MRO BUSINESS TODAY

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AIESL to service Pratt & Whitney GTF fleet in India

Air India Engineering Services (AIESL) has signed a contract with Pratt & Whitney for the MRO services of PW1100G-JM engines at its facility in Mumbai, India. This work will be done in a phased approach, starting with engine upgrade and module exchange capabilities as immediate support of the GTF fleet in India. The facility has already received its first GTF engine.

"With AIESL performing maintenance on our high-tech GTF engines, we are excited to strengthen our global MRO capacity and capabilities for customers on the ground in India," said Joe Sylvestro, vice president of Aftermarket Operations at Pratt & Whitney. "As the demand for air travel grows in India, we look forward to furthering the growth of Indian aviation."

"It's an exciting time for us as we prepare for the GTF engine," said HR Jagannath, CEO of AIESL. "AIESL has been engaged in providing engine MRO services to Air India and other operators for over 50 years now. Our association with Pratt & Whitney goes back a long time as well. The GTF engine provides us with the opportunity to showcase our capabilities and establish AIESL as one of the premier engine MROs in Asia."

Some salient features of the GTF engine:

- The GTF engine has saved Indian operators over 90 million gallons of fuel
- It has more than 800,000 metric tonnes of carbon emissions since its entry into service
- The GTF engine has demonstrated its promised ability to reduce fuel burn by 16 per cent, to reduce nitrogen oxide emissions by 50 per cent

"Pratt & Whitney is committed to investing in the success of the aviation industry in India, and to build capabilities for high value services that will help airlines get the best from their next-generation products," said Ashmita Sethi, managing director of India for Pratt & Whitney. "These services based on deep knowledge and expertise of the manufacturer, once performed in India, will save customers the downtime, disruption and costs, by keeping GTF engines flying longer, and getting them back on the wing, sooner. We remain dedicated to providing world-class support to our customers and their operations today and into the future."

Pratt & Whitney's state of the art Customer Training Centre in Hyderabad provides maintenance training to India's growing aviation workforce.

Pratt & Whitney powers more than 700 aircraft in service today in India, including more than 150 GTF-powered A320neo family aircraft.

High pressure turbine durability upgrade launched for CF34-8 Engines

GE Aviation has launched an HPT (high pressure turbine) durability upgrade programme for CF34-8 Engines to improve fleet stability, time on wing and engine's cost of ownership. This programme is available to all CF34-8 operators, regardless of their maintenance, repair and overhaul provider.

BeauTech and Sky Regional Airlines are the launch customers for this programme.

"During the last 12 months, we have been focusing on driving durability into the CF34-8 engine through several enhanced design improvements," said David Kircher, general manager of Regional Engines and Services at GE Aviation. "The HPT durability upgrade programme will stabilise the engine's operation and reduce unscheduled engine removals and significant events, allowing CF34-8 customers to more effectively plan their operations."

"We appreciate GE's continued support in improving the durability and cost effectiveness of the CF34-8E engine through support programmes like this," said Sky Regional CEO and founder Russ Payson.

"We are pleased with GE Aviation's continued investment in the CF34-8 engine. This HPT durability upgrade programme will solidify our long-term commitment to invest into this engine platform," said BeauTech president and CEO Lee Beaumont.

Due to this programme, upgraded parts that can be incorporated into the engine during its next overhaul. These parts are listed in a series of Service Bulletins that GE issued and include components in the fan, compressor, combustor and HPT modules. These upgraded parts offered at a significant discount combined with the improved durability and time on wing will bring the total cost of ownership in line with customer expectations.

Under the CF34-8 HPT durability upgrade programme, GE Aviation will provide customers with upgraded parts that can be incorporated into the engine during its next overhaul. These parts are listed in a series of Service Bulletins that GE issued and include components in the fan, compressor, combustor and HPT modules. These upgraded parts offered at a significant discount combined with the improved durability and time on wing will bring the total cost of ownership in line with customer expectations.

Lufthansa Technik's innovative projects on first 5G private wireless network

Lufthansa Technik used its own private wireless 5G network for two innovation projects. The first project was in the field of VIP completion and the second was engine overhaul. Both these projects had a very high demand for bandwidth for wireless data transmission.

"Continuous innovation is part of our corporate DNA, and this is what drives us to constantly try out new approaches," explained Soeren Stark, Member of Lufthansa Technik's Executive Board, responsible for Technical Operations, Logistics and IT. "The first two application cases already impressively demonstrate the valuable contribution 5G technology can make to the aviation industry. It will also pave the way for numerous new innovations at Lufthansa Technik that will benefit our company, our employees and also our customers".

"The German economy needs 5G. We have 5G. As a partner in all things 5G, we want to help our industry to maintain its leading position into the future. Those who build on new technology today will be one step ahead tomorrow," said Hannes Ametsreiter, Chief Executive Officer of Vodafone Deutschland. "We support our partners in bringing 5G to their daily business as soon as possible. To the factories, to the business parks and now even to aircraft hangars. With individual campus networks perfectly tailored to the needs of our partners."

