MRO BUSINESS TODAY

Happy New Year 2024

Jan 01st, 2024

StandardAero conducts MRO on first CFM LEAP Engine

Since the signing of the first North American non-airline CFM Branded Service Agreement (CBSA) in March 2023, StandardAero has made remarkable progress in establishing a dedicated LEAP line at its San Antonio, TX facility.

StandardAero's induction of its first customer CFM International LEAP engine marks a substantial milestone in the company's expansion of maintenance, repair, and overhaul (MRO) capabilities for the LEAP-1A and LEAP-1B engines. Since the signing of the

first North American non-airline CFM Branded Service Agreement (CBSA) in March 2023, StandardAero has made remarkable progress in establishing a dedicated LEAP line at its San Antonio, TX facility. The company, with its 810,000 sq. ft. San Antonio facility has been actively preparing to offer Continued Time Engine Maintenance (CTEM) services for LEAP-1A and LEAP-1B starting in Q1 2024. This includes Performance Restoration Shop Visit (PRSV) capability, with engine testing, anticipated in early 2025.

The journey towards this achievement involved several key steps. StandardAero's team of MRO experts efficiently integrated the LEAP engines into its operations. In October, the San Antonio site added the LEAP to its U.S. Federal Aviation Administration (FAA) Operations Specifications ahead of schedule. This move triggered FAA authorization for StandardAero, further leading to European Union Aviation Safety Agency (EASA) authorization through a bilateral agreement with the FAA.

Throughout this process, the company has been proactive in expanding its team of LEAP technicians. This involves comprehensive training programs, including courses delivered by CFM. The recent addition of a LEAP training engine to its resources underscores StandardAero's commitment to fostering expertise in its workforce.

Lewis Prebble, President of Airlines & Fleets, StandardAero said, "StandardAero is pleased to demonstrate its commitment to CFM's LEAP-1A and LEAP-1B operator base by inducting its first customer engine in less than nine months after joining CFM's LEAP MRO ecosystem. It is a testament to great teamwork and the rigor of our formal New Product Introduction (NPI) process that this milestone was achieved two months ahead of schedule. We are confident of delivering on our commitment to introduce LEAP-1A and LEAP-1B CTEM services from February 2024, followed by PRSV capability in Q4 of the same year, and look forward to supporting the global A320neo and 737 MAX customer base with responsive, reliable support for decades to come."

The commencement of LEAP engine inductions, less than nine months after joining CFM's LEAP MRO ecosystem, highlights the effectiveness of StandardAero's formal New Product Introduction (NPI) process. The company is aiming to provide responsive and reliable support to the global Airbus A320neo and Boeing 737 MAX customer base.

StandardAero is not only expanding its MRO capabilities but is also actively involved in developing new engine component repairs for the LEAP family. Its Components & Accessories division, operating through a network of locations and a Repair & Development Center of Excellence, is contributing to the evolution of CFM's LEAP MRO ecosystem.

"StandardAero's induction of its first CFM LEAP engine is another key milestone for our open LEAP MRO ecosystem," said Gaël Méheust, president & CEO, CFM International."We commend their dedication to supporting our customers and are very confident in their capabilities to provide world-class MRO support," he further added.

In conclusion, StandardAero's induction of its first customer CFM LEAP engine reflects not only a major milestone for the company but also a testament to the efficiency of collaboration within the aviation industry. The expansion of MRO capabilities, the commitment to workforce training, and the development of new engine component repairs position StandardAero as a key player in supporting the growing demand for LEAP engines globally. This achievement contributes to the ongoing narrative of innovation and excellence in the aviation maintenance sector ■


