accuracy for details and are good in most challenging situations, tense negotiations, and solving conflicts.

But at the same time to be a woman in the aviation business, it's not easy because it has been like a gentlemen's club for many years, and women have needed to prove that they deserve to be there, especially in top positions.

However, the world is changing, and I am pleased and proud that the aviation market is re-shaping. We now see more women in various positions ranging from C-level managers to engineers and engineering technicians and pilots and this is very positive.

Tell us about some of the key capabilities at Magnetic MRO's engine unit?

The last few years have been busy for us – the engine workshop is full with CFM56-3, CFM56-5B, CFM56-7B engines repairs and

this momentum will keep going at least to the end of this year and we anticipate more growth in 2023. We see that this demand for engine hospital repairs is a consequence of the market re-shaping and operators and asset owners looking for customised solutions for each asset and less investments and shorter lead time to keep engines in the air as much as possible. Last year Magnetic Engines performed more than 80 engine repairs for different operators and asset owners around the globe. We are constantly expanding the capability of our engine workshop in Tallinn, Estonia. At the moment we can perform work such as combustion chamber replacement, HPT / LPT stg 1 NGVs change, partial HPT blades replacement, change of LPT MM; replacement of fan SMs 21-22 and fan case. Of course, top/bottom case repair; boro-blend repair; replacement of HPT rear shaft or LPT shaft and BRGs #4-5. In addition, we have field teams that can perform repairs at customer locations and we have seen an increased demand



Roke is a regular at MRO events. Photo Magnetic MRO.

for this in the last few months because its sometimes quicker and more cost efficient to send our experienced technicians with the tooling to fix an engine on wing.

What demands are you seeing for engines services today?

The demand for engine services is increasing with each month due to the market recovery, but I believe that the peak will be after the high season in Europe, as more grounded assets start flying and the quantity of expected and non-expected shop visits increases.

Magnetic Engines has kept busy with CFM56-3 engine repairs due to high

utilisation from cargo operators, considering that most passenger airlines reduced or stopped flying during the pandemic. When cargo operators increased capacity, demand for hospital repairs also increased. We are expecting that it will continue for the next few years. We are also seeing more CFM56-5B's and -7B's coming back to service, both engines will increase utilisation rapidly, and these engines will need hospital repairs as well. The pandemic and now uncertain geopolitical situation will also impact in the market recovery. It is coming slower than it was planned for 2022, and every investment decision in repair or acquisition

needs to be properly justified but this is a natural market reaction and I am positive and believe that improved demand for travel from the summer season will refresh the market.

In terms of access to materials to support popular engines like the CFM56, what key trend are you seeing with supply and demand?

The COVID crisis affected both the CFM56-5B and CFM56-7B market as major fleets were grounded so this market was stagnant for two years and this resulted hugely on the access to materials to support CFM56 engine shop visit TAT. Due to the high price of the cores few CFM56-5B's and -7B's engines were torn down – this impacted the used material supply chain.

The lack of engine spare parts and used material repair delays prolonged engine shop visits TAT and created additional issues for operators and asset owners. Due to the above-mentioned reasons, engines are staying longer in the shop and operators are looking for spare engines to cover the demand. It means that operators should rotate their own engine fleet and burn green time from the engines or lease an engine from the market.

What are your key priorities for engine services as airlines rebuild their schedules?

At Magnetic Engines, our key priority is to find the best solution for each engine in the most time and cost-efficient way with on time delivery

We extended our capabilities and capacity in 2020 with additional tooling, new space and more experienced technicians allowing us to serve our operator's engines with the shortest TAT.

Our new engine shop allows us to work on three engines in parallel and perform the most needed repairs on CFM56-family engines and we have more ambitious plans by the end of this year.

Our team is ready to support airlines and asset owners with CFM56 engine leasing, exchange programmes, and our experienced engineers will find customised solutions for each engine but can also assist with professional technical consultancy.

»»»» — on the move



Reiner Winkler (l) and Lars Wagner (r)

After its Supervisory Board meeting on Wednesday, May 4, MTU Aero Engines AG (MTU) has announced that its CEO, **Reiner Winkler**, will be stepping down and leaving the company, for personal reasons, at the end of the year. "After more than twenty years in the management board of MTU, I now see the time has come to pass on my responsibilities. The company's expected new growth phase and the excellent succession plan at the top of both the Supervisory and the Management Board appear to be a very suitable point in time. I am extremely thankful that I was allowed to help shape the successful development of MTU over such a long period of time." Winkler had been on the management board of the company for over twenty years and his appointment as CEO was due to end on September 30, 2024. **Lars Wagner**, the current MTU COO, has been unanimously chosen by the Board to take the helm as of January 1, 2023. **Klaus Eberhardt** will retire as Chairman of the Supervisory Board of MTU Aero Engines with the Annual General Meeting on May 5, 2022. **Gordon Riske** has been proposed as his successor and he has already accompanied the selection process for the CEO position. In the coming months, Riske and the further members of the Supervisory Board will shape the search for a female board member as a replacement for the vacant Executive Board position as well as help design the exact division of responsibilities at the Executive Board. According to legal requirements, a woman shall be nominated as the fourth member of MTU's Executive Board.

Dubai Aerospace Enterprise (DAE) has announced the following two promotions with an effective date in the third quarter of 2022: **Sinan Kahya** has been promoted to the role of Chief Financial Officer, reporting to the Chief Executive Officer and **Melissa Closa** has been promoted to the newly created role of Chief Accounting Officer, reporting to the Chief Financial Officer. Kahya joined DAE in 2014 and has previously been responsible for Corporate Development, Financial Planning and Analysis, Fixed Income Investor Relations and interfacing with credit rating agencies. Kahya has a bachelor's and master's degree in Mathematics, a master's degree in Corporate Finance and Banking and is a CFA charterholder. Closa joined DAE in 2008 and has been previously responsible for almost all groups within the accounting function. She has a Bachelor of Science in Accountancy and is a Certified Public Accountant (CPA).



Oscar Torres

Kellstrom Aerospace Group, a leader in Aviation Life-Cycle Cost Management Solutions, has appointed **Oscar Torres** to President and Chief Executive Officer succeeding **Jeff Lund** who recently retired. Torres joined the company in 1999 and has held several senior positions, most recently as Executive Vice President of Operations and Chief Financial Officer. "Oscar's extensive experience and knowledge of the commercial aerospace

aftermarket make him an excellent choice to lead Kellstrom toward fulfilling its full-service aftermarket vision," said **Paul Fulchino**, Chairman of Kellstrom's Board of Directors. "We thank Jeff for his contributions and leadership during the past six years and wish him and his family the very best in his retirement," said Torres. "I am excited about the opportunity to lead Kellstrom and continue its commitment to provide cost-effective and superior-quality solutions to our business partners."



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