

MRO

March 2021

Wheels & Brakes

**Keeping a
firm grip
on costs**

Aircraft redelivery

Pandemic sees a rise
in aircraft transitions

APOC Aviation

Cost saving initiatives
for landing gear solutions

Gama Aviation

Looks to the US to
expand MRO networks



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Consolidation will likely continue in the aircraft leasing market

The big news this month was the announcement that AerCap will acquire 100% of GE Capital Aviation Services (GECAS). Experts at aviation consultancy firm IBA have said a combination of the two largest aircraft leasing companies would create a superpower that owns and manages over 2,000 aircraft, leased to a well-diversified customer base with a strong market position.

In terms of their future fleet outlooks, both lessors have a convergent strategy as most of AerCap and GECAS' backlogs are heavily weighted towards narrowbody aircraft, with IBA's InsightIQ Fleets showing their order books comprising 79% and 92% of narrowbody aircraft, respectively. Looking at their active fleet, according to IBA, the deal could consolidate the two different strategies followed by both aircraft lessors. Both lessors have a similar distribution of narrowbody aircraft.

IBA says we can expect to see a significant amount of restructuring work for AerCap and GECAS during the year ahead to consolidate and prepare for the recovery in traffic demand. Considering the size of the combined fleet, it is likely that there will be some tranches of aircraft packaged and sold to manage asset and lessee concentration and to focus on core asset types.

The deal remains subject to regulatory approval, which is likely to attract scrutiny given the prominent market positions held by AerCap and GECAS.

On a separate note, in this issue of *AviTrader MRO* we examine the aircraft redelivery sector to identify the conditions and considerations under a lease agreement and the challenges that exist in the current COVID environment. The article brings to light the importance and value of correct records management for aircraft transactions.

And our cover story looks at cost management for wheels and brakes. As air carriers prepare to increase their scheduled flying since the pandemic hit, our research shows that they will likely be looking at ensuring more wheel and brake cost predictably. We have asked the key questions to our panel of industry experts for analysis and solutions.

Keith Mwanalushi
EDITOR

AerCap will acquire 100% of GECAS.

Photo: Boeing



CONTENTS



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17 Cost Management for Wheels and Brakes



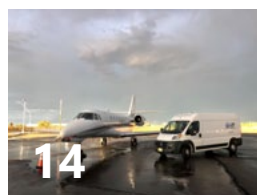
3 Editor's Page



5 Industry Briefs

11 News Analysis

APOC gears up for safe landings



14 News Analysis

Gama's optimistic outlook for US MRO recovery



17 Cost Management for Wheels and Brakes

Pandemic puts a brake on wheel component services



23 Aircraft Redelivery Management

Breaking down redelivery operations



28 Company Spotlight

Rusada

31 Industry Interview

Fraser Currie – Chief Commercial Officer, Joramco

34 People on the Move

Acumen Aviation and Infinity Trading & Solutions announce strategic partnership

Acumen Aviation (Acumen) and Infinity Trading & Solutions (ITS) have announced a new strategic partnership agreement. The two companies have entered into an aircraft and component services agreement, under the terms of which Acumen will support ITS business activities within the India region. Through its well-established network, Acumen will support the sale and marketing of the ITS wide-ranging component inventory to the aviation industry in India and will also assist ITS in the purchase of aircraft, engine, and component assets in the region.

AJW Group signs power-by-the-hour contract with Aer Lingus

AJW Group has been selected by Aer Lingus as its supply chain management provider. AJW Group will perform data analysis and assistance regarding component engineering services for the entire Aer Lingus fleet of A320 Family and A330 aircraft, as well as providing repair and logistical support. The contract is a Repair Cycle Management (RCM) agreement. This contract sees AJW directly support Aer Lingus' fleet of A320, A321LR/XLR and A330 aircraft, covering the majority of airframe and engine LRUs and includes new A321neo aircraft. AJW are offering a sophisticated system integration with Aer Lingus' AMOS system to deliver a highly efficient supply chain solution to drive superior performance and operational excellence which aligns with AJWs digital expansion strategy. The service includes a close working relationship between AJW and Aer Lingus engineering teams, while AJW Technique, the Group's Maintenance Repair and Overhaul facility, will play a significant role in the new contract with a high degree of capability of the contracted coverage of Aer Lingus components.

MTU Maintenance Zhuhai and Sichuan Airlines sign engine MRO contract

MTU Maintenance, a global leader in customized solutions for aero engines, and long-standing partner Sichuan Airlines have strengthened their existing relationship with an engine MRO contract for the airline's V2500 and CFM56-5B engines. The agreement covers 259 engines including spares for a five-year period. Services will be carried out at MTU Maintenance's facilities in Zhuhai, Hannover and Vancouver. Sichuan Airlines operates 119 V2500- and CFM56-5B-powered A319, A320 and A321 aircraft. "We have established an excellent professional relationship with MTU Maintenance Zhuhai over the past decade," says Shao Chuan, General Manager of Maintenance & Engineering Department of Sichuan Airlines. "As such we have selected them as our maintenance provider for our V2500 and CFM56-5B fleet. They have an outstanding reputation for highly customized and cost-effective MRO services, and we are confident they will provide us with the very best solution across our entire engine fleet."



Contract signing between MTU Zhuhai and Sichuan Airlines

Photo: MTU Maintenance

Rolls-Royce confident of future despite posting record loss of £4 billion

Rolls-Royce CEO Warren East has remained confident about the company's future, despite revealing a £4 billion loss for 2020. Cash burn is expected to halve in 2021 from £4.2 billion to £2.0 billion and will likely turn positive for the latter half of the year as post-vaccination air travel begins to recover. This projection is based on airlines flying 55% of 2019 levels for the year. "We have our cash burn under control ... We have ample liquidity to get through this crisis as long as it lasts," East said to reporters. One of the company's major problems in 2020 was its policy of charging airlines for the number of hours its engines were flown. With such a downturn in air travel the company was forced to ask shareholders for cash and to also take on a further £5.3 billion in debt. Rolls-Royce engines power both Airbus A350 and Boeing 787 aircraft and this usually generates over 50% of the group's annual revenue. To cope with the effect of the COVID-19 pandemic the company shed 15% of its staff in 2020 and has earmarked £2.0 billion in assets for disposal to aid its balance sheet. While the search for a buyer for Rolls-Royce's Spanish ITP unit is progressing well, the company has hit a major hurdle with the sale of its Norwegian unit Bergen Engines to a Russian-owned company, the Norwegian government has suspended the transaction citing security concerns. (£1.00 = US\$1.20 at time of publication.)

FL ARI obtains CAAC Part 145 Maintenance Organization Certification for Base Maintenance



Photo: FL ARI hangar in Harbin, China

FL ARI Aircraft Maintenance & Engineering Company (FL ARI), an aircraft maintenance, repair and overhaul (MRO) service provider based in Harbin, China, has successfully completed its audit and received the Civil Aviation Administration of China (CAAC) approval on base maintenance capabilities, and has been granted Part 145 maintenance certification to carry out regular maintenance, repair, modification, and other operations for Airbus A320-series aircraft. FL ARI is a joint venture between FL Technics, a leading aircraft maintenance (MRO) service provider in Europe and China Aviation Aftermarket Holdings (CAAM), a subsidiary of China Aircraft Leasing Group (CALC). The next step in the company's growth strategy is the base maintenance certificate for the Boeing 737 NG family of aircraft that the company is planning to receive in the next few months.

AerCap to acquire GE Capital Aviation Services

AerCap Holdings N.V. (AerCap), a global leader in aircraft leasing, has entered into a definitive agreement with General Electric under which AerCap will acquire 100% of GE Capital Aviation Services (GECAS), a GE business. The combined company will be an industry leader across all areas of aviation leasing, with over 2,000 owned and managed aircraft, over 900 owned and managed engines, over 300 owned helicopters and approximately 300 customers around the world. Under the terms of the agreement, which has been unanimously approved by the boards of directors of AerCap and GE, GE will receive 111.5 million newly issued AerCap shares, US\$24 billion of cash and US\$1 billion of AerCap notes and/or cash. Upon completion of the transaction, GE is expected to own approximately 46% of the combined company and will be entitled to nominate two directors to the AerCap Board of Directors. Citi and Goldman Sachs have provided AerCap with US\$24 billion of committed financing for the transaction. The transaction is subject to approval by AerCap shareholders, receipt of necessary regulatory approvals, and satisfaction of other customary closing conditions. The transaction is expected to close in the fourth quarter of 2021. The combined company will retain the name AerCap, and GECAS will become a business of AerCap.

