MRO BUSINESS TODAY

Sept 15th, 2023

"Signaling Indian MRO Boon": G20 India showcases Strong Indo-US Partnership

A significant development emerged, as the negotiations commenced for a commercial agreement between GE Aerospace and HAL to produce GE F-414 jet engines in India at the G20 meet.

Prime Minister of India, Narendra Modi with the President of United States, Joe Biden.

In a significant diplomatic event, Indian Prime Minister Narendra Modi welcomed United States President Joseph R. Biden, Jr., to India during the G20 Summit, emphasizing the enduring and close partnership between the two nations. The leaders underscored their appreciation for the substantial progress made in implementing the groundbreaking achievements following Prime Minister Modi's historic visit to Washington in June 2023.

The G20 Summit venue saw the iconic Konark Wheel, a historical relic from Odisha's Sun Temple, take center stage on Saturday, 9th September, 2023. Prime Minister Narendra Modi and POTUS Joe Biden had a chat before a wall adorned with an image of this 13th-century artifact which was also the backdrop for his ceremonial welcome handshake with esteemed world leaders at the Bharat Mandapam in Delhi.

President Biden commended India's leadership during its G20 Presidency, highlighting the forum's role in delivering important outcomes. Both leaders reaffirmed their commitment to the G20 and expressed confidence that the outcomes of the G20 Leaders' Summit in New Delhi would advance shared goals. These objectives encompass accelerating sustainable development, strengthening multilateral cooperation, and building a global consensus on inclusive economic policies to address common challenges, including the transformative and expanded role of multilateral development banks.

PM Modi and POTUS Biden sharing a light moment.

A significant development emerged from the meeting, as the leaders celebrated the commencement of negotiations for a commercial agreement between GE Aerospace and Hindustan Aeronautical Limited (HAL) to produce GE F-414 jet engines in India. This landmark agreement holds immense promise for India's burgeoning aviation Maintenance, Repair, and Overhaul (MRO) sector. Here are the specific benefits for the Indian MRO industry:

Technology Transfer and Skill Enhancement: The co-production and technology transfer associated with manufacturing GE F-414 jet engines in India will lead to the transfer of advanced aerospace technologies and best practices. This transfer will empower the Indian workforce with cutting-edge skills and expertise, positioning India as a hub for high-end MRO activities.

Reduced Dependence on Imports: By manufacturing critical jet engine components domestically, India can reduce its dependence on costly imports, thereby making aircraft MRO more cost-effective. This has the potential to attract more domestic and international business to the Indian MRO sector.

Boost to Domestic Aircraft Production: The availability of indigenous jet engines will bolster the domestic production of fighter aircraft, leading to increased demand for MRO services to maintain and repair these aircraft. This, in turn, will drive growth in the Indian MRO sector.

Furthermore, the leaders welcomed the conclusion of a second Master Ship Repair Agreement, which was signed by the U.S. Navy and Mazgaon Dock Shipbuilders, Ltd., in August 2023. This agreement signifies India's emerging status as a hub for the maintenance and repair of forward-deployed U.S. Navy assets, aircraft, and vessels. They also appreciated the increased commitment from U.S. industry to invest in India's maintenance, repair, and overhaul (MRO) capabilities and facilities for aircraft, a development poised to enhance India's MRO sector.

President Biden extended his welcome to the Ministry of Defence of India's issuance of a Letter of Request to procure 31 General Atomics MQ-9B remotely piloted aircraft, comprising 16 Sky Guardian and 15 Sea Guardian variants, along with their associated equipment. This acquisition will substantially enhance the intelligence, surveillance, and reconnaissance (ISR) capabilities of India's armed forces across all domains, thereby contributing to the country's defense and security apparatus.

The meeting between Prime Minister Modi and President Biden not only reaffirmed the strong bilateral relationship between India and the United States but also showcased the potential for significant advancements in India's aviation MRO and the broader aviation sector. These developments underscored the collaborative spirit between the two nations, bolstering their commitment to mutual progress and prosperity while offering a promising outlook for India's MRO industry.

Kellstrom Aerospace upgrades USM Inventory to boosts MRO services

These strategic moves aim to bolster Kellstrom Aerospace's ability to meet the material needs of airlines and maintenance, repair, and overhaul (MRO) providers.

Kellstrom Aerospace, a prominent global player in commercial aftermarket aviation lifecycle solutions, has significantly broadened its portfolio of used serviceable materials (USM) through recent investments and partnerships. These strategic moves aim to bolster the company's ability to meet the material needs of airlines and maintenance, repair, and overhaul (MRO) providers.

The recent investments and partnerships have resulted in a substantial increase in Kellstrom's inventory of engine and airframe components for various aircraft types, including the CFM International CF6-80C2, CFM56-7B, CFM56-5B, Boeing B737NG, and Airbus A321. These assets are being sourced through disassembling aircraft to address the supply chain challenges currently facing the commercial aftermarket.

"These recent airframe and engine investments and teardowns reflect our dedication to providing exceptional aftermarket solutions to our program customers," said Michael Garcia, VP of Commercial, Kellstrom Aerospace.

Through these strategic acquisitions and teardowns, Kellstrom Aerospace has strengthened its capabilities in material support. This enhancement allows the company to better serve program customers by offering a wide range of aviation aftermarket solutions, including parts supply, exchanges, and consignment inventory.

These developments reinforce Kellstrom Aerospace's position as a trusted supplier of high-quality aviation parts and underline its commitment to meeting the diverse requirements of the global aviation industry. The expansion of its USM portfolio will enable the company to continue providing vital support to airlines and MROs as they navigate the evolving landscape of aviation maintenance and operations.

Image Courtesy :CFM

CHANGING AIRCRAFT ENGINE TECHNOLOGIES

Be it natural progression, organic growth or technological evolution, aircraft engine maintenance and manufacturing are undergoing quick but small changes that is planned for long-lasting impact – specifically with a focus on sustainability. With the clarion call sounded by world leaders covering sectors to drastically reduce GHG and carbon emissions and its damaging effect on our planet, Aviation must do its bit and remains very much in the spotlight. Reaching the Net Zero finishing line by 2050 is on everybody's horizon.

There are few big engine makers who have pushed forward their revolutionary concepts and ideas on how to reduce fuel burn, tackle the GHG effect, make passenger cabins quieter and overall, run sustainable aviation companies. Enhancing passenger comfort by enabling quieter cabins is also a result of that R & D that newer aircraft engine technologies have brought about. At the same time, focus has remained on fuel efficiency of engines, making use of SAF, use of blended materials - alloys and polymers to reduce weight, items that cost less, yet result in producing more powerful and efficient aircraft engines.

Out-of-the-box ideas like adding gearboxes within the engines, making use of digitisation and 5G technology that are linked to sensors that help garner and crunch crucial big data, use of artificial intelligence (AI) on a real-time basis that leads to fuel efficiency, noise reduction, and increases the Mean Time Between Failure (MTBF) - all delivering safety, sustainability, and passenger comfort.

Here are some noteworthy examples of (at times), decade long experimentations in aeronautical engineering.

Gearbox mounted engines

P&W'S GTF Engines have been established to improve efficiency by over

16% efficiency and increase fuel savings, and increase fuel savings while reducing noise by almost 50%

Pratt & Whitney have produced after much R & D, a path breaking technological marvel, in association with NASA - the Pratt & Whitney PurePower Geared Turbofan (GTF) engine series. The company has incorporated a gearbox that connects with the fan in the front of the engine, and to the turbine in the rear. The gearbox allows the rotors to spin at different speeds, where whatever be the front fan speed, the rear turbine of the engine spins three times faster in that same period.

Several of these technological advancements have resulted in GTF engines having reduced noise levels


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by nearly 25%, and an even greater achievement has been an impressive 75% reduction in carbon footprint.

The CFM RISE (Revolutionary Innovation for Sustainable Engines)

variety of engine aims at lower emissions by 20 percent per cent.

While the fan in front runs at slower speeds, it causes less vibrations caused by air turbulence and noise from fan blades. However, at lower speeds it also sucks in more air. This means that lighter blade materials can be opted for, reducing machining costs, or even having a smaller number of fan blades, making it more economical to manufacture these engines.

Again, with the fan rotating at low Revolutions Per Minute (RPM), the engine's lifetime maintenance costs are reduced. Additionally, the brand has introduced cutting edge technology in aircraft engines like the open fan architecture, as also hybrid electric engines, for which much testing and experiments are ongoing.

Use of Argon gas to generate electricity, is yet another option, for its ability to generate plasma that can in turn generate streams of electrons. These electrons can then be used to augment the energy produced by aero engines. This method is still in its experimental stage.

Counter-rotating fan

Innovations in engine technology such as counter rotating fans, entail fixing twin fans in the front, where one spins clockwise and the other anti-clockwise. This enables spinning at lower speeds, but are sucking in a lot more air, compared to a single fan mounting even though operating at a higher RPM. The large amount of air sucked in by the two counter-rotating fans enables the engine designers to reduce the number of engine blades needed to push the air rearwards in each individual fan. This will again reduce manufacturing cost.

Air sucked in through counterrotating fans into the engine generates less air turbulence, and naturally low noise, and vibrations, thereby according passengers with a more calmer relaxing flight. Other positive outcomes are reduced wear and tear, making MRO costs comparatively less, and use of lighter or blended materials like alloys reduce capital expenditure. All this is directly linked to business viability and sustainability.

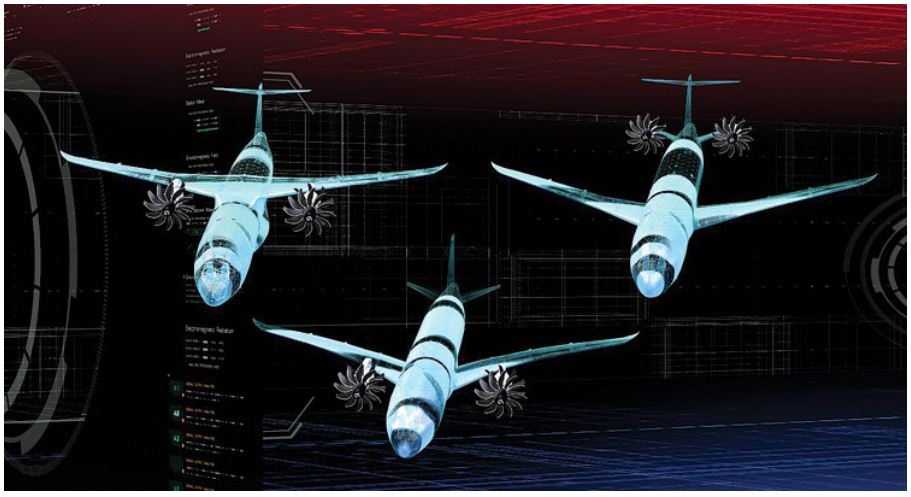

Image Courtesy :sps-aviation.com

Hybrid powered engines

Businesses are increasingly switching from burning fossil fuels for power

generation, to electrification of their systems. Accordingly, Boeing's 787 variant has successfully cut over to hybrid power for its operations. However, to accommodate the battery, (which has a heavier storage density than the storage density of Aviation Turbine Fuel), that generates power, aeronautical engineers looked at altering and reducing the airframe weight by 20%. Much research is on with a view to profitability in the future. Significant resources are being deployed towards reducing the dead-weight of the battery, by moving towards lighter and efficient batteries. Certain OEMs are running trials on their hybrid-electric engines that when after an aircraft takes off. The main power switches to electricity, drawn from batteries other than using ATF for the entire duration of the flight.