Kathrin Buvac, President of Nokia Enterprise, said: "This application captures the essential value of fast, secure 5G private wireless networking to help improve operational efficiency, productivity and service. It highlights the potential for new ways of working that benefit not only our customers, but also the markets they serve."

Lufthansa Technik is one of the first companies in Germany to use its own private wireless network to operate a fully-fledged standalone 5G network based on the new standard (3GPP Release 16) in an industrial environment.

For testing the technology, Lufthansa Technik has set up two separate private 5G networks at its Hamburg base, with different technology and network providers (Vodafone and Nokia). Instead of extending publicly available mobile networks to the Lufthansa base, a completely independent infrastructure has been installed, with its own antennas and servers that can only be accessed by Lufthansa Technik. Therefore, "LH-Technik" appears as the network operator in the display of the mobile devices used.

The new 5G network technology will benefit two innovation projects, with which the company is testing new technologies in the areas of engine overhaul and VIP completion. One project uses augmented reality to virtually visualise the 3D design data of the planned cabin interior in empty aircraft fuselages. By means of live data transmission, the technicians on site always have the opportunity to check the current position of all planned components and, additionally, to coordinate any necessary changes with the developers through collaborative video functions.

SalamAir hand-in-hand with Communication Software's 'OASES'

Oman's first low-cost carrier, SalamAir has signed Communication Software's OASES engineering and maintenance platform. SalamAir will be using several OASES modules, all of which will be implemented on Commsoft's private cloud.

Nick Godwin, Commsoft's Managing Director, said "We are very pleased to be working with SalamAir, one of the fastest growing low-cost carriers in the Gulf region. We look forward to a rapid implementation and a long successful relationship."

The implementation will start with the materials module in the next month and CAMO implementation will commence as new aircraft arrive. The modules include its core, airworthiness, planning, materials, line maintenance control and warranty modules.

Captain Mohamed Ahmed, CEO of SalamAir, said "It is a pleasure for us to be collaborating with OASES one of the most thriving aviation engineering and maintenance systems in the world. The new cooperation will be an additional value to SalamAir operation, and it is in line with airline strategy to equip the company with the most innovative technologies. SalamAir has achieved growth in its operations and has expanded its reach across the region serving customers across cross section of society. SalamAir will continue to focus efforts on how to adapt, innovate and connect the world in better ways. Such agreements will help us achieve our objectives."

OASES or Open Aviation Strategic Engineering System is now used to support 130 aviation customers in over 55 countries, operating on six continents and is considered as one of the most successful aviation engineering and maintenance systems in the world.

Exclusive Interview

'Aerogility' - Combining component & heavy-base maintenance in a single solution

"Aerogility's Software as a Service (SaaS) offering has the capability to combine component and heavy-base maintenance in a single solution", says **Gary Vickers,** CEO of Aerogility. Apart from speaking about the software he also spoke about how artificial intelligence plays a role in predicting the unpredictable?, the role of advanced technologies like additive manufacturing and intelligent machines in shaping the current MRO industry & the current market trends. For all this and much more below are the excerpts of Gary Vickers exclusive interview with **Swati.k**

Q Aerogility's predictive maintenance solution will forecast the power plant visits for SAS. How do you see the expansion of this into heavy maintenance? Can the predictive maintenance technology be used for airline advantage for C & D checks?

A We have worked hard to ensure Aerogility is a completely scalable solution and able to run on the cloud. It is a holistic approach which can easily combine power plant, component and heavy-base maintenance in one software solution, so we expect the expansion into other areas of SAS' maintenance capabilities to be relatively seamless. We can model all aircraft maintenance checks in the Aerogility solution which is designed to schedule checks based on multiple utilisation drivers. For example, if a C Check is due on day 730, 7,500 flying hours, or 5,000 cycles, Aerogility will schedule the check when the first of these limits is reached. Aerogility has the capability to merge checks that fall within close proximity to each other, for example the third C Check may fall due at the same time as the first D Check and so ground time can be saved by combining these checks. This helps to synchronise future checks and reduce lifecycle costs.

Q- How does artificial intelligence play a role in predicting the unpredictable?

A- The early work into intelligent software agents and multi-agent systems – which we use in Aerogility - was driven by research into AI and software architectures for autonomous systems. In recent years, big data and machine learning has been fashionable, but we think model-driven AI is coming into its own and is of its time. Model-driven AI enables us to create a digital twin of an airline operator's entire organisation and

generate operational simulations, which is the basis of our intelligent predictive maintenance planning and analytics. Aerogility enables management teams to generate accurate and explainable forecasts of their maintenance activities for both individual aircraft and systems and the whole fleet, driven by the planned operation usage of the assets over a selected period.

Q - How do you see the current market trends in terms of technological advancement & the market competition? How do you plan to stay ahead in this robust competitive market?

A - The feedback from our customers and prospects is that Aerogility is in a unique position and many did not realise that this model-driven predictive maintenance capability was available as a Software as a Service (SaaS) offering. Unlike alternative planning applications, Aerogility has the capability to combine component and heavy-base maintenance in a single solution. The software can generate planning and what-if analysis scenarios quickly and easily for comparison and optimisation of maintenance processes. Aerogility's customers can generate complex schedules automatically with insightful integrated predictive analytics. Airline operators can immediately assess the impact of a change, extension or delay in their maintenance process. The system will find the best solution available in a scenario for a set of operational parameter options using embedded optimisation technologies.