West Star Aviation receives Mexican AFAC Repair Station certification for two locations

West Star Aviation has received recertification for both its East Alton, IL (ALN) and Houston, TX (CXO) facilities as Mexican AFAC Repair Stations. This replaces the DGAC certificate originally issued and provides safety and certification continuity between the FAA and Mexican aviation authorities. West Star's Grand Junction, CO (GJT) location was originally certified from the onset of the requirement in 2004. They now have a total of four locations approved by the Mexican AFAC, East Alton, IL (ALN); Houston, TX (CXO); Chattanooga, TN (CHA) and Grand Junction, CO (GJT). "The extended certification will aide our customers at both of these strategic locations and provide our customers with additional service opportunities as needed," said Santiago Carol, Regional Sales Manager, Mexico & Latin America.

Lufthansa Technik to provide component support for MasAir



Photo: MasAir Boeing 767F

Lufthansa Technik and the Mexican carrier MasAir Cargo Airline have signed a comprehensive total component support (TCS®) contract covering repair and overhaul of components for MasAir's Boeing 767F fleet. The new contract governs supply for up to 14 aircraft over a period of five years. This is the first contract signed directly between Lufthansa Technik and MasAir. With the TCS® agreement, MasAir benefits from an individual supply concept that enables short, rapid transport paths. Component support of MasAir fleet will be ensured through a home base stock to be established in Mexico City and in Los Angeles, California.

Vallair augments aircraft maintenance capability with addition of new Châteauroux facility



Construction has started on Vallair's new hangar in Châteauroux, France

Photo: Vallair

Vallair, the multi-faceted aviation business dedicated to the support of aircraft operators and lessors, has signed a Letter of Intent (LOI) with the Centre-Val de Loire Region and The Châteauroux Centre Airport Establishment. The LOI will see Vallair awarded a ten-year lease for a state-of-the-art full-service aircraft maintenance, repair, overhaul and cargo conversion hangar adjacent to its existing aerostructures repair and logistics facility in Châteauroux, France. "This is an important step for Vallair as we establish our blueprint for growth," says Gregoire Lebigot, CEO of Vallair. "This new facility will be a natural extension of Vallair's existing operations in Montpellier and Châteauroux providing maintenance, lease transfers, modifications, reconfigurations, aircraft parking and storage, as well as repairs of aerostructure and composite elements. In addition to this we will be establishing our own dedicated conversion unit which will showcase Vallair's experience and knowledge of passenger-to-freighter conversions. Our aim is to support our customers through these challenging times and to be prepared for the surge in demand expected from the fourth quarter. Vallair currently has seven aircraft scheduled for such work in Châteauroux, with another five expected over the coming weeks. This will be our initial orderbook." This new hangar will soon begin to positively impact on local employment through the creation of 200 jobs which will be divided between Vallair employees and subcontractors. With a footprint of 8,500 m² the facility will be able to accommodate four A321-size aircraft, or a combination of A330s and A321s. Although completion is anticipated by Summer 2021, Vallair will continue to support this project with a forecasted €5 million (US\$6 million) investment in the coming months.

Airbus has announced that as a result of successful negotiations with **IG Metall** union and works council, which represents workers in Germany, no redundancies will be enforced in Germany before year-end 2023. As Airbus aims to implement a restructuring program which will affect 15,000 positions in its workforce, it will be looking to early retirements, voluntary redundancy policies, and internal transfers to provide the solution to a situation created by a drop in demand for aircraft during the COVID-19 crisis. Airbus employs approximately 55,000 workers in Germany and 1,300 employees have taken voluntary redundancy, while 1,000 employees at its subsidiary, Premium Aerotec, which manufacture major plane components, took voluntary redundancy between November 2020 and February 2021, according to Holger Junge, head of the group works council. "Production figures have stabilized," Junge confirmed, "But we have not overcome the crisis." He added that Airbus has agreed to avoid further job cuts through short-time work and reducing hours by up to 20% from 2022. Airbus is now in an awkward position as a consequence of extended lockdowns in Europe as, in January, it chose to adopt an optimistic outlook with ambitions for a partial recovery in aircraft production of up to 22% from 2022 onward.

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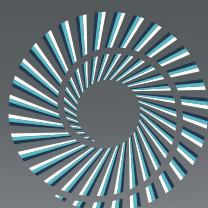
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Lufthansa Technik's 2020 revenue down 43% due to CORONA crisis

Lufthansa Technik has released its annual report for 2020 in which revenue and earnings were significantly lower than 2019 due to the effects of the COVID-19 pandemic on the aerospace sector. The crisis has had a considerable adverse effect on the development of the MRO business, with a significant decline in flight hours across the industry and financial pressure on the airlines leading to aircraft being grounded and decommissioned, which had a major impact on Lufthansa Technik. Significant cost reductions are now being deployed to improve the company's competitiveness and secure its long-term, defining role in the independent MRO market. As a consequence, instead of the previous eight company divisions, there will be only five in the future: Aircraft Component Services (ACS), Aircraft Maintenance Services (AMS), Engine Services (ENG), Original Equipment & Special

Aircraft Services (OES) and Digital Fleet Services (DFS). Revenue fell in the financial year 2020 by 43% to €3,747 million (previous year: €6,572 million) as a result of the CORONA crisis. This was mainly due to a significant decline in Europe, Lufthansa Technik's most important sales market. Revenue with Lufthansa Group companies saw a decrease in volume, particularly in the engine business. Group external revenue decreased mainly in the component and engine maintenance divisions. Operating income of €4,184 million was 39% lower than in the previous year (previous year: €6,828 million). Operating expenses fell by 30% in the reporting period to €4,502 million (previous year: €6,425 million) due to lower volumes and the cost-cutting measures implemented. Cost of materials and services decreased by 39% to €2,372 million (previous year: €3,902 million), primarily as a result of lower vol-

umes. This included crisis-related write-downs of materials totaling €158 million. At €1,113 million, staff costs were 23% lower than in the previous year (€1,448 million), the main reason being the introduction of short-time work. Depreciation and amortization increased by 3 % to €197 million euros (previous year: €191 million). Adjusted EBIT decreased accordingly to €-383 million (previous year: €463 million), and the adjusted EBIT margin decreased by 17.2 percentage points to -10.2 %. EBIT at the end of the reporting period was €-508 million (previous year: €472 million). The difference to the adjusted EBIT was mainly due to impairment losses on investments in joint ventures and on spare engines. Capital expenditure was reduced by 51% to €152 million compared to last year (previous year: €313 million), mainly due to lower investments into spare engines.



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Czech Airlines Technics to provide base maintenance services for Air Corsica aircraft

Czech Airlines Technics (CSAT) has signed a new Base Maintenance Agreement with Air Corsica. Based on a successful tender, two Airbus A320 aircraft will undergo overhauls in the hangar located at Václav Havel Airport Prague, during the first quarter of 2021. Last year, experienced CSAT teams completed over 70 base maintenance checks within its main division. The agreement with the French air carrier includes the performance of complex scheduled base maintenance checks and repairs based on the manufacturer and operator guidelines. Specifically, two narrow-body Airbus A320 aircraft, which Air Corsica uses mainly on its direct flights to various destinations across Europe, will undergo base maintenance in Hangar F located at Prague Airport premises in the first quarter of 2021. Last year, despite the COVID-19 pandemic which has had a major impact on the entire aviation sector, Czech Airlines Technics managed to implement and successfully complete over 70 base maintenance overhauls on Boeing 737, Airbus A320 Family and ATR aircraft. Finnair, Transavia Airlines, Czech Airlines, Smartwings and NEOS are among the most important Czech Airlines Technics clients in the base maintenance division. In 2020, a team of CSAT mechanics also worked on projects for new customers, namely Jet2.com, Austrian Airlines and clients from both the government and private sectors.