Digitalisation

Applications like Internet of Things (IoT) and Artificial Intelligence (AI) over 5G technology will be in use more and more for safe and optimal operating performance of operating pilots. Close to real-time instructions can be passed on the aircraft or pilot for enhancing their productivity.

Information and communication technology

With the advent of sensors, performance parameters of the assemblies,

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sub-assemblies, and components of the engines can be monitored on a real-time basis. This includes, flight performance readings produced by the sensors can be quickly transmitted to computing systems either onboard or on ground using 5G and Internet of Things (IoT) technologies. The big data thus garnered are then put through analysis.

Alternate aviation technologies in vogue

Aircraft designers and OEMs are now utilising 3-D printing technologies or

Image Courtesy :www.idtechex.com

applying additive manufacturing to fabricate components and sub-assemblies for designing and manufacturing engines or prototypes. Cost benefits are advantageous especially during ongoing designing and research work on engine prototypes, as also for spares manufacturing required during MRO services. Companies can save on their inventory carrying costs.

Biofuel additives

In order to offset the huge cost of ATF, and to reduce the adverse impact on the environment due to emissions, experiments are ongoing using blended fuel. Here conventional ATF is blended with biofuel to create SAF or Sustainable Aviation Fuel. This helps pare down operating costs and lessens the carbon footprint of the aircraft.

Magentic bearings

Magnetic bearings help reduce surface-to-surface contact between moving parts. Thus, the wear and tear of these parts are greatly reduced, and so is the cost of maintenance and inventory-holding.

Key players

Engine manufacturers endeavour to

Image Courtesy :sps-aviation.com

make engines lighter and stronger. Certain leading OEMs are working on electric and hybrid propulsion systems for both profitability and to realise sustainability goals. Here are the major players and their achievements in bringing about changes in engine technologies:

Rolls-royce

'UltraFan,' the pathbreaking aero engine from the Rolls-Royce stable has been successfully tested using 100% SAF. In the large aero engine category this variant has demonstrated improvement in efficiency by 10%. The new geared architecture ensures that the fan, compressors, and turbines all run at optimum speed. The UltraFan engine is the engine of the future. The fan casing and blades are made from carbon fibre, a material which is likely to save a 20% weight in comparison with earlier used materials.

REACTION ENGINES

UK engine manufacturer, Reaction Engine's rocket engine Sabre is a game changer that is replacing, in a way, the conventional propulsion system. Sabre - Synergetic Air Breathing Rocket Engine is a revolutionary class of aero engines that propel both high speed aircraft and spacecraft. The engine' USP is its calibre to execute fuel efficiency of a jet engine with the power and speed delivered by a rocket. Reaction Engines' SABRE engines are capable of Mach 5.4 in air-breathing mode, and Mach 25 in rocket mode for space flight.

CFM INTERNATIONAL

CFM International's advanced LEAP engine renowned amongst their global customers as an industry benchmark for fuel efficiency, and is gaining huge popularity in the commercial aircraft space. The speciality here is that the LEAP nozzle premixes fuel and air to provide lean burn combustion, setting it apart from the traditional combustors that mix these elements inside the combustion chamber. LEAP engine customers are benefitted by nearly 15% in fuel efficiency as well as CO2 emissions. These engines have seen reduction in NOx emissions and lowered engine noise, meaning quieter flights for onboard passengers.

Innovation In Engine Technologies To Make Flying Green

Be it in the designing, newer materials/alloys used, with sound, emission, and de-carbonization improvements, the industry remains very much in focus. Hence aerospace as a sector is looking at all kinds of incremental changes in the present, while addressing the needs of the future. Globally, innovation and improvement in aero engines carry on unabated.

The rising necessity and preference of air travel also puts pressure on the aerospace industry to do it's part.

Reference Credit sps-aviation.com

Aviation Capital Group handovers solo A320neo to SAS

This marks the fourth delivery out of a total of ten aircraft scheduled to be delivered to SAS as part of a multiple-aircraft sale-leaseback transaction between ACG and Scandinavian Airlines.

Aviation Capital Group LLC (ACG) has announced the delivery of a new Airbus A320neo aircraft to Scandinavian Airlines (SAS) on a long-term lease. This marks the fourth delivery out of a total of ten aircraft scheduled to be delivered to SAS as part of a multiple-aircraft sale-leaseback transaction between ACG and the airline. The delivered Airbus A320neo features CFM International LEAP-1A engines, renowned for their fuel efficiency and performance. These engines are part of the LEAP engine family, known for their advanced technology and environmental benefits.

ACG, a leading aircraft asset manager, plays a crucial role in the global aviation industry. As of June 30, 2023, the company manages a diverse portfolio of over 480 owned, managed, and committed aircraft. These aircraft are leased to approximately 90 airlines operating in around 45 countries, highlighting ACG's extensive global reach and influence.

Scandinavian Airlines, commonly known as SAS, is a prominent airline serving the Scandinavian region and beyond. The delivery of the fourth A320neo underscores the airline's commitment to modernizing its fleet and incorporating fuel-efficient aircraft to enhance its operational efficiency and reduce its environmental footprint.

The Airbus A320neo family is known for its cutting-edge technology and superior performance. It features the latest innovations in aerodynamics, engines, and materials, resulting in improved fuel efficiency, reduced emissions, and enhanced passenger comfort. The LEAP-1A engines, in particular, provide a significant reduction in fuel consumption and carbon emissions, making them a preferred choice for environmentally conscious airlines like SAS.

SAS has been making strategic investments in its fleet to stay competitive in the dynamic aviation industry. The addition of new A320neo aircraft aligns with the airline's goals of offering passengers a more efficient and environmentally responsible travel experience. These modern aircraft not only reduce operational costs but also contribute to SAS's sustainability initiatives.

ACG's role in facilitating the acquisition of these A320neo aircraft through a sale-leaseback arrangement demonstrates its commitment to supporting airlines in their fleet modernization efforts. Such transactions provide airlines with access to the latest technology and aircraft while optimizing their financial resources.

As aviation continues to evolve, partnerships between lessors like ACG and airlines like SAS play a pivotal role in ensuring that carriers have access to the most advanced and environmentally friendly aircraft. These collaborations contribute to the sustainability and growth of the aviation industry, benefitting both airlines and passengers alike.

The delivery of the fourth Airbus A320neo to SAS represents another milestone in ACG's commitment to providing innovative leasing solutions to airlines worldwide and supporting their operational excellence. This strategic partnership between ACG and SAS exemplifies the industry's dedication to embracing technology and sustainability for a brighter and more efficient future of aviation.

BBN Airlines Indonesia commences flying in Indonesia

An achievement for BBN Airlines Indonesia was securing an AOC from the Directorate of Airworthiness and Aircraft Operations of the Ministry of Transportation on August 31, 2023.

BBN Airlines Indonesia is Indonesia's aviation sector's new player and a subsidiary of Avia Solutions Group. The airline is poised to diversify the country's aviation landscape by offering an array of services, including ACMI (Aircraft, Crew, Maintenance & Insurance), air charter, and air freight solutions. This expansion comes as a response to the growing demands within Indonesia's aviation industry and the increasing need for versatile aviation services. ACMI services, in particular, are relatively new in Indonesia, and there are limited service providers catering to this segment. BBN Airlines Indonesia aims to bridge this gap and provide essential support for the burgeoning aviation requirements within the country.

A significant achievement for BBN Airlines Indonesia was securing an Airline Operator Certificate (AOC) from the Directorate of Airworthiness and Aircraft Operations of the Ministry of Transportation of the Republic of Indonesia on August 31st, 2023. The AOC is a testament to the airline's commitment to meeting the stringent requirements outlined by the International Civil Aviation Organization (ICAO) and Indonesia's aviation laws. With the AOC in hand, BBN Airlines Indonesia is now authorized to conduct commercial flights, marking the beginning of its operational journey.

"The AOC is a testament to our serious commitment and readiness to support Indonesia's aviation needs, in all sectors from airlines, tour operators, and cargo, to logistics. We have witnessed a high demand for aircraft provision, especially during high seasons such as Umrah, Haj, Eid, and other special holidays that result in a large surge in goods distribution, and we have conducted thorough research on that. This is why we are confident that this is an excellent opportunity for us to be able to give much-needed support to the airline, logistics, and tour operator companies so that, in return, they can give customers a fast, reliable, safe, and comfortable service. ACMI providers are still a rarity, especially in Asia. We are offering wet lease as well as mixed-crews or damp lease that can be custom tailored to the client's specific needs. While the lessee gets an additional aircraft or more, the lessor gives a full guarantee on the airworthiness of the aircraft, crew, maintenance, and aircraft insurance. On the other hand, the lessee will be responsible for the other operational aspects such as fuel, and ground handling services," said Martynas Grigas, Chairman, BBN Airlines Indonesia.

BBN Airlines Indonesia plans to commence its operations with a fleet consisting of two Boeing 737-800F aircraft, with an emphasis on air freight services. The airline has set ambitious targets for growth, intending to expand its fleet to nine aircraft by the end of 2023, encompassing both air freight and passenger services. This commitment to fleet expansion positions BBN Airlines Indonesia as a standout player in the ACMI field, which remains relatively rare, particularly in the Asian region.

Immediately following the issuance of its AOC, BBN Airlines Indonesia will operate a fleet consisting of two Boeing 737-800F specializing in air freight services. By the end of 2023, BBN Airlines Indonesia has set a target to operate a fleet of nine aircraft for air freight and passenger purposes. The commitment to get the aircraft fleet ready has been an important part that makes BBN Airlines Indonesia stand out among the other competitors in the ACMI field.

BBN Airlines Indonesia offers a comprehensive suite of ACMI services, including wet lease, mixed-crews (damp lease), and customized solutions tailored to meet the specific needs of its clients. These services come with a full guarantee on aircraft airworthiness, crew, maintenance, and aircraft insurance, while clients are responsible for operational aspects such as fuel and ground handling services.

In addition to its core ACMI services, BBN Airlines Indonesia provides air charter flights, catering to the evolving requirements of travelers in Indonesia who seek personalized travel experiences. The airline's air freight service addresses the escalating volumes of e-commerce activities in Indonesia and across the globe. BBN Airlines Indonesia offers various route options and flexible schedules to accommodate the needs of businesses and third-party logistics companies, ensuring swift and secure cargo transportation.

BBN Airlines Indonesia's core values revolve around flexibility, reliability, and safety, positioning it as a valued partner for Indonesian airline companies, travelers, and businesses seeking efficient aviation solutions. The issuance of the AOC marks the initial step in BBN Airlines Indonesia's journey to meet the diverse aviation needs of Indonesia's dynamic and evolving market.

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"Taking Flight to New Heights: AIESL's Commitment to Quality, Safety, and Sustainability"

In the fast-paced world of aviation, one organization stands as a paragon of excellence and innovation, poised to support the aviation industry's soaring ambitions. AI Engineering Services Limited (AIESL), with a heritage dating back to 1953, has consistently proven itself as a formidable force in the Maintenance, Repair, and Overhaul (MRO) sector. In this exclusive interview, we delve into the core of AIESL's operations, unraveling the critical role it plays in the aviation ecosystem and its vision for the future. AIESL's expansive capabilities encompass Line Maintenance, Base Maintenance, Engine Overhaul, and Component Overhaul, making it the sole MRO provider in India with a presence in all four vital MRO segments.

With a commitment to quality, safety, and excellence, AIESL's unwavering dedication to these principles has translated into a remarkable 99% plus technical dispatch reliability, assuring airlines of top-notch service. Moreover, as aviation propels into an era of sustainability and evolving industry trends, AIESL discloses its strategies for maintaining leadership, adapting

to emerging dynamics, and fostering innovation through strategic collaborations and technological integrations. AIESL's comprehensive approach and relentless pursuit of excellence make it a pioneering name in the realm of aviation MRO, poised to continue shaping the industry's future. ***MRO Business Today*** *in conversation with* ***Sharad Agarwal, CEO, AI Engineering Services Limited.*** *READ ON.....*

Q - What role does AIESL sees itself playing in the milestone 470 jets deal that Air India signed earlier this year at the Paris Air Show. What support will you be providing to the huge incoming fleet of the airline?