Aerogility's interoperability means that it automatically loads inbound fleet status data and downloads simulation output data in a variety of formats, for example, PDF reports or Microsoft Excel, Project and even PowerPoint.

The AI model at the centre of Aerogility is based on our library of software agents covering every aspect of an aviation operation. These agents are highly configurable and re-usable. The software can be implemented within a few weeks and immediately start delivering benefits by addressing a wide range of complex planning and what-if forecasting questions without laborious manual effort. The model is holistic in its scope, rather than developed for a narrow set of questions or issues, which means customers can implement the model once and answer multiple questions many times in a broad decision-support capability.

Q - Accurate prediction of maintenance cycles to maximise fleet availability is a tough task. What were the different challenges that you've faced over the years while dealing with predictive maintenance software? Can you recall any one such specific incident and how did you solve it?

A - One of the key benefits of our Aerogility multi-agent model is that the software represents all the autonomous elements of maintenance and engineering organisations and handles all the complex interactions that can happen. These activities are very challenging and time consuming using conventional planning tools or two-dimensional spread sheets. We can create new and improved versions of our agents, which we can drop into the model without having to re-write software. The benefit of this is that we increase the complexity of the simulation behaviour in stages with frequent feedback from the stakeholders.

An important element of our optimisation capabilities is our scheduling algorithms that are primarily focused on maximising planning yield, which means getting the maintenance event as close as possible to the aircraft's 'due date'.

Aerogility models are highly configurable and different versions of a what-if scenario can be created easily, resolving simultaneously several operational constraints in the process. For example, Aerogility users can resolve planning goals with MRO capacity and MRO capabilities, maintenance shutdown periods set by the customer, or limits on the number of aircraft that can be in maintenance at any given time.

Our experience is that fleet managers and maintenance and engineering teams are highly receptive to the idea of our holistic software agent model - representing the whole of their operation – and running simulations that automatically generate the plans and analytics needed to develop maintenance policies or run a program. This is a radical breakthrough for people who have struggled with solving hard problems using labour-intensive spread sheets and have constantly had to play catch-up in a dynamically changing environment.

Q - Advanced technologies like additive manufacturing, intelligent machines have already starting to shape the current MRO industry. How do you see the future of global aerospace MRO industry about 10 years from now?

A - Over the next ten years, we are certain that there will be a convergence process between data-driven and model-driven approaches to AI. The predictive insights gained from big data are very powerful, but aviation companies don't have unlimited maintenance and engineering resources. They need to optimise their options to align with how they plan to respond to a new fleet or asset status. This is where Aerogility comes in.

There is growing interest in model-driven AI because it is easier for humans to understand the results and how a decision was arrived at. This has the effect of making the outcomes safer and more trusted. This corresponds directly to the benefits you get from Aerogility's plan optimisation and what-if analysis; the agent-based simulations are transparent and the results are 'explicable', which means the output is more likely to be safe and trusted.

We are excited about the possibility of working with aviation teams to build on the insights gained from big data and using Aerogility to properly leverage this with actionable maintenance plans and policies, optimising constrained resources and budgets.

Q - Aerogility is used by some of the world's largest civil and defence aviation brands. After easyJet and SAS what is the next plan of action for Aerogility?

A - Since deploying a fleet maintenance planning platform with easyJet, we are working with fleet planners to improve aircraft planning yields and drive out efficiencies and cost savings across the whole maintenance and engineering organisation. We plan to continue expanding into the civil aviation market while maintaining our strong position within the defence sector.

Duncan Aviation robust rapid response teams to tackle AOG

Duncan Aviation has come up with a robust plan to tackle AOG or aircraft on ground. They have developed teams of rapid response technician with more than 150 years of combined experience who are ready to respond and hit the road at a moment's notice.

These teams are based on Duncan Aviation's main facilities in Lincoln, Nebraska; Battle Creek, Michigan; and Provo, Utah.

Tyler Spurling, Lincoln AOG Airframe Team Leader, says, "The team is capable of going on road trips just about anywhere with a moment's notice." It is common for team members to travel by road or air to meet customer needs as quickly as possible. They bring the tooling and supplies necessary for the job and focus on getting the customer back in the air as quickly as possible.

The Lincoln facility has a total of eight airframe rapid response technicians while the Battle Creek, Michigan, facility has a team of six. Five of the six currently are 91.411/413 Certified, which allows them to work on altimeter system and altitude reporting equipment tests and inspections, and can handle a wide variety of avionics AOG services.

The team cross-trains with one another whenever they can.

Regarding the equipment and capabilities for the trips involved, Ferdon said, "The team has three vehicles for road trips, two portable mules, and an Air Data tester, so plenty can be handled without impacting a customer's hangar."

Finnair leading the path to carbon neutrality with Neste

Neste and Finnair have signed a partnership to increase Finnair's use of sustainable aviation fuel. They will also work together to define ways for corporate customers to be able to reduce the CO_2 footprint of their travel with sustainable aviation fuel

As a part of Finnair's long-term target of carbon neutrality, the agreement will not only will gradually and considerably increase Finnair's use of sustainable aviation fuel in its operations but also boost the production of sustainable aviation fuel in Finland.