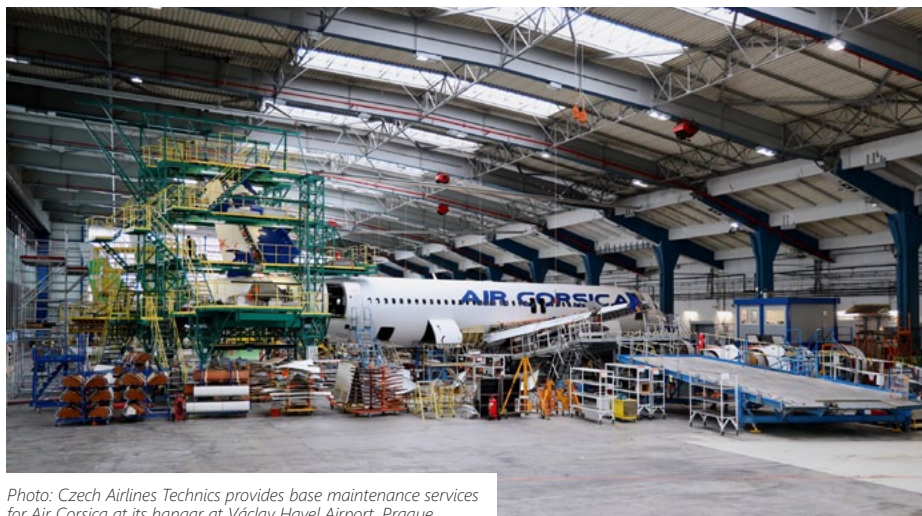


Photo: Czech Airlines Technics provides base maintenance services for Air Corsica at its hangar at Václav Havel Airport, Prague

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In February, Rotterdam-based APOC Aviation sealed its first landing gear exchange deal with Avion Express Malta, the Maltese based ACMI and aircraft leasing operator. A freshly overhauled A321-200 from stock replaced their ran-out gear which APOC took in exchange.

Following that announcement, Karolis Jurkevicius, VP Landing Gear Trading and Leasing at APOC Aviation tells this publication that exchange has always been a popular option for those customers who want to renew their asset pool and, at the same time, limit their stock of assets that require maintenance. "Previously, airlines always wanted to keep the same landing gears (LDGs) that came with the purchase of the aircraft and the same was also true of lessors. If they leased an aircraft with its original equipment, they have tended to want to keep the same LDG on the aircraft and not exchange it to another, but the current situation puts airline operators and lessors in a position where liquidity is the most important factor."

Jurkevicius says the market is still extremely hard to predict, so holding assets on the balance sheet can be challenging when prices are volatile making it impossible to accurately predict values- "Exchange can be better for those customers who need to know fixed costs ahead of time so they can better align their operational budgets," he adds.

According to Jurkevicius, creating a dedicated landing gear division was a logical step for APOC's expanding asset portfolio. He says it offered repair management as a service to operators and has a portfolio of audited LDG repair shops with whom it manages repairs as needed. It also works with third-party experts to tear down LDGs for piece parts for sale, or to support customers' on-going overhaul projects. "The lessee can place our LDGs on lease in workshops of their choice – they are not tied into repair contracts as part of the lease agreement. Our customers like this flexibility which is unusual in the marketplace" he says.

The MRO and aftermarket sectors have seen several changes in customer requirements during the COVID pandemic some of which might linger on after the crisis is long over. Jurkevicius says APOC receives



After announcing a recent landing gear exchange deal with Avion Express Malta, Karolis Jurkevicius, from APOC Aviation, provides **Keith Mwanalushi** with further market insight as the industry looks for greater efficiencies and cost-saving initiatives.

APOC gears up for safe landings

Some airlines are swapping landing gears between stored and active aircraft.
Photo: APOC Aviation

NEWS ANALYSIS

Airlines are looking for more cost-effective options for landing gears.
Photo: Avion Express Malta

“Exchange can be better for those customers who need to know fixed costs ahead of time.”

Karolis Jurkevicius, VP Landing Gear Trading and Leasing, APOC Aviation

more requests these days from operators that used to have long term LDG overhaul agreements with various MRO providers. “Now these airlines are looking for more cost-effective options, and interest in serviceable, green-life, LDGs is much greater than before the pandemic. Sometimes a customer is looking for an LDG for a younger aircraft, so the natural option is to install an overhauled gear, but we see many requests for LDGs where the customer is planning to only operate the aircraft for few years, then part-out the aircraft. At APOC we always focus on having diverse asset pool, so we can assist both customer types.”

Jurkevicius also explains that long term relationships and multiple planning steps shaped the company's ability to deliver the best option to Avion Express Malta. “About a year ago we discussed their forthcoming requirements for LDGs end 2020/early 2021, and we developed a good understanding of how APOC could tailor our flexible services for their operation. So pre-COVID we knew what would be needed and due to APOC's careful business strategy we had the financial ability to source the right assets and have them ready to go in overhauled condition.”

Some airlines are swapping landing gears between stored and active aircraft to postpone the expenses of overhaul. Assumingly, there could be a surge in demand for landing gear overhaul once air travel starts to return to normal. Jurkevicius reminds that internal fleet component asset swaps were not quite common pre-COVID, because very few aircraft were stored or unemployed. He now observes however that it has become common practice. “I think that we will definitely see increased demand for overhaul slots

once air travel ramps up. We can see that many LDG MROs think the same way as they are increasing their capabilities and volume of operation. APOC has an advantage here because we already have agreements and slot bookings with various MROs to fulfil our asset pool requirements thus ensuring we are able to provide overhaul management services to our customers,” he continues.

The latest industry statistics show increasingly younger aircraft are being decommis-

sioned. APOC Aviation observes that the market clearly shows a good supply of landing gears with lower utilisation than usual. This indicates that the value of older landing gears will decrease significantly. Latest market examples according to APOC demonstrate that younger gears decreased in value far less (approx. 25%) than older gears (approx. 45-50%). APOC's focus is on younger generation gears to minimise the risk of having assets with little to no demand, and the long-term goal is to have most of the stock focused on younger and less utilised gears in the asset pool. However, APOC can assist operators with all kinds of requests, including older gears.

The biggest concern for anyone sourcing LDGs is strict back-to-birth trace-ability standards, informs Jurkevicius, saying solving technical trace questions is not only time consuming, but also a high-risk task if the requirement is urgent. “There only needs to be a minor gap in the trace and the landing gear might not be deemed airworthy. This would require some components to be changed prior to installation, causing time delays and incurring extra costs for the end-user. That is why APOC has a sustained acquisition policy from the market to meet customers' urgent requirements.

“We understand that the landing gear is just one part of an aircraft, and that airline engineering departments have a multitude of components to worry about at the same time. So, at APOC, our standard of paperwork is one of the highest in the industry, not only for landing gears, but also for the aircraft that we purchase for part-out. We take care of all mandatory regulations before offering units to the market.”



Karolis Jurkevicius, VP Landing Gear Trading and Leasing at APOC Aviation

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Operating Empty Weight	44,500 kgs	46,000 kgs
A-Code Positions	14	14
Available Ton Miles*	61,071	57,604
Occupant Capacity	6	4
Flight Deck Crew Baggage	YES	NO
Crew Service Area	YES	NO
Crew Access	Full size L1/R1 door retained	Half size (48") manufactured hatch
Highest Standard Payload*	27,000 kgs	25,500 kgs
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Gama's optimistic outlook for US MRO recovery



The acquisition enhances the Group's maintenance capability within the US.
All photos: Gama Aviation

Gama Aviation plans to expand its existing maintenance operations with the recent acquisition of Jet East Aviation bringing together two established MRO networks and expanding its footprint in the US market. **Keith Mwanalushi** reports.