A - AIESL is gearing itself to support the fresh induction. The breakup is likely to be 200 A320, 200MAX and the remaining will be wide body aircraft including 787s. AIESL already has A320 and B787 capabilities. AIESL has already acquired Line & Base maintenance capabilities. AIESL has inducted 150 AME trainees this year and they will be getting the licenses so that AIESL is available and intends providing full support to Air India fleet expansion. AIESL has already initiated to hire nearly 1000 technical personnel.

Q - Your website mentions a range of services, including Base Maintenance, Line Maintenance, Component Overhaul, and more. Can you elaborate on these services and the value they bring to your clients?

A -AIESL is the only MRO in India which is present in all 04 MRO segments i.e. Line Maintenance, Base Maintenance, Engine Overhaul and Component Overhaul. With this AIESL is capable of providing complete end to end solution to all the customer needs.

Q - How does AI Engineering Services Limited ensure the highest quality and safety standards in its MRO operations?

A - AIESL has a well established Quality and Safety department which conducts frequent scheduled audits and spot checks. AIESL quality system has recently been recognized and accepted by international organizations i.e. EASA and FAA as well.

Q - Could you shed light on any recent advancements or technological integrations that have enhanced your MRO services?

A - OEMs such as Boeing & Airbus have introduced external inspection of the aircraft using Drones, use of augmented reality / virtual reality for training of maintenance personnel to enhance MRO services. AIESL has used some of these training techniques for training of their maintenance personnel. AIESL is also in the process of collaboration with M/s RAMCO Systems for computerization of various MRO activities such as e-signing of the maintenance tasks, ordering of the spare parts, generation of repair orders and Updation of manpower utilized in completion of the maintenance tasks. Such computerization shall result in faster generation of invoices for the customers, electronic record of all the maintenance activities, material consumption, manpower utilization etc. for the customer.

Q - With your extensive experience in the field, how has AI Engineering Services Limited developed specialized expertise in various aircraft types and components?

A - AIESL has vast field expertise as it has been the MRO service provider since 1953. Our engineers have acquired this knowledge over a period of years and passed on to the young generation. In addition, we continually upgrade our services through use of latest tooling equipments, training of maintenance personnel on latest technologies, collaborations with OEMs / vendors for maintenance of new types of components.

Q - Innovation plays a critical role in the aerospace industry. How does AI Engineering Services Limited foster innovation within its MRO services?

A - AIESL has a very large pool of talented manpower with average maintenance experience of more than 15 years. Whereas majority of the repair work is carried out in accordance with the manufacturer's instruction, there are several instances wherein the structural damage to the aircraft is not covered in the manufacturer's instructions. In such cases, engineers based upon their experience propose a repair scheme to the OEM and once approved by the OEM, the same is implemented to carry out the repair.

Q - Sustainability is a global concern. How does AI Engineering Services Limited incorporate sustainable practices into its MRO operations?

A - AIESL is aware of the sustainability issues. We have already started sustainability practices at all our facilities and we are working to ensure its high level in the organization.

Q - Looking ahead, what are your company's strategic goals for the coming years in terms of expansion, partnerships, or new service offerings?

A - AIESL is aware that India market is expanding rapidly and is actively working to ensure that it continues to remain a single stop solution for all the MRO needs. We tend to upgrade our maintenance capabilities by training maintenance personnel on new type of aircraft, engines, new technologies. Toolings & equipments are also upgraded as recommended by the OEMs. We have upgraded our maintenance capabilities to maintain B737 MAX aircraft. We are collaborating with OEMs such as SAFRAN for overhauling of the LEAP 1A & 1B engines, which are the latest engines powering MAX and NEO type of aircraft. We have recently carried out overhaul of the A320 aircraft landing gear. We are also exploring the possibilities of conversion of passenger aircraft to freighter aircraft.

Q - With the evolving aerospace landscape, how does AI Engineering Services Limited plan to maintain its leadership and adapt to emerging industry trends?

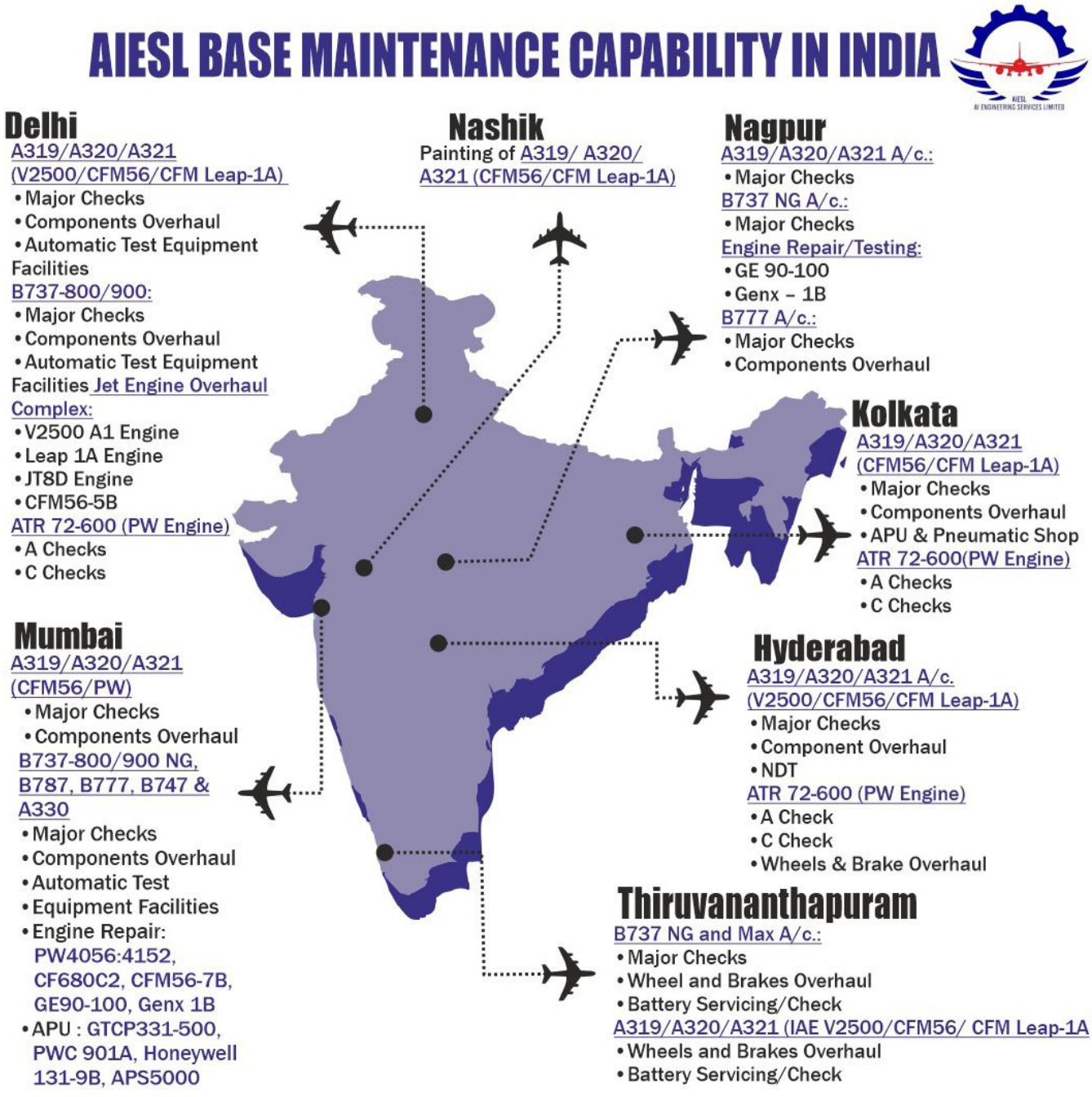
A - AIESL is the largest MRO in India providing maintenance services for Airbus A320 family of aircraft, B737, B777, B787, ATR72 aircraft. AIESL has also acquired B737 MAX aircraft maintenance capability to cater to the maintenance requirement of various airlines which are in the process of acquiring this aircraft. Some of the leading airlines are in the process of acquiring A350 aircraft and AIESL has started the process for training of maintenance personnel on this type of aircraft which will help in obtaining the DGCA approval for the maintenance of A350 aircraft. AIESL is collaborating with SAFRAN Engines to obtain the overhaul capability of LEAP engines which are used on the latest Airbus Neo aircraft and B737 MAX aircraft.

Q - AI Engineering Services Limited's emphasizes on commitment to quality, safety, and excellence. How do these core values translate into your MRO operations?

A - Commitment to quality, safety and excellence is the USP of AIESL and we never tend to compromise on these features. Our maintenance facilities are subjected to planned / unplanned audits internally as well as by regulators and by customers. We sincerely follow the OEM instructions in the maintenance activities. Strict punitive actions are taken against maintenance personnel in case of violation of any of the OEM instructions. AIESL also emphasizes on the use of OEM spare parts and consumables unless otherwise instructed by customers to use PMA spare parts. Our emphasis on quality & safety has resulted in 99% plus technical dispatch reliability for our customers.

Q - Collaboration often drives innovation. How does AI Engineering Services Limited collaborate with other industry players, research institutions, or technology partners to enhance its MRO services?

A - AIESL is collaborating with M/S RAMCO Systems for computerization of its MRO services. The software being provided by RAMCO Systems has been substantially modified based upon the requirements of AIESL which has also helped RAMCO to enhance their MRO software. AIESL is in collaboration with various OEMs for overhauling / repair of the landing gears, engines, components.



Airbus joins industry leaders to form UK hydrogen alliance

Airbus along with influential entities such as easyJet, Rolls-Royce, Ørsted, GKN Aerospace, and Bristol Airport formed this alliance to spearhead the drive for zero-carbon aviation in the UK.

Airbus has announced that in an epochal stride toward ushering in a new era of sustainable aviation, a coalition of formidable industry players in the United Kingdom has given birth to the Hydrogen in Aviation (HIA) alliance. Comprising influential entities such as easyJet, Rolls-Royce, Airbus, Ørsted, GKN Aerospace, and Bristol Airport, this formidable alliance is poised to spearhead the drive for zero-carbon aviation in the UK. Its mission? To seize the immense potential that hydrogen, the universe's most abundant element, holds for revolutionizing the aviation industry, not to mention the overall impact on the country's decarbonization ambitions.

While various strategies are being pursued to decarbonize aviation,

including sustainable aviation fuels (SAF), synthetic fuels, and advanced battery technologies, the HIA alliance is staunchly advocating for the elevated recognition of hydrogen's substantial contribution to this cause. Hydrogen, with its unparalleled energy density and clean-burning properties, is emerging as a prominent alternative fuel, especially for short-haul aviation. This new initiative seeks to propel the UK to the forefront of the global hydrogen aviation movement.

Johan Lundgren, CEO of easyJet and first Chair of HIA said, "There is no doubt that the UK has the potential to become a world leader in hydrogen aviation, which could bring with it a £34bn per annum boost to the country's economy by 2050, but in order to capture this opportunity, rapid change is needed and the time to act is now. We must work together to deliver the radical solutions required for a hard to abate industry like aviation so we can protect and maximise the benefits that it brings to the UK economy and society and that we know British consumers want to be preserved. HIA looks forward to working with the UK Government to ensure the right funding, regulatory and policy changes are implemented to accelerate the delivery of zero carbon aviation."