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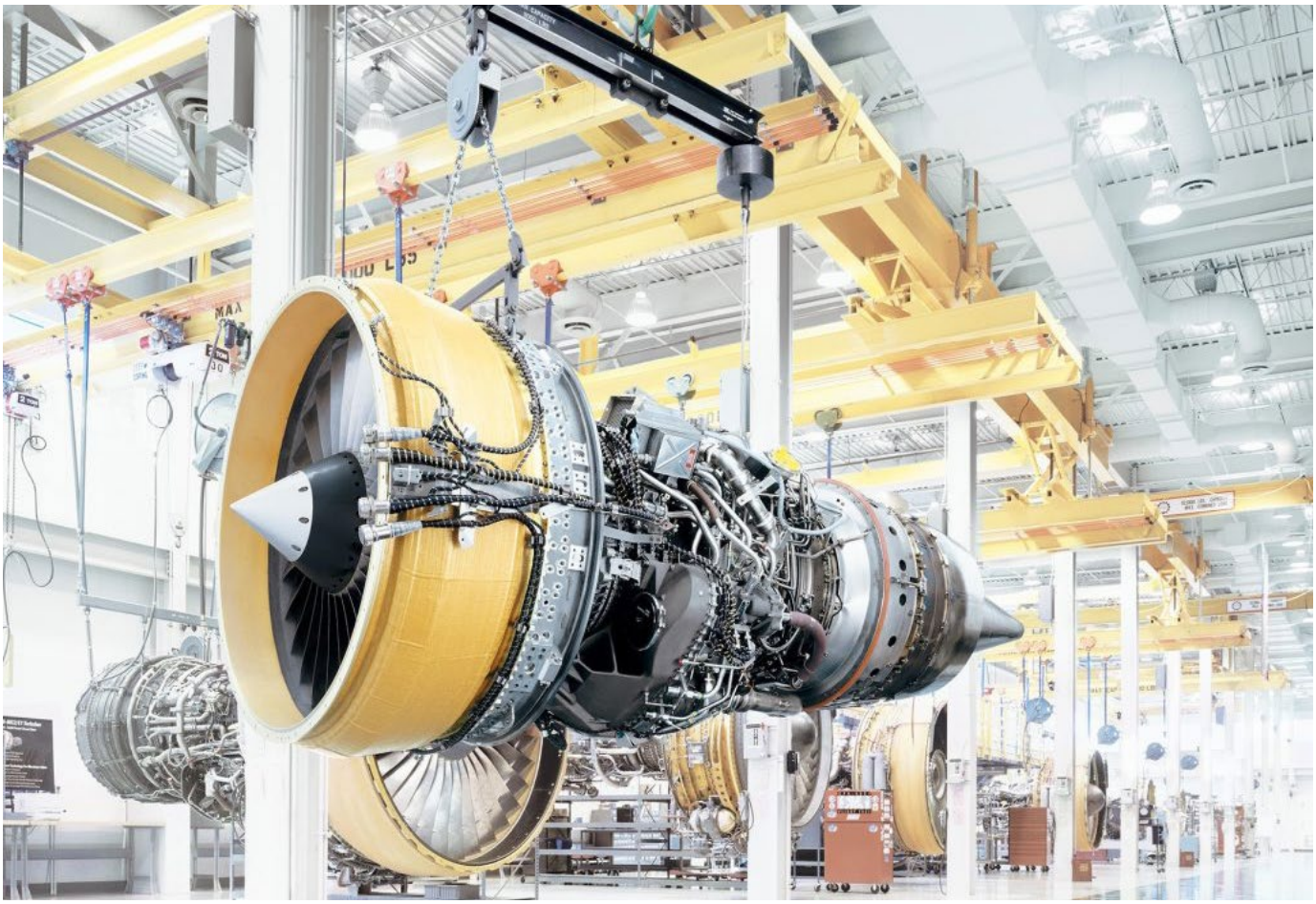


AvAir and GE Aviation Materials expand component management collaboration

AvAir has increased the total amount to over 90,000 components by adding 20,000 line items to its management agreement with GE Aviation Materials.

AvAir, the aviation aftermarket's top inventory solutions supplier, has enhanced the component support to a total of over 90,000 components by adding 20,000 line items to its management agreement with GE Aviation Materials, a fully-owned subsidiary of GE Aerospace. Along with the inventories of CF6, GE90, and GEnx applications, the inventory management programme now includes CF34 engine material.

GE Aviation Materials, a subsidiary of GE Aerospace, is a world-leading provider of used serviceable material and TrueChoice Transitions™ solutions. It offers green time leasing, custom work scopes, engine/module exchanges, consignment, lessor integration, and portability products for GE Aerospace's commercial engine programmes. To support these offerings, GE Aerospace maintains a global service network.