In January, Gama Aviation announced the acquisition of Jet East Aviation. Jet East is a full-service business aviation aircraft maintenance provider with approximately 200 employees. It supplies a range of maintenance services at high traffic business aviation gateway airports that include, amongst others, the cities of New York, Boston, Philadelphia, Cleveland, and Cincinnati. According to Gama Aviation, Jet East's maintenance network is highly complementary to the Group's existing US operations with little service or geographic overlap.

The business will bring together two established and trusted maintenance networks,

with highly complementary geographic footprints and capabilities enabling Corporate Flight Departments, Part 91 and Part 135 operators to single source their AOG, line and heavy maintenance needs.

Commenting to *AviTrader MRO* on the status of the general aviation sector in the US market and the impact of the COVID pandemic, Duncan Daines, Group Chief Marketing Officer at Gama Aviation says it is difficult to predict when to expect a return to normality, however US business traffic has been trending upwards for a while and the sector is confident that it will recover to 2019 levels within 2021.



Duncan Daines, Group Chief Marketing Officer, Gama Aviation

Daines indicates that heavy checks, which are mainly calculated on time intervals, have seen constant activity with paint and interiors seeing a slight uptick as owners make use of lower flight volumes to enhance their aircraft's ramp appeal.

As a result of the impact caused by the pandemic, Daines reckons further consolidation in the business aviation maintenance sector could happen in two ways; either through mergers and acquisitions or through businesses closing; both concentrate the number of competitors within the marketplace. "As this is predominantly a cash crisis, we may see good companies not being able to sustain their business models which may trigger acquisitions or, sadly, may lose them to bankruptcy, so only time will tell."

Gama Aviation has reported that in 2020, Jet East's performance was negatively impacted by COVID-19. In 2019, it reported revenues of \$29.5m and an underlying EBIT of \$1.2m inclusive of a depreciation charge of \$0.3m. The net assets of Jet East as of 31st December 2019 were \$6.7m.

Gama believes the acquisition will substantially enhance the Group's already extensive maintenance capability within the US, capturing further market share in the world's most valuable business aviation market with circa 15,000 active business aviation aircraft. The say the enlarged business will provide unparalleled coast-to-coast coverage and capability that will enhance its service offering to the market and significantly strengthen its trading relationships with key customers.

Commenting on the transaction, Marwan Khalek, Chief Executive of Gama Aviation said the strategic acquisition enlarges and strengthens their presence in the U.S, the world's largest business aviation market. "We are taking two entirely complementary businesses and combining them to provide a highly capable, coast-to-coast maintenance operation that supports our customers evident need to rationalise their supply base. The combination will provide our customers the advantages of operational efficiencies that only a single-source strategic supplier relationship can deliver. The combined business will also be well

positioned to benefit from the inevitable recovery in US business aviation activity once the pandemic impact subsides.

This is a deal that enhances our service offering to our clients, is anticipated to be value accretive to our shareholders and will provide opportunity for our people."

When looking at further investments in facilities and MRO technologies Daines states that corporate history has shown that they will acquire, develop and at times selectively dispose of businesses should this be advantageous to the strategy and to shareholders' interests. "For the moment we have plenty to do integrating two highly complementary businesses to serve a growing client base. Regarding technology, we are unique in having a technology business at the heart of our Group, which helps us connecting legacy systems with our own products to deliver efficiencies across a wide range of MRO activities. This is an area where we see good growth as MRO organisations seeks to deliver marginal gains and efficiencies to increase margins."



“We are taking two complementary businesses and combining them to provide a highly capable, coast-to-coast maintenance operation.”

*Marwan Khalek, Chief Executive,
Gama Aviation*

Marwan Khalek, Chief Executive, Gama Aviation



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Pandemic puts a brake on wheel component services

As air carriers prepare to increase their scheduled flying since the pandemic hit and remove aircraft from storage, they will likely be looking at ensuring more wheel and brake cost predictably, as **Keith Mwanalushi** reports.

Landing gear components such as wheels and brakes have seen little maintenance work over the past year. Outbreak of the COVID pandemic in December 2019 left the entire aviation industry in disarray and the aircraft wheels and brakes market was no exception. With travel bans and quarantine regulations enforced in every global market this left most of the global aircraft fleet in storage or parked.

"There is a common misconception that having an aircraft grounded provides a great opportunity to service the wheels and brakes," highlights Phil Randell, CEO of World Aero. "This isn't the case, mostly because wheels and brakes are operated 'on-condition' and if we're being honest, operators simply don't have the available cash right now for the completion of non-essential tasks."

Randell reminds that tyres and brakes do not have a set lifespan; notwithstanding

any defects, they can stay on the aircraft until worn-to-limits. "If your car goes in for a service, you wouldn't automatically change the tyres unless the tread is worn. The same applies, unfortunately, to wheel and brake services in that they very much follow aircraft utilisation. The more the aircraft is flown, the more work we see as a result, it has therefore been relatively quiet of late. However, the world has seen a surge in demand for cargo capacity which, to some degree has offset the considerable reduction in airliner work."

At AAR Corp, they too see a drop in commercial business, but at the same time they have seen an increase in the cargo business. "Some customers have been deferring major repairs, due to the advantage of having excess spares because of their partially parked fleet. Additionally, at the beginning of the pandemic, airlines were attempting to renegotiate existing contracts for more favourable terms," notes

Wheels and brakes have seen little work over the past year.
Photo: Joramco

“If your car goes in for a service, you wouldn't automatically change the tyres unless the tread is worn.”

*Phil Randell, CEO,
World Aero*



Phil Randell, World Aero CEO

German Alex Lara, AAR Director Wheel and Brake Services.

David Kahl, Head of Wheels and Brakes Solutions UK, Lufthansa Technik concurs saying the pandemic has hit the aviation sector hard and all airlines are looking to reduce costs as much as possible. "Airlines have been looking to find solutions around how to deal with storage and de-storage requirements on the aircraft, which typically include protection against the elements with subsequent removal of wheels after several months of parking on reactivation."

Kahl mentions the costs of removal is the pain point which airlines are looking to manage with rotation of their fleet or stringent long-term parking – in essence; avoid removal and cost generation wherever possible. "On brakes however, we have seen an increase in oxidation on parts – from structural housings, clips

to partial oxidation on carbon heatsinks. MRO shops have seen a significant reduction on the removals which is what continues through this day."

Kahl also observes that the aftermarket for wheels and brake parts has changed too – "Parts which were once rare or expensive can now be procured in abundance at low rates with even OEMs offering significant double-digit discounts on the parts. This will likely not change for a while until the markets operate above pre-COVID levels."

Integrated solutions for wheels and brakes

Several players in the market have developed solutions such as charge per aircraft landing programmes and other PBH agreements for associated wheel and brake repair and overhaul services and aircraft operators will be looking for support solutions to achieve cost efficiency as their aircraft get airborne again.

Ellie Pinington, Programmes Manager at AerFin advises that when selecting new aircraft, the operator can reduce some of their operational costs for wheels and brakes by selecting from competing OEM's, if there is a choice available, that would be the start of the process for the operator. She says for both a new aircraft selected or a tier two or three operator, the evaluation of ownership and tied up capital versus Cost Per Aircraft Landing Programmes (CPAL), where the ownership of stock resides with the supplier, would be the next step.

Pinington adds; "As with PBH contract support, operators are looking at options not to tie up capital on spares, not have issues when exiting fleets, utilising existing MRO networks, and minimising management process and costs. CPAL are a preferred option for airlines, these give service level protections, access to stock and inventory, guaranteed costings to manage cash-flow and known costs in support of the product."

At World Aero, they have always offered CPAL and fixed cost per shop visit options to help operators manage their wheel and brake costs more predictably, Randell tells. He explains that these options, versus a traditional 'Time & Materials' repair method, allow the operator to spread maintenance costs across their overheads, rather



Ellie Pinington, Programmes Manager at AerFin



AAR also provides spare wheel and brake inventory.
Photo: AAR



German Alex Lara, AAR Director
Wheel and Brake Services

than receiving additional unexpected costs which can be unwelcome, especially during periods of low utilisation.