The Promising Horizon of Hydrogen in Aviation

Groundbreaking Hydrogen Projects: One of the foremost reasons driving the HIA alliance's advocacy for hydrogen in aviation is the astounding progress made in developing hydrogen-powered aircraft. Airbus, a global aviation giant, is at the forefront of this endeavor, actively crafting hydrogen-fueled aircraft designs with the goal of commencing commercial service by 2035. This ambitious endeavor heralds a new dawn for aviation, where hydrogen could become the go-to energy source for sustainable flight.

Rolls-Royce's Pioneering Ground Tests: In 2022, Rolls-Royce, the renowned aero-engine manufacturer, accomplished a remarkable feat - successful ground tests of a jet engine powered by hydrogen. This achievement underscored the viability of hydrogen as a clean and efficient fuel for aviation, opening up exciting possibilities for a more sustainable future.

Pioneering Hydrogen-Powered Flight Tests: Beyond the aviation behemoths, several smaller operators are making rapid strides in realizing hydrogen-powered flight. Companies like ZeroAvia and Universal Hydrogen have already conducted flight tests, marking significant milestones in the development of hydrogen aviation technology. These pioneers are leading the way, proving that hydrogen could soon power the aviation industry.

Grazia Vittadini, Chief Technology Officer, Rolls-Royce said, "Collaboration is key when it comes to achieving our net zero ambitions as an industry, which is why we are proud to be part of the Hydrogen in Aviation Alliance. Our contribution to HIA is the capability and experience we have in pioneering new technologies and solutions - we have already tested a modern aero engine on green hydrogen and we strongly believe it is one of the solutions that will help decarbonise aviation in the mid to long-term."

HIA's Roadmap for Hydrogen-Powered Aviation

The Hydrogen in Aviation alliance does not merely seek to evangelize the potential of hydrogen but to actively engineer a pathway for its incorporation into the aviation ecosystem. This monumental undertaking will require concerted efforts from government bodies, local authorities, aviation stakeholders, and, of course, the hydrogen industry.

The alliance's strategic objectives revolve around three key pillars:

1. **Infrastructure Development:** The first critical area of focus involves advocating for the creation of the essential infrastructure required to support hydrogen-powered aviation. This includes the establishment of hydrogen production facilities, storage solutions, refueling infrastructure, and airport integration. Ensuring that the UK has the necessary infrastructure in place is pivotal for realizing the potential of hydrogen in aviation.
2. **Regulatory Framework:** In the pursuit of hydrogen-powered aviation, the regulatory framework governing the industry must evolve and adapt. HIA is committed to working alongside aviation authorities to ensure that the regulatory landscape is primed for the introduction of hydrogen-powered aircraft. This encompasses certification standards, safety protocols, and operational guidelines tailored to hydrogen's unique characteristics.
3. **Research and Development Support**: A robust research and

development (R&D) ecosystem is indispensable for advancing hydrogen aviation technologies. To this end, the alliance aims to transform hydrogen aviation R&D support into a sustained 10-year program. This extended timeframe will provide the stability and resources necessary for researchers and innovators to drive the industry forward.

Sabine Klauke, Chief Technology Officer, Airbus said, "As Airbus continues to mature the aircraft technologies needed to deliver hydrogen-powered flight, a united industry voice is needed to secure a robust ecosystem of renewably-sourced hydrogen. Joining our peers from across the UK aviation landscape in a targeted approach to policy and investment action brings us closer to a decarbonised future of flying."

High Stakes and Enormous Potential

Hydrogen aviation offers an array of compelling benefits, touching various aspects of society and the economy:

1. **Zero-Carbon Emissions:** Hydrogen, when used as an aircraft fuel, generates no carbon emissions, providing a crucial tool for achieving net-zero targets in aviation.
2. **Job Creation:** The transition to hydrogen aviation is not only an environmental imperative but an economic opportunity. The DfT's Jet Zero Strategy outlines the potential for the UK to secure 60,000 new jobs in the hydrogen aviation sector.
3. **Economic Growth:** The UK aviation industry is a significant contributor to the country's economy, adding more than £22 billion directly to GDP. A successful pivot to hydrogen could sustain and expand this contribution.

4. **Preserving Social Benefits:** Aviation plays a pivotal role in connecting people, facilitating business, and enabling travel. Hydrogen-powered flight preserves these societal benefits while mitigating environmental impact.

Olivia Breese, Senior Vice President and Head of Power-to-X for Ørsted said, "Ørsted is fully committed to renewable hydrogen as a key solution to defossilise hard-to-electrify sectors such as aviation. Our long experience in developing and deploying new technologies has taught us that collaboration across policy makers, developers, customers and supply chain - and considerable investment from each of them – is critical to bring down costs and drive a new sector to scale. Alliances such as the HIA are essential to bring together different actors across the value chain to support and accelerate the role hydrogen can, and must, play in the UK."

The UK's Position of Strength

The UK is poised to lead the global charge in adopting hydrogen technology for aviation. Its impressive research and development activities, including the first ground test of a fully hydrogen-powered jet engine, have positioned the country at the vanguard of hydrogen aviation. The first hydrogen-powered narrow-body aircraft is slated for short-haul flights across the UK and Europe by 2035.

The HIA alliance recognizes that maximizing this potential will involve upskilling existing workforces, creating new jobs through the export of UK-made technologies, and fostering a sustainable energy economy.

Public Support for Hydrogen Aviation

The British public stands firmly behind the concept of hydrogen-powered aviation. A recent survey conducted by easyJet, a founding member of the HIA alliance, revealed that 81% of respondents believe hydrogen is the best option for decarbonizing aviation. Furthermore, 91% of respondents support government investments in hydrogen production and utilization in the aviation sector. The overwhelming majority (89%) of participants believe hydrogen should be prioritized for hard-to-abate sectors like aviation.

In a remarkable display of enthusiasm, 92% of respondents expressed excitement about the potential for hydrogen aviation to create numerous new jobs across the UK. This resonates with the findings of a government consultation in 2021, which predicted that developing a UK hydrogen economy could support over 9,000 jobs by 2030 and up to 100,000 jobs by 2050.

The Road Ahead

The formation of the Hydrogen in Aviation alliance represents a historic turning point for the UK's aviation industry. By forging collaboration among industry leaders, policymakers, and the public, the alliance aims to expedite the development of zero-carbon aviation. This concerted effort positions the UK as a global frontrunner in leveraging hydrogen technology to reimagine the future of flight.

As hydrogen continues to gain momentum as a green aviation solution, the HIA alliance is poised to propel the UK into a new era of sustainable aviation, preserving the benefits of air travel for generations to come.

Air France-KLM and Airbus to open a JV for Airbus A350 component MRO

This collaboration, if finalized, will see Air France and Airbus forming a 50-50 joint venture and transferring aircraft component assets from both entities into the joint venture's pool.

Air France SA and Airbus SAS have initiated exclusive negotiations to establish a joint venture, with the aim of providing Airbus A350 component maintenance services on a global scale. This collaboration, if finalized, will see Air France and Airbus forming a 50-50 joint venture and transferring aircraft component assets from both entities into the joint venture's pool. One of the key objectives is to have the joint venture operational by the first half of 2024, subject to regulatory approvals.

Anne Brachet, Executive Vice President, Air France-KLM Engineering & Maintenance said, "This project aims to bring customers the best expertise of our two companies on a product as high-tech as the A350. We will be able to better respond to the needs of the market, and to guarantee the satisfaction of our customers over the long term, with support solutions that are always responsive, of high quality and at the right price."

The proposed joint venture is expected to bring about an optimized commercial offering, catering to the evolving long-term maintenance requirements of the Airbus A350 global fleet. Currently, there are over 1,000 Airbus A350 aircraft on order, with 550 already in service worldwide. By combining the expertise of Air France Industries KLM Engineering & Maintenance and Airbus, this partnership seeks to enhance capacity, expand the global footprint, and develop innovative solutions for the benefit of customers.

Cristina Aguilar, Senior Vice President Customer Services, Airbus said, "We're in the business of offering the very best service to our customers, and as the world's A350 fleet grows, so does the necessary support. Air France-KLM Engineering & Maintenance and Airbus have a long-standing relationship and pooling our complementary A350 component skills and capabilities will deliver an enhanced service."

This joint venture signifies the dedication of both Air France-KLM and Airbus to meet the evolving demands of the aviation industry, particularly in maintaining and servicing the Airbus A350, one of the most advanced and widely used commercial aircraft in the world. The collaboration leverages the combined strengths of two industry leaders to ensure that airlines have access to efficient, high-quality component maintenance services for their A350 fleets.

Airbus inaugurates new A321XLR equipment installation hangar

The latest Airbus facility, designated H259, is spread across 9,600 square meters and will handle the installation of components for the rear fuselages of the A321XLR aircraft.

Airbus has inaugurated a new automated A321XLR equipping hangar at its Hamburg site, a move that aims to bolster the production capacity and facilitate the rate ramp-up in the A320 program. The facility, designated H259, is spread across 9,600 square meters and will handle the installation of components for the rear fuselages of the A321XLR aircraft.

Dr Peter Tschentscher, First Mayor, the Free and Hanseatic City of Hamburg said, "Hamburg is the central location for Airbus' single-aisle development and production. With the A321XLR, the new flagship of the A320 Family will be assembled at the Finkenwerder site, setting new standards in terms of sustainability, efficiency and range. The start of production in the new equipment installation hangar is an important project for Hamburg as the world's third largest civil aviation center."

Key highlights of the new hangar include:

Modernization and Digitalization: Airbus continues its efforts to modernize and digitalize its industrial system. The new hangar incorporates state-of-the-art technologies, such as automated

logistics, fully digital systems, and test stations for monitoring the status of each fuselage section.

Efficient Production Flow: The hangar features an automated "pulse line" consisting of eight stations, where the almost 24-meter-long fuselage sections are equipped with electrical and mechanical systems, windows, floor panels, and other elements. Each fuselage section undergoes extensive testing post-installation before being transferred to the final assembly line.

Employee-Centric Design: The station layout was designed in collaboration with employees to optimize production flow and create an ergonomic and modern working environment. The focus was on fostering cooperation between production staff and supporting functions.

Sustainability: The structure was built sustainably, with a 3,000-square-meter photovoltaic system on the roof to supply electricity to the hangar. Surplus energy is directed to power the site. The office block also features extensive insulation and an automatic control system for heating, ventilation, and lighting.

"This investment in the A321XLR equipment installation hangar at the Airbus Hamburg site is an important milestone towards transitioning aviation to climate neutrality. This transformation is the key to making Germany a future-oriented and competitive aerospace location," said Anna Christmann, the Federal Government Coordinator of German Aerospace Policy. "I am delighted that Airbus is positioning itself as a trailblazer in sustainable aviation and that we are pulling together to accelerate progress toward climate-neutral aviation even further," she futher added.

The A321XLR is a long-range variant of Airbus's A320 family of aircraft. It boasts improved range capabilities, making it suitable for long-haul operations. The new equipping hangar in Hamburg is expected to play a crucial role in the assembly and production of A321XLR aircraft.

The facility's inauguration reinforces Hamburg's significance as a central location for Airbus's single-aisle development and production. It underscores Airbus's commitment to sustainability, efficiency, and innovation in the aviation industry.

The development of this hangar aligns with broader industry trends of embracing automation, digitalization, and sustainable practices to enhance aircraft production and reduce environmental impact. It also reflects Airbus's dedication to maintaining its position as a leader in the aerospace sector by continually modernizing its operations and infrastructure.

Safran begins construction of new Marchin compressor blade plant

The Safran Blades facility, covering approximately 10,000 square meters, will focus on producing compressor blades used in Safran Aero Boosters' aircraft modules.