The inventory will now be expanded to include AvAir's regional commercial operators and lessors of CF34 engines on aircraft including Embraer 170/190 and Bombardier CRJ700/900/1000. The inventory will continue to be managed at AvAir's Chandler, Arizona-based facility. Additionally, it will increase its assistance to AvAir's business aviation clients who fly different Bombardier Challenger aircraft and own or operate CF34-3 engines.

AvAir's support of the GE MRO Network now includes CF34 in addition to the previously provided support for CF6, GE90, and GEnx aircraft, thanks to this expanding partnership. This contract, along with other recent asset management agreements, is in line with AvAir's growth strategy, which also includes assessing potential strategic alliances across the industry to broaden the company's international offerings.

AvAir provides solutions for buyers and suppliers to purchase, sell, trade, lend, lease, or manage assets and inventories. The company has more than 26 million components in stock. The business upholds the highest quality standards in all stages of operation, including purchasing, receiving, stocking, sales, and shipping. It is certified under ISO 9001, AS9120, and ASA 100 ■

RUAG Aerostructures Germany & Hungary signs component support contract with Airbus

In this extended partnership, RUAG Aerostructures Germany & Hungary will play a crucial role by producing and delivering the rear fuselage section and side shells of the center fuselage sections for the Airbus A320 family and A330.

RUAG Aerostructures Germany & Hungary, a pivotal business segment of RUAG International, has solidified its enduring collaboration with Airbus. The company is set to supply fuselage sections and side shells for both the Airbus A320 family and the Airbus A330 in a multi-year partnership extension. This reaffirmation of their long-standing partnership follows RUAG Aerostructures Germany & Hungary's recognition in 2023 with the Global Supplier Award for Operational Excellence, underscoring their commitment to delivering high-quality components and operational efficiency.

In this extended partnership, RUAG Aerostructures Germany & Hungary will play a crucial role by producing and delivering the rear fuselage section and side shells of the center fuselage sections for the Airbus A320 family and A330. Moreover, the company will continue to be the sole-source supplier for two significant work packages related to the Airbus A320 family and one work package for the Airbus A330.

André Wall, CEO, RUAG International said, "The A320 family is one of the most successful aircraft programs in the history of aviation. We are therefore very pleased that this agreement will enable us to continue our excellent cooperation with Airbus and continue to contribute to the success of Airbus as a reliable partner."

RUAG Aerostructures Germany & Hungary has a rich history of delivering fuselage sections for over 12,000 A320 family aircraft, showcasing its manufacturing expertise. The company's commitment to innovation, adopting new manufacturing technologies, and adhering to a best-cost strategy positions RUAG Aerostructures as a specialist in developing, manufacturing, and finally assembling complete aircraft structures.

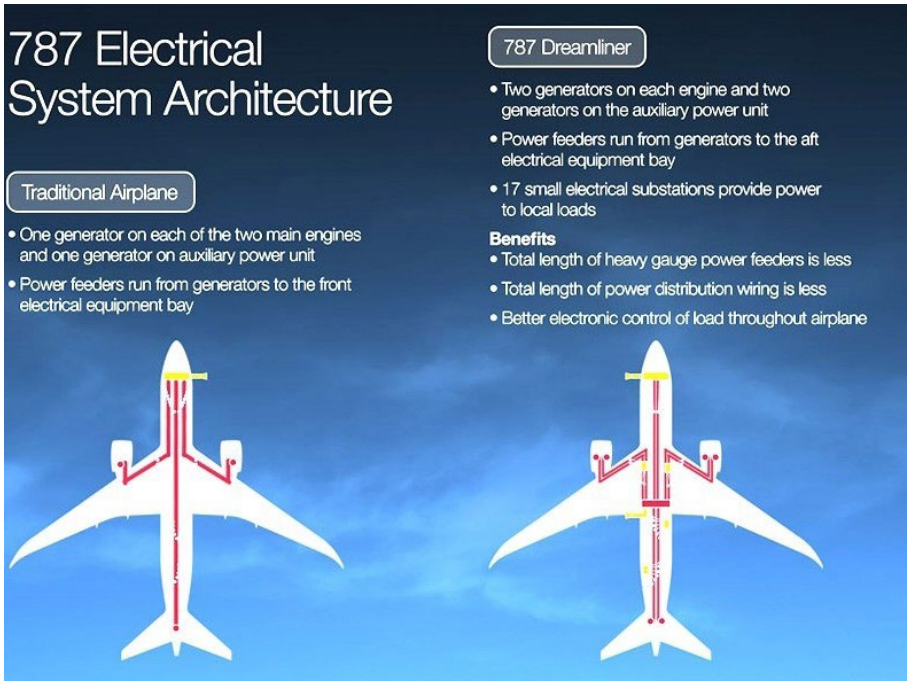
This partnership extension not only solidifies the collaboration between RUAG Aerostructures Germany & Hungary and Airbus but also reflects the companies' shared commitment to excellence in the aviation industry. As Airbus continues to produce and evolve its A320 family and A330 aircraft, RUAG Aerostructures will play a pivotal role in supplying critical components, contributing to the success of these widely used aircraft models ■