"We are excited about increasing the use of sustainable aviation fuel in our operations from our Helsinki hub," said Finnair's CEO, Topi Manner. "Sustainable aviation fuels are a key part of our long-term plan for carbon neutrality – by the end of 2025, we expect to spend some 10 million euros annually on sustainable aviation fuels. Developing a healthy SAF market requires commitment from forerunners, and we are happy to be leading the way with Neste."

"Decreasing emissions from aviation calls for cooperation, as this challenge cannot be solved by anyone alone," says Peter Vanacker, Neste's President and CEO. "We are very pleased to cooperate with Finnair, and support Finnair's carbon neutrality target. Besides the fuel supply, this partnership offers us an opportunity for contributing to our own climate targets by decreasing CO_2 emissions of our employees' business travel with Finnair through the use of Neste MY Renewable Jet Fuel."

Advantages of using sustainable aviation fuels:

1. They reduce the CO_2 emissions by up to 80% compared to fossil fuels.
2. They can be used to make air travel more affordable in future.

As a part of affordable air travel, Finnair will also encourage its customers to support the use of sustainable aviation fuel by offering integrated ticket solutions. These will include a sustainable aviation fuel option later this year and will match the contributions customers make to sustainable aviation fuel with its own purchases. Finnair will also use sustainable aviation fuel to decrease the CO_2 footprint of its own staff duty travel.

"Achieving concrete CO_2 reductions is key to solving the CO_2 challenge of aviation, and to ensure a sustainable future where the benefits of aviation can continue, while its climate impacts are dramatically reduced," adds Manner.

"Currently, sustainable aviation fuel offers the only viable alternative to fossil liquid fuels for powering commercial aircraft. Neste's sustainable aviation fuel is fully compatible with the existing jet engine technology and fuel distribution infrastructure when blended with fossil jet fuel," continues Vanacker.

DC Aviation to perform line maintenance and warranty work for Comlux

DC Aviation Group and Comlux have signed an agreement in which DC Aviation will perform the line maintenance and warranty work for Comlux customers based in Europe and CIS.

Juergen Sehne, Vice President Maintenance & CAMO of DC Aviation said: "Last year we have successfully carried out two A-checks for Comlux' customers. We are very happy that, with this agreement, we can continue and consolidate our excellent cooperation with Comlux."

The 5,700 square meter Stuttgart Airport (EDDS) hangar belonging to DC Aviation will carry out the services for aircraft of the Airbus ACJ Family, Global Express 5.000/6.000, and Challenger 604/605. The hangar is equipped with parts inventory, a certified battery and tire shop, and a maintenance logistics centre.

Arnaud Martin, Chief Operating Officer of Comlux said, "We are extremely pleased with this agreement with DC Aviation, which allows us to serve our worldwide customer base even better. While Comlux has a strong expertise on VIP interior upgrades, and heavy maintenance in our facilities in Indianapolis, DC Aviation offers our European and CIS customers a closer-to-home solution for their line maintenance and warranty needs."

DC Aviation has been offering line and base maintenance services for various types of aircraft since 1999 and is able to carry out exceptionally complex work with the highest level of reliability and competence. Due to 24/365 availability, combined with intelligent planning and smooth workflows, DC Aviation is able to meet challenging ground-times.

Nolinor Aviation's one of a kind training centre for Boeing 737-200

Nolinor Aviation will open a simulator-based training centre for Boeing 737-200 in North America. Boeing 737-200s are still used by many airlines around the world. They are a must for many destinations in Canada's northern regions, as they can land on gravel airstrips. Every day, Nolinor's aircraft transport workers, food and equipment to many mining sites in the North.

Marjorie Lafrance, Human Resources Manager at Nolinor Aviation, explains, "Under regulatory requirements, airline pilots require periodic simulator training to validate their qualifications. Without a flight simulator, airlines must conduct flight training, which is expensive and cannot simulate all situations that may occur in flight."

Being one of its kind training centres some carriers have already contacted Nolinor to discuss contracts to meet their training needs.

Marco Prud'Homme, Vice President of Nolinor Aviation, states, "This unique centre is a significant investment that will generate many opportunities for Nolinor. Among other things, bringing these simulators closer to our operations in Mirabel will help reduce training costs."

Nolinor has acquired the two flight simulators after several months of negotiations with training centres in Florida and British Columbia. Nolinor Aviation will now work with regulatory authorities to set up the simulators, which will be modernised and implemented gradually.

EASA certifies Universal Avionic's ClearVision EFVS

In a latest milestone for Universal Avionics (UA), EASA has certified its ClearVision Enhanced Flight Vision System (EFVS) with SkyLens Head-Wearable Display (HWD).

"The certification of our EFVS with SkyLens is a breakthrough in commercial aviation," said Dror Yahav, UA CEO. "Aircraft operators can now take advantage of major Enhanced Flight Vision capabilities and safety improvements with our proven ClearVision solution," he added. "This marks the first civil certification of a HWD and the first EFVS to land solution for line-fit passenger aircraft. These achievements are yet another milestone in our heritage of introducing first-to-market breakthrough technologies and products."