Safran Aero Boosters on August 28th, 2023, held a significant event – the laying of the first stone for their new aircraft engine compressor blade plant, Safran Blades, located on a former ArcelorMittal site in the Province of Liège, Belgium. This event marked a major step in the creation of a state-of-the-art manufacturing facility for aircraft engine components. The project is a collaboration involving various entities, including Belgian and Walloon federal authorities, Wallonie Entreprendre (WE), and the Belgian Federal Holding and Investment Company (S.F.P.I.M), with Safran Aero Boosters as the majority shareholder (56%).

The ceremony was attended by several notable figures, including Willy Borsus, Vice-President of Wallonia, Thomas Dermine, Secretary of State for Recovery and Strategic Investments, and Christie Morreale, Minister for Employment. The creation of Safran Blades was initially announced in December 2022 by François Lepot, CEO of Safran Aero Boosters, and involves an investment of €50 million.

The Safran Blades facility, covering approximately 10,000 square meters, will focus on producing compressor blades used in Safran Aero Boosters' aircraft modules. With a daily production target of 2,000 blades, this center of excellence will play a critical role in Safran's supply chain. As part of Safran's commitment to technological advancement, the Factory 4.0 will feature cutting-edge digital resources, including automation, connected objects, artificial intelligence, and more. The facility is expected to employ around a hundred people and is set to be operational by 2025.

"We are developing this next-generation plant in conjunction with innovative Walloon companies," said Mathieu Deladrière, CEO, Safran Blades. "Thanks to a robust and agile local ecosystem, we will be able to relocate this industrial activity to Walloon," he further added.

The construction and renovation work for the facility has been entrusted to Galère, and the building permit is anticipated to be obtained in August, followed by the commencement of construction work in September 2023. A notable aspect of the Safran Blades project is its close collaboration with various Walloon companies, forming an agile and innovative ecosystem that will drive its success.

To enhance its capabilities, Safran Blades is partnering with two research centers: CRM, for the development of forge tool control skills, and Sirris, for contactless real-time control skills.

The project will also involve working closely with five specialized companies, each contributing expertise in specific fields:

1. ID will implement a standard cell adaptable to various production types, integrating mechanical, automation, and verification expertise.
2. Indutec will develop a water-jet cutting cell akin to digital controls in precision, speed, and accuracy.
3. Smartyou will deploy an IT production management system (MES) tailored for SMEs, acting as a workshop coordinator.
4. Rovitech will create an automated decision-making tool and non-destructive quality control processes.
5. With information collected and the help of Pepite, an artificial intelligence will be developed to predict non-quality production and adjust tools in real time.
6. Overall, Safran Blades represents a major investment in advanced manufacturing technology and collaboration that is set to significantly contribute to the aerospace industry in the region.

Avolon signs order for 20 Airbus A330neo jets

Avolon has signed a deal for 20 new Airbus A330neo aircraft with delivery slated between 2025 and 2028 including shifting the existing A320neo order converted to the larger A321neo model.

Avolon, a prominent global aviation finance company, has confirmed a binding agreement for the purchase of 20 new Airbus A330neo aircraft. This order formalizes a memorandum of understanding initially signed at the Paris Airshow in June 2023. The new aircraft are slated for delivery between 2025 and 2028. Avolon's agreement with Airbus also includes a notable shift in its A320neo order. Specifically, 50 of the A320neo aircraft Avolon has on order will be converted to the larger A321neo model, reflecting the growing demand for this variant in the aviation industry.

Avolon holds the distinction of being a launch customer for the A330neo program since 2014. The company has been experiencing robust demand from customers for additional widebody aircraft, and this order comes as a strategic move to meet this demand. Notably, Avolon has fully placed its current order book, underlining the market's appetite for these modern widebody aircraft.

Andy Cronin, CEO, Avolon said, "We see a high level of widebody demand within the delivery window for these aircraft. With our existing widebody pipeline already placed, these new aircraft will support our future growth plans and allow us to provide options for carriers looking to replace older A330ceo aircraft with the more fuel efficient A330neo. The order builds on our strong relationship with Airbus as a launch customer for the A330neo, and our position as the leading lessor for this aircraft type."

The A330neo is an upgraded version of the popular A330ceo aircraft, boasting several key enhancements. It offers an extended range of over 13,300 kilometers (7,200 nautical miles) and achieves a remarkable 25% reduction in fuel consumption and CO_2 emissions compared to its predecessor.

Christian Scherer, Chief Commercial Officer and Head of International, Airbus said, "It's fantastic to see Avolon once again commit additional investment in the A330neo aircraft and lead the lessor market reordering widebody aircraft. Avolon's vision and timing could not be better with this commitment for a further 20 aircraft to its portfolio. Avolon will benefit from the strong wave of growth and replacements that we currently observe across all markets, and we welcome our continuing partnership with them."

This order for 20 A330neo aircraft further solidifies Avolon's position in the aviation finance sector and reflects the company's confidence in the future of widebody aircraft, particularly those offering enhanced fuel efficiency and operational capabilities. It underscores the aviation industry's ongoing drive to modernize fleets and reduce environmental impact through the adoption of more eco-friendly aircraft.

Airbus to deliver ten more A350-900 jets for Turkish Airlines fleet

Airbus has announced that Turkish Airlines has expanded the A350-900 order, adding 10 more of the jets following an additional four A350-900s in August 2023 bringing the total order to 40.

Airbus has announced that Turkish Airlines, Turkey's national flag carrier, has significantly expanded its Airbus A350-900 order, adding 10 more of the widebody aircraft to its fleet. This recent agreement follows an announcement in August 2023 for an additional four A350-900s, bringing Turkish Airlines' total order for this aircraft type to 40. The airline currently operates a fleet of 14 A350-900s. The Airbus A350-900 is known for its extended range, passenger capacity, and comfort, making it an ideal choice for connecting Istanbul to destinations worldwide. The aircraft is celebrated for its superior economics and efficiency, making it a favorite among airlines for its reduced fuel burn, operating costs, CO2 emissions, and noise levels compared to previous-generation competitors.

The A350-900 is recognized as the world's most modern and efficient widebody aircraft in the 300-410 seater category. It incorporates advanced technologies, aerodynamics, lightweight materials, and new engines that result in a 25% improvement in fuel efficiency, operating costs, and CO2 emissions, as well as a 50% reduction in noise footprint compared to previous-generation competitors.

Christian Scherer, Airbus Chief Commercial Officer and Head, Airbus International said, "We are delighted that Turkish Airlines has decided to further enlarge its fleet with the purchase of 10 more A350-900 aircraft. With greater range capability, passenger capacity and comfort, the A350 is the perfect platform to connect Istanbul to the world. This repeat order demonstrates the confidence for our unique new generation aircraft that offers airlines unbeatable economics and efficiency. We are proud to keep expanding our long-lasting partnership with Turkish Airlines and Türkiye's aviation sector overall."

As of the end of July, the Airbus A350 had accumulated over 1,000 orders from leading carriers worldwide, solidifying its status as a top choice for airlines seeking advanced and sustainable long-haul travel solutions. Turkish Airlines' continued commitment to expanding its A350-900 fleet is a testament to the aircraft's performance and its ability to support the airline's growth and global connectivity ambitions.

Boeing to deliver 13 737 MAX Jets to Aviation Capital Group

Boeing and Aviation Capital Group have finalized an order for 13 Boeing 737 MAX jets, with ACG's total order book to 47 Boeing 737 MAX jets including seven 737-8 and six 737-10 jets.

Boeing and Aviation Capital Group (ACG) have announced the finalization of an order for 13 Boeing 737 MAX aircraft, bolstering ACG's order book to a total of 47 Boeing 737 MAX aircraft. This additional order includes seven 737-8 and six 737-10 jets as ACG seeks to meet the strong demand from its airline customers for the fuel-efficient Boeing 737 MAX family. The Boeing 737 MAX family offers airlines enhanced efficiency and route flexibility for short- and medium-haul air travel, making it an attractive option for aircraft lessors like ACG. To date, more than 1,300 737 MAX jets have been ordered by lessors.

The 737-8 can accommodate up to 210 passengers based on configuration and has a range of 3,500 nautical miles, while the 737-10, the largest variant in the 737 MAX family, can seat up to 230 passengers and has a range of 3,100 nautical miles. Both models deliver a 20% reduction in fuel use and carbon emissions compared to the aircraft they replace.

"We are pleased to expand ACG's commitment to the 737 MAX program. This additional order will allow ACG to offer highly fuel efficient and versatile aircraft to our airline customers worldwide," said Steven Udvar-Hazy, senior vice president and chief of Aircraft Operations, ACG.

On average, each 737 MAX aircraft saves up to eight million pounds of CO_2 emissions annually compared to its predecessors. Additionally, the 737 MAX is quieter, with a 50% smaller noise footprint compared to earlier models.

Aviation Capital Group is a leading full-service aircraft asset manager, with over 480 owned, managed, and committed aircraft as of June 30, 2023. These aircraft are leased to approximately 90 airlines across roughly 45 countries. ACG, founded in 1989, operates as a wholly owned subsidiary of Tokyo Century Corporation.

"ACG's growing and diverse 737 MAX portfolio allows its customers to operate a more sustainable, efficient fleet," said Christy Reese, Boeing vice president of Global Leasing Commercial Sales & Marketing, Boeing Commercial Airplanes. "We look forward to helping ACG deliver the most fuel-efficient airplanes in the industry to its airline partners," he further added.

Boeing, a global aerospace company, specializes in the development, manufacturing, and servicing of commercial airplanes, defense products, and space systems for customers in more than 150 countries. Boeing is committed to advancing economic opportunity, sustainability, and community impact through innovation and by adhering to its core values of safety, quality, and integrity.

Saab to provide build support for Boeing sign 787 Dreamliner jets

Saab has signed an extension agreement with Boeing for the manufacturing of large cargo doors, bulk cargo doors, and access doors for the Boeing 787 Dreamliner.

Saab, the Swedish aerospace and defense company, has signed an extension agreement with Boeing for the manufacturing of large cargo doors, bulk cargo doors, and access doors for the Boeing 787 Dreamliner. This extension is part of an existing contract originally signed with Boeing in 2004 for the 787 Dreamliner program. Since the inception of the 787 Dreamliner program, Saab has delivered over 1,100 shipsets of components for the aircraft. These components include large cargo doors, bulk cargo doors, and access doors, which play a crucial role in the functionality and efficiency of Boeing's popular widebody aircraft.

Saab has extensive experience in supplying major aerostructures for various military and commercial aircraft programs. These doors for the Boeing 787 Dreamliner are primarily constructed using composite materials, which offer the advantages of being lightweight and easy to install. The composite structures of these doors also integrate a range of systems, further enhancing the overall performance and functionality of the aircraft.

"With this contract extension we continue to be a proud partner to Boeing on the successful 787 programme, one of the world's best-selling widebody aircraft. It strengthens our good and long relationship with Boeing and enhances the cooperation we have, both on commercial aerostructures and the T-7A trainer on the defence side," says Lars Tossman, head of business area Aeronautics, Saab's.

The Boeing 787 Dreamliner is one of the world's best-selling widebody aircraft, known for its advanced technology, fuel efficiency, and passenger comfort. The extension of Saab's contract with Boeing reaffirms the company's commitment to contributing to the success of this iconic aircraft.

This contract extension is a testament to Saab's expertise in aerostructures and its ability to deliver high-quality components for leading aerospace manufacturers like Boeing. The partnership between Saab and Boeing continues to thrive, supporting the ongoing production and success of the Boeing 787 Dreamliner program.