"At World Aero we feel that rather than simply spread costs, a long-term objective of reduction of repair charges is preferred. This comes through enhanced maintenance standards at overhaul, additional attention during tyre changes and constantly challenging our supply chain and workshop processes, to reduce piece part and processing costs respectively," Randell states.

Like most MRO providers, AAR has a CPAL offering, all-Inclusive flat rate repair and overhaul, and tire management programmes. AAR also provides spare wheel and brake inventory, which Lara says alleviates customers from the burden of additional investment – "These programmes

not only offer cost efficiency, but they also offer improved cost projections and accounting simplicity," he says.

Over at Lufthansa Technik they have charge per cycle rates to cover the cost of operation per flight. Kahl explains that this makes it easier for airlines to plan their costs and have a scalable model for their wheel and brakes supply with the pay for what you fly formula. He says the crisis has not changed this approach in the market much and smaller carriers are still looking to have event-based pricing, but major carriers continue to look at the PBH agreements.

Adding to that, Kahl says Lufthansa Technik offers to provide a leasable stock for their fleets. "This lowers the airlines initial investment cost and provides a scalable

system. Something that Lufthansa Technik has been very successful at in the market alongside our material pools."

Maturing brake technologies

The aircraft manufacturing industry has deployed carbon technologies in recent years across various aircraft platforms and seemingly, these newer technologies will have an impact on the cost of wheel and brakes services from the operators' perspective.



Airlines want to manage their wheel and brake costs more predictably.
Photo: Patrick Delapierre

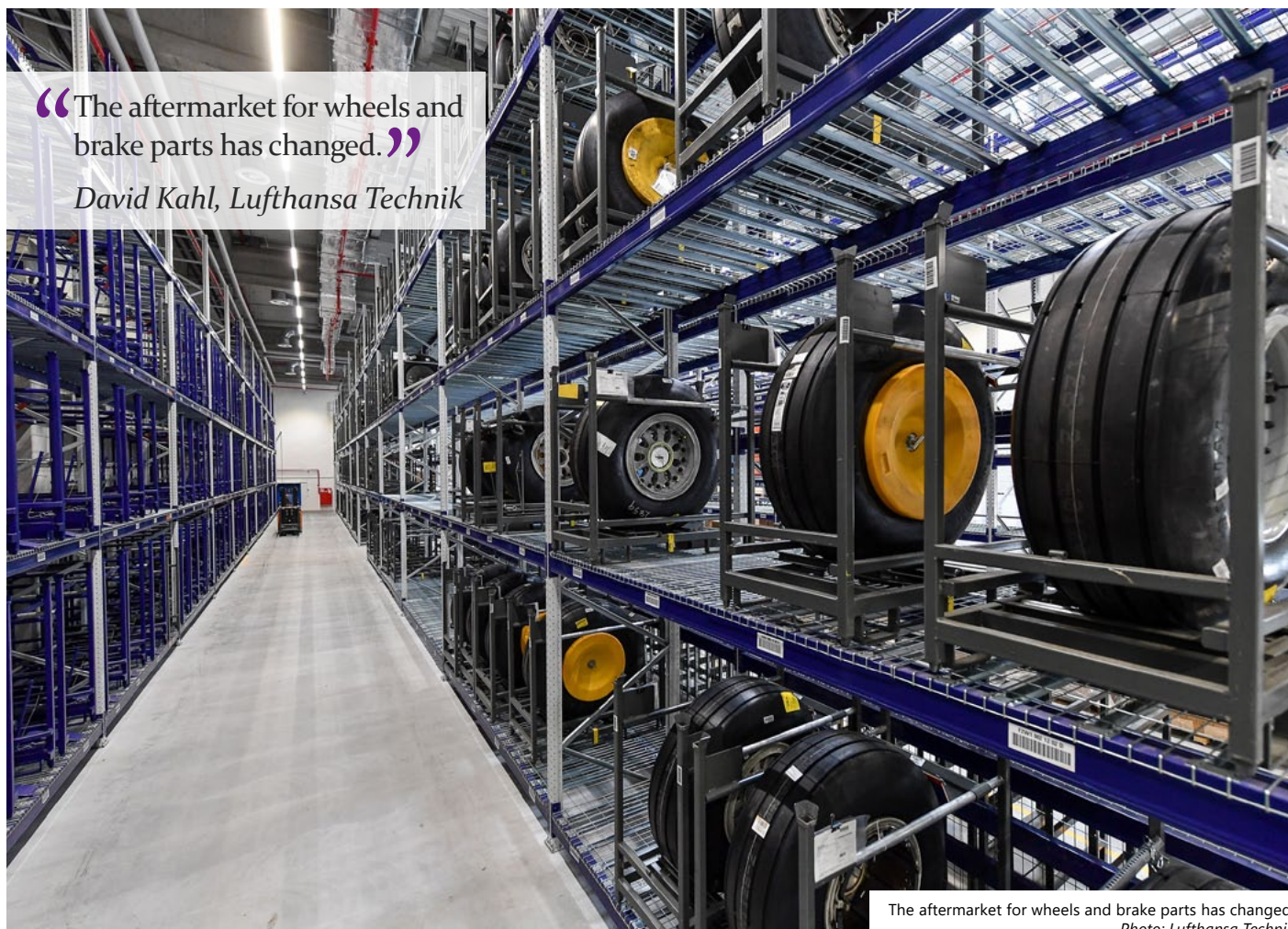
Richard Jowett, VP Purchasing and Programmes at AerFin says carbon brakes have been available to operators for some time, they provide significant advantages over steel, some of those being weight and thus less fuel burn. The longevity of carbon versus steel which reduces the volume of removals and therefore the cost of maintenance and stock required to support the brake removals. "We have seen development of the electric brake on the B787, though the carbon installed in the brake still is the key to the number of removals, as is type of operator, conditions aircraft operate in, weight and so on."

Lara from ARR points out that the initial cost is higher, since the overhaul of a carbon brake could be as high as three times the cost of a steel brake, but at the same time the carbon brake will provide two to three times the landings.

Airbus and Boeing have long opted to operate this technology on their airframes or retrofitted, the B737NG being a prime example. A 737-steel brake used to last around 1,100 landings before removal, this has now jumped to 2,000 landings with carbon brakes, reports Kahl. "Some aircraft types pending the OEM on the brakes see this number close to 3,000 landings, resulting in lower maintenance costs and associated labour."

Kahl sees that whilst carbon may be more expensive than steel on a list price basis, the OEMs have expanded their business to offer an added PBH model to support carbon usage per landing, consequently making it more cost effective than steel to operate, in most cases.

Kahl feels the largest leap will be the transition from carbon hydraulic brakes to carbon electric brakes which started with the B787 and now the A220. "This will allow for further cost savings on the operator side as certain line items may exchange on ship which previously necessitated



“The aftermarket for wheels and brake parts has changed.”

David Kahl, Lufthansa Technik

The aftermarket for wheels and brake parts has changed.
Photo: Lufthansa Technik

the removal of the complete brake for repair. However, this is very much in its infancy and will only breakthrough in the next generation of aircraft due in the 2030s.”

Randell has indeed, monitored the continued roll-out of carbon brakes across more and more aircraft, with even the smallest now featuring carbon brakes as part of the initial design certification. “In addition to this, there are active ongoing retrofit programmes, for common types such as the 737NG, to replace steel brakes with carbon equipment. This also requires replacement main wheels too. The cost of the new components is high, and the value of the old equipment now negligible however, vendors offer huge incentives to fit their equipment, such as free wheels and brakes for the fleet.”

Randell explains that vendors profit from the supply of spares and consumables used in the maintenance of wheels and brakes during their lifespan, so once a customer has retrofitted, perhaps for free, the revenue stream starts from that point. “It’s the long-term operating cost that needs to be understood, not today’s cost of retrofit. Importantly, whilst the repair cost of carbon brakes is considerably higher than steel types, the on-wing time is often three times that of a steel brake. This brings significant savings in operator’s manpower for brake changes, logistics of routing units to and from overhaul, spares holding levels and of course administration. And let us not forget the lure of reduced fuel burn due to lower brake weight, although this is less of a factor for short-haul high-cycle operators,” Randell concludes.