ClearVision is a complete EFVS solution providing head-up operations combined with enhanced vision (EVS), synthetic 3D terrain display (SVS), and a unique and optimized Combined Vision System (CVS). For utmost flexibility, ClearVision interfaces with a variety of display options: traditional fixed Head-Up Display (HUD) systems, head-down flight display systems, or wearable devices like the "near-to-eye" SkyLens HWD.

All of these options offer pilots unprecedented situational awareness of the external environment surrounding the aircraft, enhancing what they can see with "natural vision" in degraded visual environments and adverse weather conditions, day or night. The SkyLens high-transparency visor is a cost-effective alternative to a traditional fixed HUD and provides unique capabilities with its unlimited field of regard.

Through its demonstrated Visual Advantage, ClearVision provides relief to approach bans under Part 121 operations and allows operators to use its Enhanced Flight Visibility to meet the flight visibility required to depart to a destination or begin an instrument approach. ClearVision enables airlines to operate efficiently and without interruptions in low visibility conditions, generating significant financial savings and unparalleled customer service.

FlightSafety International to train pilots for Pilatus PC-24 on a new simulator

The Paris Le Bourget Learning Centre of FlightSafety International is now offering training for the Pilatus PC-24 Super Versatile Jet with a new PC-24 simulator equipped with the Honeywell Primus Apex avionics suite.

The suite incorporates the SmartView synthetic vision system featuring FlightSafety's latest advances in technology, including the CrewView collimated glass mirror display and VITAL 1150 visual system.

"We are pleased to now offer training for the Pilatus PC-24 in Paris and in Dallas," said Steve Gross, Senior Vice President, Sales and Marketing. "FlightSafety and Pilatus worked to ensure that our customers based in the European Union who operate under EASA regulations can benefit from Level D qualified simulator training. Our highly-qualified and experienced Instructors provide pilots who operate and support the PC-24 aircraft with a wide variety of initial, recurrent, advanced and specialty courses."

The simulator has been qualified to Level D by the United States Federal Aviation Administration, the European Union Aviation Safety Agency, and the Directorate General for Civil Aviation of France.

"Receiving these qualifications demonstrates our ability to design and manufacture simulators that replicate the flying characteristics of the aircraft they represent, and meet or exceed the stringent standards of aviation regulatory agencies around the world," added Steve Gross.

Unilode's digital solution installed at all Swissport stations

In the latest of technology news, Unilode Aviation Solutions and Swissport International Ltd have decided to install Bluetooth readers at all Swissport stations where Unilode's digital solution will be used by customers.

Unilode's digital transformation programme enables to transmit data not only on the geolocation of the ULDs but can also share other relevant information such as temperature, humidity, shock and light, using ULDs equipped with Bluetooth digital tags and a network of Bluetooth readers and mobile devices. It has also won the IATA Air Cargo Innovation Award last year.

Hendrik Leyssens, Swissport Vice President Global Operations, Cargo said, "Our cooperation with Unilode and the introduction of global ULD tracking at our cargo warehouses create added value for our customers and drive the digital transformation of the cargo supply chain and the industry."

Benoit Dumont, Unilode CEO said, "This new partnership between Unilode and Swissport is instrumental in accelerating the implementation of Unilode's award-winning digital transformation programme. Unilode will digitise its entire ULD fleet of 140,000 units with digital tags and create a Bluetooth® reader network in over 250 locations worldwide within the next two years. As Swissport provides air cargo handling and airport ground services to several Unilode ULD management customers worldwide, the installation of Bluetooth readers in Swissport's warehouses will significantly speed up the implementation process and enable all our customers to benefit from the digital solution much sooner. We are pleased with our new agreement and look forward to cooperating with Swissport and strengthening our relationship in all ULD-related areas."

Engine maintenance planning: improving all the time

Author - Phil Cole, Business Manager - Civil Aviation at Aerogility Ltd

In the complex and high-pressure environment of aircraft engine maintenance planning, an intelligent approach is critical. With civil aircraft costing many millions of dollars to buy and maintain over their decades of life in service, MRO programs must be as efficient as possible. Phil Cole, civil aviation business manager at Aerogility, a leading provider of maintenance scheduling systems, investigates.

Predictions are notoriously difficult but, in the world of civil aircraft engine maintenance, forecasting is essential. So many factors need to be considered and so many parties are involved, from engineering and maintenance personnel to MRO facilities, and from original equipment manufacturers and suppliers to lessors and financiers.

The goal is to meet everybody's needs, finding the most cost-effective and business-conscious solution to schedule required services, upgrades and modifications, minimizing the overall impact on operations. The intense competition in the commercial airline industry means chief financial officers scrutinize every expense, seeking out any possible bottom-line gains, and the engine maintenance sector is no exception. Fortunately, intelligent MRO forecasting is developing at speed, changing the way the industry operates - maximizing efficiency and minimizing airline expenditure.