CAE and Batik Air sign a 10-year pilot training agreement

The CAE agreement involves the deployment and operation of an advanced Boeing 737 MAX full-flight simulator at Batik Air's training facility in Kuala Lumpur, Malaysia.

CAE, a leading global aviation training provider, has announced a significant 10-year pilot training agreement with Batik Air at the Asia Pacific Airline Training Symposium (APATS). The agreement involves the deployment and operation of an advanced Boeing 737 MAX full-flight simulator at Batik Air's training facility in Kuala Lumpur, Malaysia. This collaboration aims to provide Batik Air's pilots with a world-class training experience, ensuring their proficiency and confidence in handling the aircraft.

As part of the agreement, Batik Air will also adopt CAE Rise, CAE's innovative data-driven training system. This system employs advanced analytics to deliver more effective training and enhance operational safety, contributing to the overall competence of the airline's pilots.

Datuk Chandran Rama Muthy, Group Strategy Director, Batik Air and Lion Air Group, said, "We are proud to appoint CAE as our training partner and we are confident that this partnership with CAE will further enhance our pilot training and standards. The CAE B737 MAX simulator will enable our pilots to have real-time handling aircraft experience during the training, which in turn will ensure that our pilots possess the skills and assurance to navigate the skies with confidence."

This agreement is a testament to the enduring relationship between CAE and Batik Air, showcasing their commitment to cultivating highly skilled pilots. CAE's recently released 2023 Aviation Talent Forecast projected a substantial demand for aviation professionals across various sectors. Over the next decade, airlines are expected to require around 252,000 pilots, 328,000 maintenance technicians, and 599,000 cabin crew members, underlining the critical need for ongoing training and talent development.

Michel Azar-Hmouda, CAE's Vice President, Commercial Aviation Training, said, "We are thrilled to enter into this 10-year pilot training agreement with Batik Air. With CAE Rise, Batik Air pilots will benefit from an industry-leading solution that will elevate their training experience in the simulator and sharpen their skills in the flight deck."

By leveraging CAE's advanced training solutions and expertise, Batik Air aims to not only enhance pilot skills and safety but also contribute to the overall growth and sustainability of the aviation industry. As the demand for air travel continues to rise, partnerships like this play a crucial role in ensuring the availability of qualified professionals to meet the industry's evolving needs.

SIA Engineering Company partners with Xiamen IPORT Group for MRO opportunities in China

SIAEC, with its extensive MRO service offerings, certifications, and MRO capabilities, will work alongside IPORT Group, leveraging its substantial infrastructure and resources in Fujian.

SIA Engineering Company Limited (SIAEC) and Xiamen Iport Group have entered into a legally non-binding Memorandum of Understanding (MOU) to explore Maintenance, Repair, and Overhaul (MRO) opportunities in Fujian, China. IPORT Group is known for owning and operating airports in Xiamen, Fuzhou, Wuyishan, and Longyan. The objective of this MOU is to establish a framework for potential collaboration between SIAEC and IPORT Group in the field of MRO. SIAEC, with its extensive MRO service offerings, certifications, and maintenance capabilities, will work alongside IPORT Group, leveraging its substantial infrastructure and resources in Fujian.

While no definitive or binding agreements have been reached as of the date of this announcement, the parties intend to explore various MRO collaboration opportunities under this MOU. It should be noted that there is no guarantee that such agreements will be reached or that the collaboration will proceed. SIAEC commits to keeping stakeholders informed of any material developments in this potential collaboration, including the signing of definitive agreements. As of now, neither the directors nor controlling shareholders of SIAEC have any direct or indirect interests in the MOU, aside from any shareholdings they may have in SIAEC.

SIAEC's reputation as a premier MRO service provider in the Asia-Pacific region is built on its extensive client base of more than 80 international carriers and aerospace equipment manufacturers. The company delivers a wide range of services, including line maintenance at over 30 airports in eight countries, as well as airframe, engine, and component services for some of the world's most advanced and widely used commercial aircraft.

SIAEC's impressive portfolio extends to 22 subsidiaries and joint ventures strategically located in Singapore, Hong Kong, Indonesia, Japan, Malaysia, the Philippines, the United States, and Vietnam. These partnerships with original equipment manufacturers and strategic allies significantly enhance the company's service offerings.

Optimising Aircraft Maintenance in the Age of Globalisation

Globalisation has brought about new challenges that make aviation maintenance increasingly complex. The increased demand for air travel has put pressure on maintenance operations, and airlines need to meet ever-tighter schedules – all while ensuring compliance across borders. In addition, as emissions increase with every new route, the pressure to meet sustainability regulations mounts.

This article explores the challenges of globalisation in aircraft maintenance and the role technology has in conquering them.

The Challenges of Globalisation

Globalisation has created a more interconnected world, with people and goods travelling across the globe at unprecedented rates. In fact, the number of scheduled passengers boarded by the global airline industry in 2004 was 1,994 million; in 2019, it had reached 4,543 million (Statista).

The aviation industry has benefited from this trend (combined with the increase in freight due to the globalised economy), but it has also led to increased pressure to keep aircraft flying safely and efficiently. Things brings us to the next challenge – compliance. Each country has its own set of regulations and standards that airlines must adhere to.

Supply chain management is another challenging area when operating at global scales. Organisations may rely on suppliers from different territories to provide parts and services, creating a complex web of relationships that can be difficult to manage, particularly when it comes to ensuring quality and timely delivery.

Finally, there's the matter of sustainability. With every new route and flight added to an airline's schedule comes increased emissions. How can operators curb these emissions while keeping up with global demand? While there is no current alternative fuel used in aviation (at least not for everyday operations), modern technologies present a few tactics for optimising fuel usage.

How Technology Supports Global Aviation Maintenance

Technology is transforming aircraft maintenance, enabling airlines, MROs, and CAMOs to perform more efficiently and effectively.

Maintenance organisations need to have a comprehensive strategy in place to manage entire fleets in accordance with tight deadlines and airworthiness regulations. Thankfully, software simplifies the process, making it easy to track scheduling, allocate engineers, manage materials, much more.

How Software Handles MRO Admin

With the increased pressure to maintain aircraft at the required pace comes a lot of admin. From invoicing to labour billing to currency control, there is a lot to manage and it can easily get out of hand if a comprehensive system is not in place to create order from chaos – especially since all of these details need to be recorded in a coherent manner for auditing purposes.

Thankfully, having an all-in-one system to keep tabs on maintenance activities provides a single source of truth. This allows for optimum oversight of maintenance management, commercial management, warranty management, and every other essential function. It also allows operators to automate many repetitive tasks, saving a great deal of time.

However, technology brings much more to the table than simple organisation.

Predictive Maintenance

As we have recently discussed, analytics, artificial intelligence, and the Internet of Things (IoT) are being used to collect and analyse vast amounts of aircraft data. This data may be used for predictive maintenance purposes, thus reducing downtime and increasing aircraft availability.

Predictive maintenance in aviation is relatively new compared to its use in other industries such as manufacturing. So, while not as much research has been done in this area, the existing data indicates that maintenance budgets are reduced by 40% thanks to this approach.

In addition, the real-time monitoring of data can ensure that the required personnel are in the right place faster. For example, when data is reviewed while the aircraft is in flight, maintenance teams can have an engineer ready at the destination to check on any defects discovered.

Data Management

Proper data management is needed if data is to be of any use, and that's where systems such as OASES come into play. The raw data generated by every flight needs to be aggregated, stored, and structured – and its quality and security must be handled in a compliant way.

All of the above needs to happen quickly due to the pace at which the industry operates. A centralised location for data (such as private cloud storage) not only makes data processing efficient and therefore faster, but it also ensures a single source of truth and makes it easy to integrate different systems together. All the different activities that require access to data are optimised, saving a great deal of time at-scale.

Compliance

There are many ways in which MRO software can ensure compliance. For example, our Continuing Airworthiness module generates reports based on comprehensive data about defects and the condition of components. It then automatically raises a repetitive defect investigation if three events occur. This way, the scope for non-compliance is greatly reduced.

Aside from safety, our MRO software can streamline customs compliance in any territory, both inward and outward bound thanks to a robust data audit trail.

Customs information is captured when the shipment clears – no need to wait until the goods have reached the warehouse. You can also keep on top of shipments at all times, tracking their progress between warehouses or to/from a supplier.

Sustainability

The industry will need big data in order to reach net-zero CO2 emissions by 2050. Big data in aviation can help companies become more sustainable in several ways. First, data can help optimise routes and adjust other variables that affect fuel consumption. It can also point to potential problems such as leaks, ensuring that no fuel is being wasted. Airlines can also use data on their carbon emissions and purchase carbon offsets to mitigate their impact on the environment.

Eviation signs order for 25 Alice all-electric aircraft with Solyu

Eviation Aircraft and Solyu have signed an LOI for 25 of its all-electric commuter Alice aircraft, with options for an additional 25 marking total orders amounting to US$ 5 billion for Eviation.

Eviation Aircraft, a pioneer in all-electric aircraft manufacturing, has scored a significant win in the sustainable aviation sector as South Korean leasing firm Solyu signs a Letter of Intent (LOI) for 25 of its all-electric commuter Alice aircraft, with options for an additional 25. This partnership represents a step towards a more sustainable future in aviation, with Solyu offering financing and leasing solutions for the Alice aircraft to operators worldwide. This order marks a significant milestone for Eviation's Alice aircraft, which has now secured orders amounting to US$ 5 billion.

Eddie Jaisaree, Vice President of Commercial Sales, Eviation said, "Solyu's order is a testament to how lessors are embracing Alice as the future of flight. The leasing community is an important constituent in bringing about sustainable change in the aviation industry. It is exciting to see a forward-thinking company such as Solyu recognizing Alice's zero carbon technology, economic viability, and beautiful design."

The Eviation Alice, capable of carrying nine passengers, holds the distinction of being the world's first flight-proven all-electric commuter aircraft. Designed from the ground up, it incorporates magniX's cutting-edge electric propulsion system. The Alice aircraft is notable for producing zero carbon emissions and boasts lower operating costs per flight hour compared to conventional light jets or high-end turboprops. This cost-efficiency opens the door to activating new routes and enhancing the overall convenience of air travel.

Andrew Claerbout, President, Solyu said, "We are very excited to work with Eviation to bring sustainable aviation to the market. With aviation regulations focusing on sustainability and airlines demanding to reduce their carbon footprint, we see Alice as a major contributor to meeting those targets. In addition to its zero emissions, Alice's flexible layout and low operating costs will provide operators opportunities to open new markets."

The aviation industry is undergoing a transformation toward sustainability, with electric aircraft being at the forefront of this revolution. The partnership between Eviation and Solyu signals a commitment to making air travel more environmentally friendly and economically viable, setting a course for a greener aviation future.

Gregory Davis, CEO of Eviation said, "As we continue to take important steps toward certification, Alice has now secured US$ 5 billion in orders. It is gratifying to see the marketplace so excited about Alice's innovative design, low cost of operation, and environmental credentials. We are delighted to have Solyu, our newest leasing customer, join us in our mission to lead the electric age of aviation."

Eviation Aircraft, headquartered in Washington State, U.S., specializes in developing and manufacturing electric aircraft designed to offer operators and passengers eco-friendly, cost-efficient, and convenient regional transportation. The company's electric propulsion units, high-energy-density batteries, mission-driven energy management, and innovative airframe are all tailored for electric flight.

Solyu, based in Seoul, South Korea, is a leasing company with a focus on providing the latest technology in zero-emissions aircraft to its customers. The team at Solyu boasts decades of global experience in aircraft leasing and finance.

ZeroAvia partners with Masdar to develop Strikes Hydrogen Aviation Fuel

ZeroAvia has entered into a partnership agreement with Masdar, to jointly explore hydrogen production and supply at strategic locations with initial focus on North America and Europe.