Richard Jowett, VP Purchasing and Programmes at AerFin

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Getting to grips with aircraft redelivery operations

The pandemic has seen a steep rise in the number of aircraft transitions.
Photo: Vallair

Keith Mwanalushi scrutinises aircraft redelivery scenarios to identify the conditions and considerations under a lease agreement and the challenges that exist in the current environment.

For many MROs and aftermarket specialists the combination of travel restrictions and different quarantine requirements at different locations has produced a challenging environment for aircraft redeliveries. Martin Pankov, Head of Lease Redelivery Support at AJW Group sees that due to the uncertainty of flight profiles and when passengers will return to the air, AJW are seeing a brief pause in redelivery activities. "Given reduced air travel, lessors are unwilling to take back their assets and many airlines have instead negotiated low to no rent fees for the time the aircraft is grounded."

Pankov observes the current focus continues to be on asset recovery and storage, as well as negotiations. "Lessees face manpower shortages and travel restrictions with large airlines using their leverage to negotiate out hence many open sale and lease back opportunities. Usually, early returns have

significant financial implications for the lessee, as lessors do not need the assets presently."



Martin Pankov, Head of Lease Redelivery Support at AJW Group

He says AJW are seeing a trend on buy-out deals for lease return conditions; "however, customers need to be cautious as we expect a drop in the fair market value of some components which will cause friction between lessors and lessees. AJW can assist both lessors and lessees to uncover and match to true market intelligence," Pankov suggests.

With these challenges caused by the COVID pandemic, at TRAX, the specialists in MRO and airline fleet management software solutions, they believe that technology will play an important role in improving efficiencies, processes, and lowering of costs. As a result, TRAX accelerated its development of some products aimed at assisting their customers with their

The current focus continues to be on asset recovery and storage.
Photo: Vallair



Malcolm Chandler, Head of Commercial and Marketing at Vallair

response to the pandemic and its effect on their operations. This was a driving force for the creation of the eContent Control App for technical records and lease returns.

"Aircraft redelivery services are an integral part of fleet management, which is our specialty," states Ricardo Fong, eMobility Development Manager at TRAX. He says there is a very fluid market situation now in the leasing sector with the return of even more aircraft, and in some cases the selling of owned aircraft and leasing back (SLB deals). "Our customers already have the required technical data residing in the TRAX eMRO system, but they needed to step up their game and reduce redelivery times." Fong continues saying enhanced digitisation via the eContent Control app greatly streamlines the process by providing accurate and easily accessible data, eliminating the need to scan documents, and facilitates the extraction of printed reports.

Malcolm Chandler, Head of Commercial and Marketing at Vallair echoes similar experi-

ences with delays and the deferral of lease start dates by operators caused by the current environment as operators are in a stronger position than the lessors; he says the lessors must accept these delays, which has a knock-on effect on the MROs. "Work planning is becoming increasingly difficult. This is impacting on us on an hourly basis – as soon as plans are lined up, everything changes. This sometimes results in delays of six to eight weeks. The knock-on effect of the pandemic on our MRO team is that we have no sub-contractors on site and are down to our permanent staff. It is certainly a challenging time requiring us to be responsive and reactive," he states.

The inability of technical representatives to travel has required companies to rely more heavily on redelivery service providers based in countries where redeliveries are occurring, remarks Jim Geer, SVP, Asset Management Group at GA Telesis.

Geer observes that the situation has led to more cooperation between lessors, lessees, and other redelivery service providers who need assistance in cases where their internal teams usually have travelled. "Here at GA Telesis, we have seen an increase in requests for our own redelivery services provided by both, other aircraft owners and airlines due to their inability to travel into the United States or avoid a quarantine to do so. The pandemic environment has also produced a need for airlines and ferry crews to get creative to minimise, if possible, the burden

“If the aircraft were to lose its records, it would have no value at all.”

*Malcolm Chandler, Head of
Commercial and Marketing, Vallair*

placed on the flight crews after ferrying aircraft to their final redelivery destination."

Clearly, the demands of the industry today, and in part exacerbated by the COVID-19 pandemic, has seen a steep rise in the number of aircraft transitions. From a technology perspective, Mihai-Aurel Mazare, the Senior Product Owner at SWISS-AS notes that MRO software must ensure that it meets the needs of the OEM's, operators and lessors and play its part in the process. "The future will bring a new AMOS programme dedicated to the aircraft transfer management projects. Its objective is to support and streamline customers' aircraft transition processes even further."



Ricardo Fong, eMobility Development Manager at TRAX



Jim Geer, SVP, Asset Management Group, GA Telesis

Mazare further explains that one of its envisioned features is to aid the mapping of the incoming aircraft data and automatically align it with the receiver's maintenance requirements data. "Another priority of the new programme is augmenting airworthiness engineers' decision making for the fastest, most cost efficient and seamless integration of the asset in their fleet. Think about an AMOS programme that will be able to determine the optimal content of a bridging work package, thus minimising the ground-times, maintenance and overhead costs."

Obligations and conditions

In terms of redelivery conditions, clarity is paramount under a lease, in terms of the main obligations of the lessee and the lessor for the maintenance status of the aircraft. Typically, everyone wants to see the aircraft ready and cleared one C-check ahead but, in bulk aircraft deals with possible repossession and new start-up relationships, at AJW they have seen significantly shorter periods, according to Pankov.

Fong at TRAX says ERP and MRO systems, such as eMRO and eMobility suite by TRAX, have full data digitisation for all components that allows for the level of detailed history needed for lease return agreements. He explains: "For example, life limited parts have full back-to-birth traceability records and compliance information resides in the eMRO system. Having a completely digitised integrated engineering, maintenance, financials, logistics and records system can potentially replace the need for outsourced or in-house dedicated aircraft or engine redelivery teams by allowing existing technical records teams to prepare a lease return package quickly and easily."

Fong reports that one TRAX customer that uses the eContent Control app reported 60% to 80% savings on the lease return process that represents \$100,000 per aircraft in savings. He says additional savings include a 60% reduction in offsite physical data storage, and 80% reduction in human errors due to digital records and better auditing.

Fong continues: "Airlines and MROs are increasingly digitising their transactions, yet many lag behind in 100% digitisation. It is not unusual for TRAX to work with an operator to implement the eMRO system and still encounter the use of Excel spreadsheets and documentation outside of the maintenance system of record they are replacing.

"Another challenge is the lack of standardisation for digital data exchange in the aviation industry. There are organisations that are taking initiatives to foster industry-wide standards, such as ATA e-Business Forum and others. TRAX participates in these working sessions and includes efficient data transfer options such as Spec 2000," Fong adds.

Adherence to the storage procedures is paramount too, comments Chandler from Vallair. He says even whilst the aircraft is in storage, there are repeat tasks and inspections to be done, these include fuel water checks, desiccant inspections, and changes, checks for build-up of foreign objects such as birds' nests which can often be found in the flight controls and ensuring all bungs and air intake blanks and covers remain in good condition. "In addition to this, we would be constantly carrying out general visual inspections for leaks in hydraulics, and fuel, as well as ensuring that all ground support equipment is properly secured so there is no chance of damage to the aircraft due to equipment being blown in the strong winds associated with airfields."

Geer from GA Telesis reminds that typically, the lessee has a set of maintenance status obligations defined as minimums. He explains that the purpose of these minimums is to allow the lessor to deliver the aircraft to the next lessee in a condition that enables the new operator to avoid significant maintenance events during the first year or two of their operation. "In other cases, there are return conditions described only for reference purposes that drive a financial calculation, which results in a payment from lessee

to lessor if these reference conditions are not met or from lessor to lessee if these reference conditions are exceeded."

In some leases, Geer further adds that both concepts exist with the minimum requirements providing a "floor" beneath the reference conditions, which the lessee cannot go below. "Provided all of these conditions are met, the lessor is then obligated to accept the aircraft's redelivery and, in most cases, return the lessee's security deposit."