Balance is vital in engine MRO. If, for example, parts of a low-pressure compressor (LPC) need to be replaced by a certain date but parts of the low-pressure turbine (LPT) only need to be replaced by a different, later date, what should happen? Replacing all the LPC and LPT parts at once means throwing away perfectly good and expensive LPT parts not yet at the end of their life. But bringing in the engine for LPC maintenance on one date and then bringing in the engine again for LPT maintenance later is also an expensive and disruptive option.

'Intelligent software agents'

A highly innovative approach to effective decision-making and scheduling is to use intelligent software agents in model-driven simulations – a technology that came out of research into AI. Put simply, these agents act on behalf of other parties, just as agents do in ordinary life. All the stakeholders and physical infrastructure of MRO can be represented by intelligent software agents, including every aircraft in a fleet (and its specific configurations and subsystems) to decision-makers, such as the fleet and inventory managers, and maintenance and engineering facilities. In intelligent predictive software, the agents act autonomously in a simulation of a 'what-if?' scenario. The simulation results are precise forecasts and optimized schedules that fleet managers and planners can use to ensure future levels of aircraft availability and predictable costs.

Cooperation critical

No part of the aviation industry operates in isolation. With so many people involved in the MRO process, communication is important. Modern fleet maintenance planning technology integrates with, and exchanges data with, airline IT systems. Updates entered into IT infrastructure – on matters from the operational status of an aircraft to inventory levels and costing information – can automatically be delivered to the MRO system too. And each simulation generates data that can be exported to IT systems such as business intelligence data warehouses and operational systems or downloaded to products such as Microsoft Excel and Microsoft PowerPoint.

Handling peak season pressure

Airline aircraft availability is critical 24/7/365 but the pressure to keep aircraft flying is particularly intense during the highly competitive, and potentially lucrative, summer season. Planned maintenance must be scheduled accordingly, ensuring sufficient aircraft are available to meet the higher demand and keep services operating. Avoiding heavy base maintenance in the summer becomes critical, often bringing scheduled work forward to the off-peak season. Finding an aircraft unavailable in the peak season, for reasons relating to MRO, is simply no longer acceptable if that maintenance could have been rescheduled by using intelligent forecasting technology.

Adding real-time sensor data

Another exciting development could see maintenance scheduling systems receiving inflight data from engine sensors. Real-time data signals can, for example, warn a particular part is performing poorly or wearing more rapidly than expected, and so prompt a planner to set up an 'early' maintenance check to prevent a failure. The performance data that engines intelligently produce is constantly becoming more accurate and extensive to allow for more efficient and accurate maintenance.

The rapid evolution of MRO forecasting, particularly when using AI and intelligent software agents, is one of the most exciting aspects of modern civil aviation. And the journey is far from over. The scope and accuracy of maintenance planning technology is becoming more impressive every day.

Defence exclusive

GA-ASI and L3Harris Technologies come together for advanced targeting solution

In order to provide advanced targeting solution General Atomics Aeronautical Systems, Inc and L3Harris Technologies successfully integrated WESCAM MX -20 Electro-optical/Infrared (EO/IR) system onto a GA-ASI MQ-9 Remotely Piloted Aircraft System (RPAS).

"The GA-ASI and L3Harris teams have worked closely over the past year to ensure the successful integration of this sophisticated system," said Linden Blue, CEO, GA-ASI. "This is a significant milestone and we look forward to the enduring relationship and growing opportunities with L3Harris WESCAM."

What happens when the WESCAM MX-20 EO/IR system is integrated into the MQ-9 Predator B series of RPAS

1. It supports Intelligence, Surveillance and Reconnaissance (ISR) and Precision Guided Munitions (PGM) missions
2. It is equipped with high-sensitivity multi-spectral sensors for day, low-light and night time missions.
3. It operates with outstanding detection and recognition capabilities from ultra-high altitudes

"L3Harris is proud to partner with GA-ASI to deliver sophisticated technologies for persistent surveillance missions and evolving battlefields," said Jacques Comtois, General Manager, WESCAM, L3Harris. "Being a Team SkyGuardian partner allows us to support our technology's modular growth path with unprecedented levels of innovation and business opportunities globally for leading unmanned aircraft system programmes."

A series of test flights began on February 18th to demonstrate the MX-20-equipped MQ-9's ability to locate and track targets at long stand-off ranges.

Royal Air Force selects SAAB's Digital Air Traffic Solutions at Scotland base

Royal Air Force in the United Kingdom has selected Saab Digital Air Traffic Solutions to provide a Digital Tower system as an Operational Concept Demonstrator at their air force base in Lossiemouth.

The technology will help the RAF to assess the latest technology and evaluate future requirements for Air Traffic Control. Also, the RAF is investigating new concepts and capabilities, which could eventually change the way military ATC is conducted during normal operations and threats.

"The Royal Air Force is collaborating with Saab to develop RAF Lossiemouth's Digital Tower demonstrator which will enable us to explore how we could modernise our air traffic services fit for a next generation air force. This is an exciting opportunity to develop technology that will enhance our personnel's decision-making processes so that we continue to operate safely, securely and efficiently for decades to come," said Chief of Staff - Capability, Air-Vice Marshal Simon Rochelle, RAF.

The advancement in technology in the arena of Air Traffic Control is opening up new avenues for both civil and military airports.