ZeroAvia, a pioneering company in the development of hydrogen-electric aviation solutions, has entered into a partnership agreement with Masdar, a global leader in clean energy, to jointly explore hydrogen production and supply at strategic locations. This partnership, which involves Masdar, the flagship renewable energy company of the United Arab Emirates (UAE), will initially focus on projects in North America and Europe. Additionally, the collaboration may explore opportunities to establish clean flight operations in the UAE.

Masdar is committed to becoming a global leader in green hydrogen production, aiming to achieve one million tonnes of green hydrogen production per year by 2030. The company follows a "smart first mover" strategy by developing and investing in strategic projects and scalable platforms in key markets.

Mohamed Jameel Al Ramahi, Chief Executive Officer, Masdar said, "Masdar looks forward to working with innovative partners like ZeroAvia to advance decarbonization in hard-to-abate sectors, such as aviation. As the UAE's clean energy champion, we are passionate about unlocking the potential of green hydrogen to build a greener future for all."

Masdar's Green Hydrogen division is already actively involved in major aviation projects aimed at producing green hydrogen. This partnership with ZeroAvia is expected to power the world's first hydrogen-powered commercial flights.

The UAE has ambitious plans for hydrogen production, targeting 1.4 million tonnes annually by 2031, with further growth to 15 million tonnes by 2050. Masdar is deeply committed to advancing the UAE's green hydrogen economy and has entered into several global collaboration agreements with strategic

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ExecuJet joins Air bp to offer Jet-A1 fuel at Berlin Brandenburg GA Terminal

The deal will facilitate refueling at the GA terminal, with support from two Air bp tankers and ExecuJet, being responsible for handling arriving and departing business jets at the terminal.

ExecuJet has entered into a collaboration with Air bp, a leading supplier of aviation fuel products and services, to provide Jet-A1 fuel at Berlin Brandenburg Airport's General Aviation (GA) terminal. This partnership will facilitate refueling services for aircraft at the GA terminal, with support from two Air bp tankers. ExecuJet, which is a part of the Luxaviation Group, is responsible for handling both arriving and departing business aircraft at the airport's GA terminal. The terminal offers a range of amenities for passengers and flight crews, including a comfortable lounge, shower facilities, and a fully equipped work area.

Berlin Brandenburg Airport, which officially opened in November 2020, serves as the primary gateway to the German capital region. It replaced the operations of the three former commercial airports in the area: Tempelhof, Tegel, and Schönefeld. The airport is situated in Schönefeld, approximately 18 kilometers south of Berlin. Covering an expansive area of 1,400 hectares, Berlin Brandenburg Airport is designed to accommodate up to 46 million passengers annually. It boasts two runways measuring 4,000 meters by 60 meters and 3,600 meters by 45 meters.

Jürgen Kuper, the General Manager of Continental Europe, Air bp said, "We are delighted to collaborate with ExecuJet at BER. Through this new cooperation, Air bp and ExecuJet offer GA customers at BER both high-quality Jet-A1 aviation fuel and excellent customer service."

The GA terminal at the airport operates from 6 am to 10 pm, catering to the needs of business aircraft operators and passengers during those hours. Air bp has a strong presence in Germany, with its services available at over 35 locations across the country. The collaboration with ExecuJet at Berlin Brandenburg Airport further enhances Air bp's ability to provide reliable fuel supply and outstanding customer service to the aviation community.

Ronny Stechert, the Managing Director, ExecuJet Europe GmbH said, "We are extremely pleased to announce our new collaboration with Air bp, with whom we share a long-standing and mutually trusted relationship. Our clients will benefit from a highly efficient service, flexibility, and short response times resulting in virtually no waiting time."

This collaboration represents another step in Air bp's efforts to expand its global network of fuel supply and services, catering to the diverse needs of aviation operators, while also contributing to the overall efficiency and convenience of air travel.

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partners in recent years.

Val Miftakhov, Founder and CEO, ZeroAvia said, "We need large investment in renewable energy capacity to accelerate a future of truly clean flight for the entire industry, so we are delighted to partner with Masdar in this endeavor. Together, we are bringing the clean propulsion technology and the fuel to airlines to ensure that passengers can fly without any emissions and climate effects as soon as possible."

ZeroAvia is actively working with some of the world's largest energy companies to ensure the provision of hydrogen fuel for its airline operator customers by as early as 2025. The company's goal is to enable refueling of onboard aircraft tanks for aircraft with up to 90 seats at commercial airports by the end of this decade. Given that each short regional flight by such an aircraft requires approximately 1 ton of hydrogen, even a small commercial airport could generate more than a hundred tons of daily hydrogen demand. All of this hydrogen fuel can be produced using a zero-emission process powered by renewable electricity.

This partnership between ZeroAvia and Masdar is a significant step forward in the development and deployment of green hydrogen technology in the aviation industry. It represents a major stride toward achieving sustainable, zero-emission air travel in the near future.

Air Canada signs Fleet Connectivity contract with Intelsat

Air Canada and Intelsat will equip around 100 additional jets across Air Canada's fleet with Intelsat's connectivity systems and deploy Intelsat's new multi-orbit ESA antenna for the fleet.

Air Canada and Intelsat, a global satellite and in-flight connectivity (IFC) provider, have announced an agreement to equip nearly 100 additional aircraft across Air Canada's fleet with Intelsat's connectivity systems. This includes the deployment of Intelsat's new multi-orbit electronically steered array (ESA) antenna for the airline's regional jet fleet. Air Canada, in collaboration with Intelsat, aims to offer its customers the fastest and most consistently available Internet connectivity throughout its global network. The airline currently operates more Wi-Fi equipped flights than any other carrier in Canada.

"The efforts and the commitment of Intelsat's team and their service partners made the difference for us. We're confident Intelsat provides proven technology, an extensible platform and network, and the right vision for the future of in-flight connectivity," said Mark Nasr, Executive Vice President, Air Canada Marketing and Digital, and President, Aeroplan. "Through our Bell partnership, equipment installation schedule, and strong conviction around the importance of in-flight connectivity, we seek to offer our customers the best and most consistently available offering in the industry," he further added.

Currently, Intelsat operates in-flight internet on 240 aircraft spanning Air Canada, Rouge, and Air Canada Express. The new program includes IFC installations on three types of Air Canada aircraft:

1. Boeing 737 MAX aircraft: Air Canada's fleet of 40 Boeing 737 MAX aircraft will be equipped with Intelsat's 2Ku IFC system, with installation starting in the current year.
2. Embraer 175 and Mitsubishi CRJ-900 aircraft: These 55 aircraft, currently flown by Air Canada's regional partner Jazz, are installed with Intelsat's air-to-ground system. They will be upgraded with Intelsat's new ESA antenna beginning in 2024.

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Bluetail to support streamlining of Wheels Up aircraft MRO books

The Bluetail alliance will enhance accuracy, efficiency, and safety in maintenance record procedures while reducing time and cost in Wheels Up's maintenance operations.

Bluetail has been selected by Wheels Up, a leading private aviation company, to implement its modern aircraft records management platform for its entire owned aircraft fleet. This partnership aims to enhance accuracy, efficiency, and safety in maintenance record procedures while reducing time and cost in Wheels Up's maintenance operations.

"We conducted a detailed optimization analysis of our maintenance records procedures to identify opportunities for enhanced accuracy and efficiency, while ensuring the highest levels of safety," said Scott Caddick, Vice President for Fleet Maintenance, Wheels Up. "We expect Wheels Up's partnership with Bluetail to provide measurable time and cost savings for our maintenance operation, and improve aircraft availability," he further added.

Key features and benefits of this partnership include:

1. Efficient Access to Records: Bluetail's cloud-based and FAA-compliant software will provide Wheels Up maintenance teams with instant access to aircraft records, regardless of the aircraft's location. This eliminates delays caused by physical record retrieval and shipping.

2. Advanced Search Capabilities: The MACH Search feature, an industry-leading AI search engine, allows for faster and more accurate record searches. It eliminates the need for manual document tagging, saving hundreds of hours of research time.

3. Secure Data Sharing: Bluetail's platform enables secure data sharing, ensuring that authorized personnel can access the records they need while maintaining data security.

4. Aircraft Availability: By streamlining record management and retrieval processes, Wheels Up expects to improve aircraft availability, reducing downtime during maintenance.

5. Part 135 Conformity Module: Wheels Up will also leverage Bluetail's Part 135 Conformity Module for future aircraft conformity inspections. This module has demonstrated significant time and cost savings for Bluetail's customers.

Bluetail's platform is designed to enhance efficiency and accuracy in aircraft maintenance operations. It allows aviation companies to transition from manual, paper-based recordkeeping to a digital system that offers real-time access, advanced search capabilities, and secure data storage.

"Wheels Up is one of the most progressive on-demand private aircraft providers, and digitizing and centralizing all aircraft records for their owned aircraft fleet will help control maintenance costs and improve aircraft availability," said Stuart Illian, Co-founder, Bluetail. "We are extremely proud that they have selected Bluetail's modern digital records platform to securely store and manage all of their maintenance and service records," he further added.

The partnership between Wheels Up and Bluetail underscores the growing importance of digital recordkeeping and data management solutions in the aviation industry. By adopting modern technology, aviation companies can enhance safety, streamline operations, and deliver more efficient and reliable services to their customers.

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3. Regional Jet Fleet: Air Canada's regional jet fleet, operated by Jazz, will be equipped with the new ESA antenna for improved in-flight connectivity.

"Intelsat has been delivering reliable in-flight connectivity to Air Canada and its passengers for 14 years," said Dave Bijur, Senior Vice President Commercial for Intelsat Commercial Aviation. "Air Canada's leadership will continue for decades to come thanks to this investment in 2Ku connectivity for the 737 MAX fleet and the decision to install Intelsat's innovative multi-orbit service across their regional jet operation," he further added.

Intelsat's 2Ku solution is considered an industry leader due to its low-profile, fuselage-mounted antenna and reliable in-flight performance. The new ESA antenna, which is less than three inches tall, will operate on both Intelsat's geo-stationary satellites and OneWeb's Low Earth Orbit (LEO) satellite constellation, ensuring high-quality in-flight internet connectivity for Air Canada passengers, regardless of their flight's location.

Bombardier launches Avionics Upgrades for Vision Flight Deck on In-Service jets

Bombardier has unveiled its AAU for the Bombardier Vision flight deck software and hardware enhancement to boost situational awareness and provide advanced visualization features.

Bombardier has unveiled its Advanced Avionics Upgrade (AAU) for the Bombardier Vision flight deck, an avionics software and hardware enhancement designed to boost situational awareness and provide advanced visualization features. This upgrade, powered by Collins Aerospace, is available for in-service Global 5000, Global 6000, Global 5500, and Global 6500 aircraft equipped with the Bombardier Vision flight deck.

Paul Sislian, Executive Vice President of Aftermarket Services & Strategy, Bombardier said, "The new software upgrade for the Bombardier Vision flight deck is a game-changer, and we are delighted to bring our operators' aircraft to new levels of operational excellence. The Bombardier Vision flight deck has been an important staple on Bombardier Global aircraft for years, and the addition of the Advanced Avionics Upgrade (AAU) ensures our business aircraft continue to be renowned for their impeccable safety, reliability and performance."