Records review and aircraft values


Aircraft records are the value and airworthiness of the aircraft, highlights Vallair's Chandler. "If the aircraft were to lose its records, it would have no value at all. Potentially this would mean that any aircraft whose records have been lost would be scrapped due to the cost of replacing the engines and landing gear alone."

Unless the records are correct, Chandler says the aircraft cannot move on until the records are in order, which could mean a component change, reinspection or redoing an existing repair – all of which are expensive and time consuming. "The records are imperative. If we receive an aircraft as a repossession, we will go through the applicable paperwork and the remainder would be checked on an inventory basis – for a typical aircraft, a ship set of records would be around 30 to 40 boxes."

The records review is a process that is crucial for every aircraft. Normally this would include collection of all data of interest to determine the current maintenance and airworthiness status of the aircraft, identification of the discrepancies against a given regulation or an agreement delivery clause, determining



Mihai-Aurel Mazare, the Senior Product Owner at SWISS-AS



“Airlines and MROs are increasingly digitising their transactions, yet many lag behind in 100% digitisation.”

Ricardo Fong, eMobility Development Manager, TRAX

The records review is a process that is crucial for every aircraft.
Photo: Win Air

the relevant corrective actions and reporting all findings and data of interest in a comprehensive report. “It is impossible really to put a time frame on it as it depends on the aircraft age and the quality of the stored records, so in reality this could take anywhere between one and twelve weeks,” Chandler states.

Mike Cazaz, CEO and President at Werner Aero Services notes that the records review can be a time-consuming process especially if the aircraft or asset has a varied history - as the demand in the aftermarket for back to birth documentation is becoming more prevalent. “Missing one piece of information, if it is an LLP, could impact the value of an entire aircraft (or engine) and the ability to market the aircraft as a flyer in the future. It is especially critical in a case of operators’ bankruptcy as any potential future problems with documentations will not be able to resolve since there will be no organisation to address that with,” he highlights.

Pankov from AJW stresses that the records review is the most important task for each party implicated in the chain of events from lessee redelivery to lessor possession, to new lessee acceptance. He says the proper completion of the task by the lessee’s team gives precious time for the procurement and the onsite team to avoid unnecessary delay. “The lessor’s records team is equally important to avoid any undue financial exposure on the lessor’s side for any findings identi-

fied from the next lessee. Any gaps in the due diligence process may indeed devalue the asset or render a deal void, leaving the aircraft susceptible to further maintenance. The next lessee could also have exposure from improperly carried out records review during their operation or even at redelivery. We often find customers requiring immediate supply of parts that could have been properly planned in advance.”

AJW offer a full lease redelivery service ensuring that lease returns are managed effectively with cost transparency and comprehensive processes.



Mike Cazaz, CEO at Werner Aero Services

To meet the expectations of the industry, Mazare from SWISS-AS says AMOS relies on complex and dependable functionalities to ensure maintenance records traceability and correctness. “These combined with the standardised format of Spec2500 provide substantial advantages over paper-based process,” he indicates.

AMOS Spec2500 export allows users to generate comprehensive aircraft records data sets with ease and great flexibility, he tells. Mazare continues saying multiple export configuration options are available for each chapter, permitting a highly tailored output to satisfy any particular asset records review use case – “This flexibility and the high data quality speeds-up the records review process. High levels of data quality and consistency are not only essential in performing aircraft transitions in the best possible manner, with the least waste of time and effort, but are crucial in retaining assets’ value and marketability.”

The records required to lease an aircraft are often different from the level of documents necessary to sell the same asset. To maximise the value of an aircraft over its complete life cycle, one also needs to be familiar with the level of records required to sell the parts from the aircraft, which may again be different. MRO’s and aftermarket specialists such as GA Telesis are involved in all these activities.



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Many operators are using this period to reassess their operations.

ENVISION

the future of MRO software

attempt to adapt generic ERP solutions to work for aviation, but the industry is so complex and unique that this approach rarely works well for the customer. We develop all of our functionality from the ground up with aviation processes in mind and work closely with our customer base to ratify our ideas."

Rusada continues to develop an entire suite of mobile applications.
All photos: Rusada

Rusada began life as *Russell Adams* back in 1987. Their first piece of software was a solution for a single customer to manage a small fleet of aircraft. Over the past 30+ years that solution has evolved into ENVISION, Rusada's flagship product. Today ENVISION is used by over 100 customers from 40 different countries to manage a combined fleet of 2,000+ aircraft.

According to Rusada CEO Julian Stourton, the past three decades of continued growth can be attributed to one key factor. "For me, the one thing to get right in any business is the people you work with. We pride ourselves on the abilities of our staff and how they represent the company. When we grow our teams, we always look for candidates with aviation experience, so they understand our customer's environment and the difficulties they can face."

Stourton goes on to explain how this focus on aviation separates Rusada from many of its competitors. "ENVISION is dedicated purely to aviation and has been since its inception. Other providers

ENVISION's functionality is split into three key areas: airworthiness, MRO and flight operations, with multiple modules within each of these that can be adopted as per the customer's needs. It is used by aircraft operators and maintenance providers from all sectors of the industry to manage both fixed and rotary wing aircraft of all shapes and sizes. "The diversity of our customer base is very important because it allows us to identify and pass on the best practices from each area of the industry," comments Stourton. "Many of our customers operate a mixed fleet configured for multiple roles so it's imperative that ENVISION works for them in all situations."

Having multiple aviation disciplines in one solution allows organisations to utilise one software instead of several, simplifying their internal processes and eliminating data errors between systems. "Our customers have found that by replacing multiple systems with ENVISION, they remove the silos between their different departments. With everyone using the same platform and on the same page, teamwork can thrive and significantly increase efficiency" says Stourton.

A challenging year

As with most in the industry, 2020 was a year of many challenges for Rusada. Stourton explains, "Many of our customers have seen their operations dramatically reduced, whereas others have been less affected. We have been as flexible as possible with our customers to help them through this period. In terms of our own operations, our development and support functions have continued largely unchanged with all staff now working from home. The area that has seen change is our client services department, responsible for implementing ENVISION to new customers. This is a task often conducted in-person but with the current travel restrictions in place, we have had to transition to virtual implementations, using an array of tools such as videoconferencing and project management software to get the job done."

"As well as continuing projects that began before the pandemic, we have also had situations where customers sign-up, implement, and go-live completely virtually and without us ever meeting them in-person, something I never thought I'd experience."

For those customers who have seen a significant slowdown to their operations, many are using this period to reassess their operations and understand how they can become more efficient. "We've seen customers undertake a complete top-to-bottom rethink of how they operate, weeding out any redundant processes, duplicated actions, or unnecessary reports. One of our customers discovered that prior to the pandemic they were only using about 45% of ENVISION's functionality in their day-to-day routines. Having completed a review of their operations they are now using 80% of the system and expect to see significant efficiency gains once their operations are up and running again."

Looking forward

Rusada see digitisation and mobility as the key elements of maintenance software in the future. "Our aim is to get to a point where our customers don't require a printer in their office. Now, some of this will depend on changes within regulatory bodies, but in the meantime, we are focusing on



Rusada see digitisation and mobility as the key elements of maintenance software.

digitising any processes that still require paper or spreadsheets to complete".

One example of this is ENVISION's electronic maintenance task card functionality. Rather than technicians requiring paper task cards, or static PDF's to assist in maintenance execution, ENVISION allows task cards to be imported from the aircraft maintenance manual directly into the system, where they can be authored by the organisation to include supplementary tasks, additional notes, and sign-off permissions. "From one screen an engineer can view all the task details, request parts and sign-off electronically. This saves users a significant amount of time and ensures complete data accuracy across the operation."

Alongside this, Rusada continues to develop an entire suite of mobile applications to augment these digitised processes. "One of the key benefits of a digitised process is the ability to conduct it anywhere and on any device. Our upcoming apps look to streamline these tasks for mobile devices, only presenting the actions and information required by the user."