Image Courtesy :Airbus.com

MRO CHALLENGES FOR NEWER AIRCRAFT VARIANTS

With a highly regulated aerospace industry, upgrades and improvements in aircraft engineering are an ongoing process – a natural progression, and in tandem, the same goes for the MRO sector

MRO companies authorised or certified to service newer aircraft variants must remain aligned in letter and spirit with OEM manuals and with the necessary frequency. That is the real challenge, how often. How agile and nimble can an MRO can remain, their ability to make smart investments in infrastructure, re-training, and upskilling staff in working with advanced materials, the latest in software for the aviation industry, and adopt digitalisation with alacrity- will all truly test their mettle.



Advanced Materials and Newer Aircraft and Engine Variants

Airlines and OEMs are fast moving towards the adoption of assets made of advanced materials like composite material for aircraft surfaces which make lighter, agile aircraft and yet far more durable when compared with aluminium. Graphene is atom-thick, lightweight, and durable, with which batteries are applicable in energy harvesting, storage, and structural health monitoring, amongst others.

For an MRO, this would mean learning how to apply and work with this new material, learning about the characteristics and how they react to certain external environments, and importantly how to repair aircraft surfaces/parts, with this new material. It does not end there. Storage of the material in ideal condition, and resources to stock the material are equally critical.

For instance, in the 787's 'more-electric system' from Boeing, there are electric motors, and electric brakes replacing the hydraulic system. This requires the MRO team to unlearn and reskill, as a 'more-electric system' again aligns with the Net Zero objectives.

Boeing's flexible twin-aisle offerings allow an airline to have airplane families with the same speed, range, and economics in three distinct sizes.

Again, the 787 advanced, single-barrel composite fuselage requires less scheduled maintenance. Here too, an MRO provider is impacted as this means less hospital time, resulting in less revenue earned.

Some of the tools that an MRO unit needs to equip itself with are turbo graphs – (a fast parallel graph engine handling billion-scale graphs in a single PC), Ramp Testers, Non-Destructive Testing units, and probe sensors for correcting of each location—calibrating, tools for correct reading, and interpretation, testers for fibre composite materials.

At every stage, MRO service providers must upgrade their tools and offerings with each improvement or advancement in say Avionics, Ground Proximity Warning Systems (GPWS) to Advanced GPWS.

Software, which is a manufacturer's intellectual property is provided by manufacturers, as well as Automatic Testing Computers. However, it is not always that an OEM will pass on software to the MRO unless there is a closer tie in existence.

Established firms like Safran, the engine maker, and SAEI (Saudia Aerospace Engineering Industries) are using smart hangars, applying Predictive Maintenance by bringing in digitization. A single digital thread can run through disconnected data, and turn that into connected processes. The threads make up the neural network of a digital twin – a virtual version of a part that mirrors its physical version.

MROs are constantly gearing up for testing, maintenance, and repair of newer aircraft variants, like CFM's RISE Engines (Revolutionary Innovation for Sustainable Engines), and its new propulsion technologies with the open fan concept is an example of this.

Engines with 100% SAF hydrogen capability, aiming to reduce CO2 emissions by 80%. Hybrid electric technologies allowing optimization of the engine performance, are all newer concepts and technologies an MRO crew must grasp.