Key features of the AAU include:

1. Combined Vision System (CVS): The AAU software allows for the installation of Bombardier's CVS, which integrates the best features of the Synthetic Vision System (SVS) and the Enhanced Vision System (EVS) into a single view. This reduces crew workload and enhances situational awareness, especially in challenging weather conditions.
2. Optional Enhancements: Operators can add other optional enhancements to their avionics package, including ADS-B in/Cockpit Display of Traffic Information (CDTI) and Airport Moving map/SVS Taxi mode. A new weather radar option is also available, enabling Vertical Weather and Predictive Windshear features.
3. Safety and Performance Improvements: The AAU brings important safety and performance enhancements, such as the Engine Indicating and Crew Alerting System (EICAS) with improved message logic, an Integrated Flight Information System (IFIS) with extensive information integration, updated weather enhancements, and improvements to the Electronic Flight Instrument System (EFIS) with updates to the head-up display (HUD), primary flight display (PFD) logic, and Synthetic Vision System (SVS).

The first Global 6000 business jet to receive this upgrade is currently undergoing installation at Bombardier's Wichita Service Centre.

"The primary objective of this upgrade, and our long-term collaboration with Bombardier, is to proactively provide information to the flight deck that improves safety and confidence in decision making," said Marc Ayala, senior director of sales, Business & Regional Avionics, Collins Aerospace.

The AAU installation for in-service Global aircraft is available through Bombardier's extensive service centre network, which spans multiple regions globally. This network includes recently expanded and state-of-the-art facilities in locations like Singapore, Miami Opa Locka, Melbourne, and London Biggin Hill, staffed by factory-trained technicians. Additionally, Bombardier has a fleet of 34 Mobile Response Team (MRT) vehicles equipped to support Learjet, Challenger, and Global business aircraft, offering 24/7 support to customers.

Airbus joins Korea Aerospace Industries to produce Light Armed Helicopters

Under this agreement, Airbus Helicopters and Korea Aerospace Industries will enter the next phase of the LAH program, intensifying production at KAI's Sacheon facility in South Korea.

Airbus Helicopters and Korea Aerospace Industries (KAI) have taken a significant step forward in their partnership by signing an agreement to initiate the serial production phase of the Light Armed Helicopters (LAH). This move follows a contract awarded to KAI by South Korea's Defence Acquisition Programme Administration in December 2022, which mandated the supply of an initial batch of ten LAH to the Republic of Korea Army. The deliveries are scheduled to commence by the end of 2024, with ongoing orders expected to continue into the next decade.

Under this agreement, Airbus Helicopters and KAI will enter the next phase of the LAH program, intensifying production at KAI's Sacheon facility in South Korea. Airbus Helicopters will play a crucial role in supporting KAI's order fulfillment by providing the necessary kits for mass production.

Matthieu Louvot, Executive Vice President of Programmes, Airbus Helicopters said, "KAI is a long-time trusted partner with whom we have successfully developed several helicopter programmes. We are happy to strengthen this strategic partnership with these agreements, where we will secure the delivery of these two highly performing platforms for many years to come."

Simultaneously, both companies have extended their commitment to the joint Korean Utility Helicopter (KUH Surion) program, which aims to cater to various operational requirements across military, civil, and parapublic sectors. This expansion follows the recent launch of new KUH variants such as the Marine Attack Helicopter and Mine Countermeasure Helicopter, along with their forthcoming iterations. These programs will benefit from Airbus Helicopters' expertise in flight control systems and helicopter drive systems, coupled with KAI's prowess in industrialization for local production. Airbus Helicopters has also pledged to support KAI with additional serial deliveries.

Han Chang Heon, Executive Vice President of the Rotorcraft Division, KAI said, "These two long-term agreements will contribute to increasing the competitiveness of KUH Surion and LAH in both local and global markets, by stabilizing kit deliveries and prices, while strengthening partnership in various rotorcraft businesses.

Airbus and KAI initiated their partnership in 2006, collaborating on the development of the KUH Surion. This collaboration continued with the subsequent development of the LAH. The LAH prototype successfully completed its maiden flight in July 2019 and underwent rigorous testing, leading to qualification for combat suitability in all-weather conditions in 2022.

These next-generation 5-tonne class helicopters, the LAH, have been tailored to meet South Korea's requirements for deployment across both civil and military sectors. This well-established partnership has already resulted in the delivery of approximately 300 kits to KAI, with more orders lined up for future deliveries.

Lockheed Martin to open latest European F-16 Training Center in Romania

The Lockheed Martin training center will provide a comprehensive F-16 training solution, encompassing ground-based and flight training preparing Romanian pilots for F-16 operations.

Lockheed Martin, in partnership with the governments of Romania and the Netherlands, has announced plans to establish the European F-16 Training Center in Romania. This initiative aims to enhance the readiness and safety of Romanian pilots operating F-16 fighter jets and could potentially extend training services to other nations. The establishment of the European F-16 Training Center in Romania underscores the commitment to maintaining high levels of readiness and operational safety for F-16 aircraft in the region. It highlights the importance of collaborative efforts between defense contractors and governments to strengthen the capabilities of allied nations in ensuring regional security and stability.

"The F-16 continues to play a crucial role in 21st Century Security missions for the United States, Europe, NATO and allies around the world," said OJ Sanchez, vice president and general manager, Integrated Fighter Group. "Lockheed Martin is proud to partner with the Netherlands and Romania on this European F-16 Training Center in Romania, which will enhance mission readiness through a comprehensive F-16 training solution for Romanian pilots. "Once details are finalized, we are confident the training center will ultimately benefit Romania and other regional F-16 operators, including potentially Ukraine," he further added."

Key highlights of the announcement:

European F-16 Training Center: Lockheed Martin, along with the governments of Romania and the Netherlands, is set to create the European F-16 Training Center in Romania. The center's primary mission is to ensure the effectiveness and safety of Romanian F-16 pilots.

Comprehensive Training Solution: The training center will provide a comprehensive F-16 training solution, encompassing ground-based and flight training missions. It will play a crucial role in preparing Romanian pilots for F-16 operations.

Potential Expansion: While initially focused on Romanian F-16 training, the center may expand its training services to benefit other regional F-16 operators. Lockheed Martin has expressed confidence in the center's potential to support not only Romania but also other nations, including Ukraine.

Lockheed Martin's Expertise: Lockheed Martin has a strong track record in providing training solutions for F-16 aircraft. The company has extensive experience in pilot and maintainer training and has supported F-16 operations worldwide for many years.

Role of F-16s in Europe: The F-16 fighter jet remains a vital asset for security and defense missions across Europe. Several European countries, including Romania, operate F-16s, contributing to integrated NATO peacekeeping efforts and airspace protection.

Northrop Grumman names Krzysztof Krystowski new Country Executive for Poland

In this role at Northrop Grumman, Krzysztof Krystowski will be responsible for executing the company's market strategy, business development plan, and government relations in Poland.

Northrop Grumman Corporation has named Krzysztof Krystowski as the country lead executive for Poland. In this role, Krystowski will be responsible for executing the company's market strategy, business development plan, and government relations in Poland. Northrop Grumman plays a significant role in Poland's military modernization efforts, particularly in the area of air and missile defense. The Polish government has chosen Northrop Grumman's Integrated Battle Command System (IBCS) as a central component of its WISLA Medium Range air and missile defense program. This selection makes Poland the first international partner to acquire the IBCS capability.

Prior to joining Northrop Grumman, Krzysztof Krystowski held leadership roles in the Polish aerospace and defense sector. He served as the Vice President of the European Clusters Alliance, an organization representing innovative European businesses. Krystowski is also the President of the Polish Clusters Association and the Silesian Aviation Cluster. His experience includes roles as Vice President of Leonardo Helicopters Poland and President of Polish Defence Holding (Bumar Group), among others. He also served as Deputy Minister in the Polish Ministry of the Economy from 2003 to 2005.

"Northrop Grumman has a long-term, strategic commitment to working with the Polish government and local partners to develop a wide array of capabilities that will help sustain its enduring security," said Stephen O'Bryan, corporate vice president and global business development officer, Northrop Grumman. "Krzysztof brings deep industry and public policy experience to the team as we see global demand for our products continuing to grow and international defense spending increase to address evolving threats," he further added.

Northrop Grumman is a global aerospace and defense technology company known for providing cutting-edge solutions that enable customers to connect and protect the world. The company's work spans a wide range of applications, from national security to space exploration, and it is committed to helping nations enhance their defense capabilities and address emerging threats.

IFS delegates André Robberts as President Southern & Western Europe & LATAM

André Robberts as President of Southern and Western Europe and LATAM will leverage IFS's success and lead for 2024 and beyond, primarily through its direct and indirect sales channels.

IFS, a global company that provides cloud enterprise software, is strengthening its leadership team with the appointment of André Robberts as the new regional President for Southern and Western Europe and LATAM. Robberts, formerly with Oracle as COO EMEA North, will take the reins from the current president, Marc Genevois, who will transition to the role of Global President of Strategic Initiatives. These appointments underscore IFS's aim to solidify its leadership position in ERP, EAM, FSM, and ESM in its key markets and become the preferred partner for large global enterprises in its core industries.

Simon Niesler, Chief Revenue Officer, IFS, said, "Southern and Western Europe and LATAM are some of our largest and most established markets, and we are committed to ensuring the success of our customers and employees. This means hiring leaders with a strong enterprise software pedigree, which is why I am excited to welcome André to our team. His wealth of experience will be critical to continue building on our strong market position. "At IFS, our customer focus is deeply connected to our core values, which permeate throughout the company. By embodying this in each customer interaction, we attract those who are equally committed to ensuring our customers' success and creating long-lasting Moments of Service. André is very much aligned with this vision."

As President of Southern and Western Europe and LATAM, André Robberts will leverage IFS's success in the region to lead the teams in achieving the company's ambitious goals for 2024 and beyond, primarily through its direct and indirect sales channels.

André Robberts, President for Southern and Western Europe and LATAM, IFS said, "I'm incredibly excited to join IFS at such an important time and bring my experience and passion to the teams so that I can positively impact our market position. My philosophy is simple: I believe that every customer and every interaction matter and that delivering business value is paramount in every engagement. While many companies are focused on the customer, IFS's values and customer strategy are unique and a clear differentiator from competitors. I am truly delighted to be on board."

The appointment of André Robberts is a testament to IFS's consistent performance, industry recognition, and growing visibility.

International CALENDAR

Date	Event	Venue
19-21 Sept, 2023	IATA World Safety & Operations Conference	Hanoi, Vietnam
22-23 Sept 2023	Aerospace & Defence MRO KARNATAKA	Bengaluru
25-27 Sept 2023	Airspace Integration Congress	Madrid, Spain
26-27 Sept 2023	Helitech Expo	London
26-28 Sept 2023	World Aviation Festival	Portugal
26-28 Sept 2023	MRO ASIA-PACIFIC	Singapore
11-13 Oct 2023	AIVNF	Vietnam
17-19 Oct 2023	MRO Europe	Amsterdam, The Netherlands
17-19 Oct 2023	NBAA- BACE	Las Vegas, NV
01-03 Nov 2023	ATCA Global Conference & Expo	Washington, DC, USA
13-17 Nov 2023	Dubai Airshow 2023	DWC, Dubai
14-15 Nov 2023	Aerospace Tech Week Americas	Atlanta, USA
06 - 08 Dec 2023	Air Expo India	Indira Gandhi Intl Airport-New Delhi
20-24 Feb 2024	Singapore Airshow	Changi Exb Centre,Singapore
27-29 Feb 2024	MRO XPO INDIA	New Delhi, India
27-29 Feb 2024	Aircraft Interiors INDIA	New Delhi, India
28-29 Feb 2024	MRO South Asia 2024	New Delhi, India
17-18 April 2024	Aerospace Tech Week Europe	Munich, Germany
28-30 May 2024	Aircraft Interiors EXPO	Hamburg, Germany
02-04 June 2024	IATA AGM & World Air Transport Summit	Dubai, UAE

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