"We are proud to be trusted by the RAF to support their Digital Tower Operational Concept Demonstrator at Lossiemouth. Our extensive experience in digital ATC and focus on security, combined with the RAF's operational knowledge, provide an excellent opportunity for Saab to show how the RAF could benefit from use of our Digital Tower system. The demonstrator will enable the RAF to assess the advantages of digitalisation as well as our new sensor capabilities. Working with the RAF is an excellent opportunity to demonstrate the military utility of our system", said Per Ahl, CEO of Saab Digital Air Traffic Solutions.

The system will be installed at RAF Lossiemouth in Scotland for demonstration and evaluation during 2020 and 2021.

Sikorsky to build 12 more HH-60W Combat Rescue Helicopters for US Air Force

The second Low Rate Initial Production (LRIP) or the latest USD 500 million contract awarded to Sikorsky by US Air Force recently. As per the contract they will build 12 additional HH-60W Combat Rescue Helicopters (CRH)

The award follows a string of significant programme milestones in 2019, including first flight, a Milestone C decision by the Air Force, and award of the first Low Rate Initial Production (LRIP) contract for 10 aircraft

"This second contract award demonstrates the confidence the US Air Force has in Sikorsky's proven ability to deliver and support the next generation combat search and rescue helicopter," said Greg Hames, Sikorsky's CRH Program Director. "Our team works daily - and in close collaboration with our customer - to ensure we build and deliver this highly capable and much-needed helicopter to the warfighter."

Currently seven CRH aircraft are in flight, two of which are with the Air Force at Duke Field, Eglin Air Force Base in Florida, with all aircraft engaging in expanded flight tests to support the path forward to Required Assets Available (RAA). Low rate initial production of CRH Lot 1 aircraft major assembly is underway, with Lot 2 assembly to follow. The programme remains on track to meet contract delivery of RAA in 2020.

The HH-60W is an all-new helicopter based on the proven UH-60M Black Hawk and customised for the US Air Force's rescue mission. The Air Force also assigned the new helicopter its proper name - Jolly Green II

"We respect the long tradition of assigning a moniker that communicates the CSAR mission. Jolly Green II is a fitting tribute to its history and to airmen and women worldwide," said Dana Fiatarone, Sikorsky's Vice President, Army and Air Force Systems. "The name is greatly respected by our workforce - past and present - and it's an honor to build this critical aircraft for the Air Force and bring it to the symposium today to provide our customer with the opportunity to view the Jolly Green II in person. We look forward to continued production and executing on the recent Lot 2 contract award."

Boeing's latest Future Attack Reconnaissance Aircraft – 'FARA'

Boeing's Future Attack Reconnaissance Aircraft (FARA) is the latest agile, fully integrated, purpose-built helicopter offered by Boeing to the US Army.

"We're offering more than a helicopter - we're offering an affordable and fully integrated system for the Army, the mission and the future. We've blended innovation, ingenuity and proven rotorcraft experience with extensive testing and advanced analysis to offer a very compelling solution," said Mark Cherry, vice president and general manager of Boeing's Phantom Works.

FARA is designed to meet the Army's current mission needs while evolving as technologies and missions change. The thrust compounded single-main rotor helicopter boasts a six-bladed rotor system, a single engine, tandem seating and a modular, state-of-the-art cockpit with a reconfigurable large area display and autonomous capabilities.

"We listened to the Army, assessed all alternatives, and optimised our design to provide the right aircraft to meet the requirements," said Shane Openshaw, Boeing FARA program manager. "We are offering a very reliable, sustainable and flexible aircraft with a focus on safety and the future fight."

Boeing FARA has more than 65 years of rotorcraft experience proven advanced and additive manufacturing technology, and product commonality driving down risk and costs. The system will provide seamless capability within the Army ecosystem to include Long-Range Precision Fires and air-launched effects.

JET MAINTENANCE SOLUTIONS appoints Vytis Zalimas as their new CEO

Vytis Zalimas has been appointed as the new CEO of Jet Maintenance Solutions (JET MS). Strong background in aviation, perfect change management skills and ability to develop people are the main reasons of Zalimas appointment.

"Over the years, I have gained valuable leadership and cultural experience, which proves that there are no limits to achieve even the most challenging goals. I have no doubt, that together with my new team, we will gain meaningful victories, which will strengthen JET MS' position in different markets and so will become the leading business aviation company in aircraft maintenance area", says V. Zalimas.

Previously, Vytis Zalimas was leading and transforming different Sales & Customer Care teams for more than 12 years at ICT, Banking and Aviation industries. For the past 5 years, he held the position of Head of Corporate Customers at Telia Company and Head of Contact Center at a major banking institution in Baltic Countries. He has also worked at several Avia Solutions Group companies.

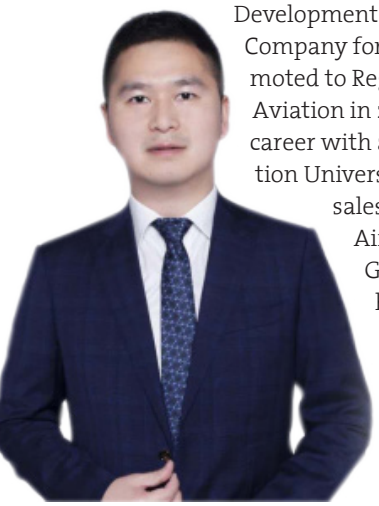
V. Zalimas will take office as CEO of Jet maintenance on March 9, 2020.