Stourton goes on to explain how certain applications will have the ability to continue working even without an internet connection. "From talking to our customer base, we have realised that even in the year 2021 a stable internet connection is still not always available in maintenance facilities, especially in remote locations. Therefore, we have designed apps that can function in both planned and unplanned offline scenarios, allowing users to continue working wherever they are."

Rusada aims to launch three more of these apps in the first half of 2021, as the industry attempts to return to normality. "We think this year will be one of gradual ramping up as vaccines are delivered and people are able to fly safely again. What will be important in this phase is the ability to operate a streamlined service with reduced resources, and this is where a system such as ENVISION fits in perfectly, allowing organisations to utilise their aircraft, capacity, and staff to the maximum. This will certainly not be an easy period, but one we are more than capable of getting through together as an industry."



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Q & A

In the
hot seat.....

Fraser Currie

Chief Commercial
Officer, Joramco

What attracted you to this business?

Aviation has been my career and passion since I joined the industry at 16 years of age. I have worked across several sectors both civil and military and rotary and fixed wing. Having previously run an airline in Bahrain what attracted me to Joramco included several factors: The CEO, the people, the scalability, the sector (airframe MRO) and the geographical position (Jordan). Having the opportunity to join a team led by an industry giant such as Mr. Jeff Wilkinson was an easy decision to take and the challenge of; developing, transforming and growing the business were the ultimate attraction factors.

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

To be part of the team that manages one of the largest global airframe MRO's it is fair to say that no two days are alike, however, that said its variations on a common theme, so you can plan your day around certain norms. The day actually starts the night before in terms of ensuring that priorities are set and all identified actions are executed. The key elements that make up a typical day are:

- A Team meeting with managers from all departments.
- Addressing any factors that will ensure efficient and effective progress on all 17 lines of maintenance.
- Setting priorities and ensuring that the team are all bought into the same priorities.
- This sets up the day and allows progress to be driven.
- After priorities are set the day is focused on customers and working to either achieve or exceed their expectations. This priority can come in many guises from agreeing commercial contracts to ensuring that additional work requests are dealt with effectively.
- By the time we get to mid-afternoon we are already able to gauge our effectiveness in terms of projects and a further review of actions and objectives is undertaken.

Therefore, each day is planned for thoroughly but with sufficient flexibility to allow us to be a customer facing organization.

Briefly, give us an overview of the business activities at Joramco?

Joramco manages 17 lines of parallel aircraft airframe heavy maintenance, covering both wide body and narrow body types. A typical day will see five wide bodies and 12 narrow bodies in the hangar, ranging in type mix from B777 to Embraer 190.

How are you managing MRO operations during the COVID pandemic?

During the period since March 2020, we have seen many differing scenarios due to Covid 19, whether that be; travel restrictions or regional spikes in cases. Joramco has taken the stance to ensure that our approach is driven by our duty of care to our staff and our customers for the personal safety and well-being. In this regard we have been able to continue our operations throughout the pandemic whilst ensuring both business continuity and the safety of all.

What are your biggest challenges at Joramco currently?

The biggest challenges we face today are ensuring the wellbeing of our staff and delivering the changing needs of our customers. Nobody is accurately able to predict the period that Covid 19 will extend to, therefore it is our duty and responsibility to adapt to these unique challenges and ensure that procedures are in place to provide a secure and healthy environment for all staff and customers.

At the end of 2020, the company recorded 50 aircraft at its facility. Was this an annual figure and how was this achieved?

As we stand today Joramco has 60 aircraft under its care, this figure has been driven by Covid 19 with 28 of those aircraft being in long term parking. Therefore, the rest are either in maintenance or in preparation to be inducted or on finals to depart. Therefore, this is a daily figure and one that we expect to continue for the foreseeable future.

With airline operations scaled down, which sectors of the business are you looking to grow opportunities?

It is devastating to see our customers fleets scaled down and we all long for the day that normal traffic numbers return. We continue to expand our heavy airframe capabilities by adding not only capability to existing types but by adding types. With such a wide capability our plans are focused on increasing our footprint both in terms of hangars, geography, and people.

What are your projections for 2021?

In 2020 we had to adapt and change to the world situation but the situation is improving daily. Whilst we feel passionately for those businesses that are still suffering, here at Joramco its business as normal. Therefore budgets are challenging and we expect 2021 to return to the levels we previously budgeted for pre-pandemic.



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Alessandro Luzi

ATR has appointed **Alessandro Luzi** as Managing Director of the company's Eastern Support (AES) subsidiary, based in Singapore, effective as of March 1, 2021. Luzi joined ATR in 2008 as Cockpit and Cabin Design Engineer and has since developed with leadership roles as Head of Aircraft Interiors and Systems Installation and subsequently leading the development of the ATR 72-600F as the project's Chief Engineer. He will replace

Jean-Pierre Clercin who will become ATR's Head of Sales for the Asia Pacific Region, and will continue to work from the Singapore offices. The ATR Eastern Support Facility has also officially moved premises from Changi Business Park to Seletar Aerospace Park, where it will be located alongside the ATR Training Centre, on the Airbus campus, in the local aerospace cluster. The relocation also provided an opportunity to upgrade the ATR-600 simulator to the latest avionic standard 3.1, improving the visual system and qualify UPRT and full-stall and icing capabilities.



Harald Gloy

Harald Gloy has been appointed to the Executive Board of Lufthansa Cargo AG for a further five years. The company's Supervisory Board unanimously extended his contract until December 31, 2026. In addition to responsibility for Operations, Gloy has also assumed the role of Chief Human Resources Officer as of March 1, 2021 and thus, as part of a restructuring within the Cargo Executive Board, will henceforth also bear responsibility for Human Resources and Procurement at the company.

Gloy has been with the Group since 1999 and was appointed Chief Operations Officer of Lufthansa Cargo AG on January 1, 2019. Previously, the industrial engineer held various management positions at Lufthansa Technik.

GA Telesis has named **Fred Sontag** as Vice President Sales, Americas for the Flight Solutions Group (FSG). In the role, he will oversee all sales responsibilities, including USM material, Tooling/GSE, OEM parts distribution, and logistics services in the Americas region. Sontag joined GAT in December 2020 with a wealth of experience in various sales, support, and business development roles over the span of 25 years in the OEM and aftermarket space. In addition to his sales duties, he will also retain his responsibilities as Vice President, Distribution Solutions Group for the near future.



Uwe Zachau

MTU Maintenance, a global leader in customized service solutions for aero engines, makes leadership changes on the North American continent with two new managers. Experienced leader **Uwe Zachau** assumes the role of Managing Director and CEO of MTU Maintenance Canada on March 1. Furthermore, industry insider **Nezam Moghadassian** took over the role of President and General Manager of MTU Maintenance Dallas in December 2020. Zachau will be heading up the facility in Delta, B.C. He takes over from **Helmut Neuper**, who ran the facility over the past four years and left the company of his own accord.

Chapman Freeborn has appointed **Allen Liu** as Cargo Director, North Asia. With 15 years' experience in aviation, Liu begun his career in 2006, gaining industry knowledge at several air cargo businesses before taking on a senior role as Cargo Manager China at Chapman Freeborn in 2013. After five years generating and developing business in the Chinese market for Chapman Freeborn, Liu joined Air Bridge Cargo in 2018. However, the success of his time at Chapman Freeborn pulled him back, and he has now re-joined the company. His role is to develop the North Asian market, working to expand Chapman Freeborn's presence in Japan and Korea, as well as in Hong Kong and China.



Olaf Christoph

MRO service provider SR Technics has announced that **Olaf Christoph** has joined its Business Development team. Christoph comes to SR Technics after nearly twenty years as Sales Director for new engines and engine services at GE Aviation, where he handled the accounts of several major airline customers in the European region. Prior to that, he spent a decade in various manufacturing roles, including quality management, production, and industrial engineering. With the addition of Christoph, the Business Development team, headed by Senior Vice President **Caroline Vandedrinck**, will continue to accelerate growth in the company's core areas such as engine services and line maintenance thus consolidating its strong position on the MRO market, leveraging opportunities based on the current industry outlook and emphasizing its longstanding commitment to an outstanding customer experience.



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