Justin Liu appointed as new regional MRO sales manager at Metrojet

In a recent announcement at Metrojet Limited, Justin Liu is appointed as the Regional Sales Manager of MRO effective from 10 February 2020.

Justin will help develop sales strategies and increase Metrojet's market growth along with Hong Kong and Clark MRO teams

"It is my great honour to join Metrojet and work with the team of international experts. I am very excited and looking forward to contributing my sales experience to boost the company's business growth especially with the new Clark hangar facility coming in in Q2 this year," said Justin Liu, Metrojet's Regional Sales Manager, MRO.



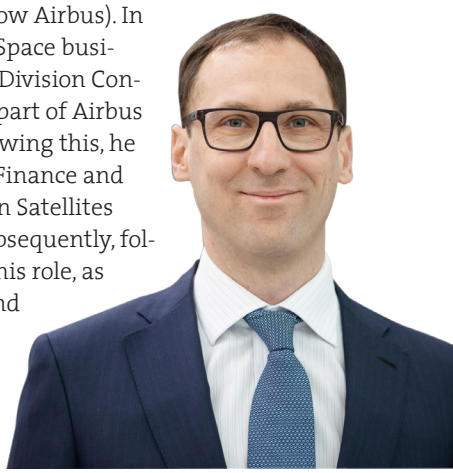
Prior to joining Metrojet, Justin was the Business Development Manager with Cessna Aircraft Company for three years before he was promoted to Regional Sales Director at Textron Aviation in 2014. Justin started his aviation career with a bachelor's degree from Civil Aviation University of China and has held various sales positions at Shanghai Sikorsky Aircraft, China National Aviation Fuel Group and Global Jet Concept, where he acquired business development experience and fostered solid relationships with flight support services, business aircraft charter & management and aircraft sales clients and partners.

Airbus Helicopters appoints Thomas Hundt as the Executive VP Finance

Thomas Hundt is appointed as the Executive Vice-President Finance and Member of the Executive Committee of Airbus Helicopters. Thomas succeeds Linda Honold who was with Airbus over last three decades. The appointment is effective since 1st March 2020. Previously, Thomas worked as Senior Vice-President of Performance Management and Costing for Airbus Helicopters and Managing Director for Airbus Helicopters Germany.

Before joining Airbus Helicopters in 2016, Thomas Hundt was Chief Financial Officer and Senior Vice-President of Arianespace, based in Evry, France.

Thomas Hundt began his career in Airbus in 1998 as Controller in the Tornado Management Company Panavia and then moved in 2000 as Controller to EADS Headquarters (now Airbus). In 2004, he then joined the Space business as Vice-President of Division Controlling at Astrium (now part of Airbus Defence and Space). Following this, he served as Vice-President Finance and Controlling for Navigation Satellites from 2007 to 2011 and subsequently, following the expansion of his role, as Vice-President Finance and Controlling for Earth Observation, Science and Navigation Satellites from 2011 to 2014.



International Events

MRO EVENTS		
DATE	EVENT	VENUE
28-30 April 2020	MRO AMERICAS	Dallas, TX, USA
19-21 May 2020	AP&M EUROPE	Manchester, UK
10-11 June 2020	Engine Leasing, Trading & Finance	London, UK
16-17 Sept 2020	Aero-Engines Europe	Stavanger, Norway
22-24 Sept 2020	MRO Asia-Pacific	Singapore
27-29 Oct 2020	MRO Europe	Barcelona, Spain

AIRSHOWS		
DATE	EVENT	VENUE
12-15 Mar 2020	WINGS INDIA 2020	Begumpet Airport, Hyderabad, India
13-17 May 2020	ILA Berlin	ExpoCenter Airport, Germany
20-24 July 2020	Farnborough International Airshow 2020	Farnborough, England
08-10 Dec 2020	MEBAA Show 2020	DWC, Dubai Airshow Site

OTHER AVIATION EVENTS		
DATE	EVENT	VENUE
09- 11 June 2020	AIR Convention ASIA	Bangkok, Thailand
10 - 12 June 2020	Aviation Data Symposium & AI Lab	Hyatt Regency San Francisco, USA
16 - 18 June 2020	Cabin Ops Safety Conference	JW Marriott Parq Vancouver, Canada
23-24 June 2020	Aviation Festival Asia 2020	Suntec Singapore Convention & Exhibition Centre, Singapore
28 Sept - 1 Oct 2020	World Financial Symposium	JW Marriott Marquis Dubai, UAE
27 - 29 October 2020	Airline Industry Retailing Symposium	JW Marriott Parq Vancouver, Canada

Contact Us:
MRO BUSINESS TODAY

Contact Us: : info@mrobusinesstoday.com
For Advertisement : nancymatthews@mrobusinesstoday.com
For Editorial : editorial@mrobusinesstoday.com