Airbus A350's innovative design offers spaciousness, wide seats, high ceilings, and ambient lighting. This then becomes another new space, the MRO crew will need to adjust to, where three-class configurations, can carry up to 480 passengers in a single-class layout. That apart, high-quality air delivery, renewal every 2-3 minutes, and precise tem-

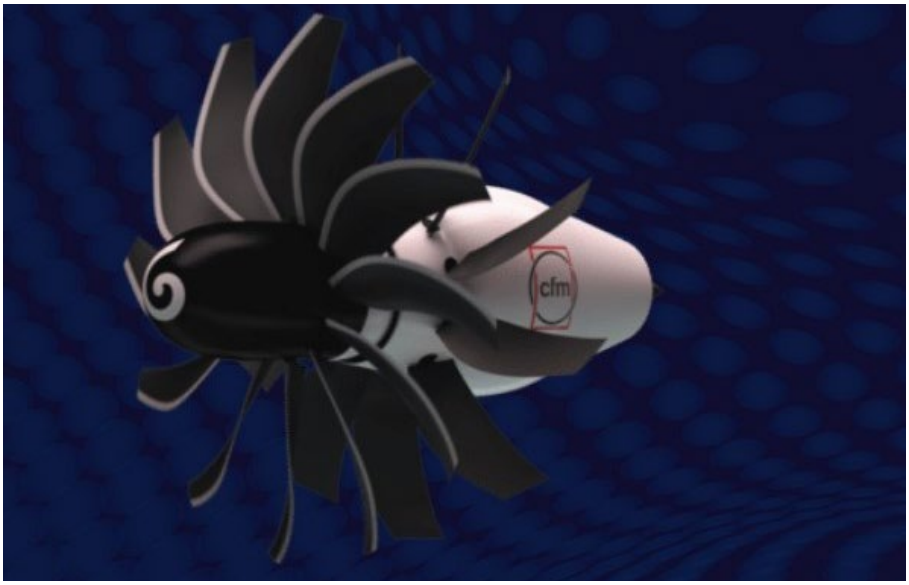


Image Courtesy :cfminternational.com

perature, and humidity controls all must be assured while handing over an MRO-serviced aircraft. Smart galleys and integrated connectivity are passenger-side enhancements that the MROs must take into their maintenance plan.

Newer additions like Bluetooth Connectivity Onboard, and the use of wireless headphones to connect to the seatback entertainment system via Bluetooth; or the High-Speed Inflight Connectivity – Inmarsat's Ka-Band satellite communication system, for high bandwidth and reliable connectivity.

Areas Of Investments That Mros Need To Consider

Use of 3D printed parts

Additive Manufacturing (3D Printing) -Novel technologies adapted for aviation like 3D printing, that enable additive manufacturing, and for fabricating components and aircraft parts. Parts manufacturers are looking at additive manufacturing to create a range of products right from seat frameworks to air ducts. For an MRO entity, this is another new element in the supply chain. Stocking of 3D manufactured components and parts and tracking their use is another additional activity.

Digitization

Blockchain ensures data transparency while sharing of records auditable, traceable, and shareable, across stakeholder realms, safely and securely. A shared blockchain leaves an indelible record, traceable right up to the end customer.

Internet of Things (IoT) to Predictive Maintenance - Aircraft MROs have adopted Internet of Things technology (IoT) to predict potential damage to aircraft parts and equipment. Data analysis from ultrasonic and vibration sensors attached to a machine, aids in planning maintenance schedules, procuring parts, and assigning personnel judiciously.

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Artificial intelligence (AI) -The aerospace industry is making use of the power of Artificial Intelligence and use of Machine Learning (ML) in research and education. Users of AI and ML can gain insights from collected data of materials, to discover new patterns and their correlations. AI can handle far more complex problems than humans and can crunch thousands of volumes of data outcomes within seconds, unlike the time taken by the human brain to process the same volume of information.

Change towards an agile MRO

Reliable A&D Supply Chain is a must for the aviation MRO sector. It is crucial and must be reliable, for the viability of the MRO business. MROs must incorporate on-shoring, vertical integration, and increased cyber defence to strengthen supply chains.

Structural Health Monitoring (SHM) – can be applied to gauge changes to the material and geometric properties of aircraft structures. These are done by embedded or attached Non-destructive Evaluation (NDE) sensors. This data then is used to assess accurately, the health of the structure, metal fatigue, and avoidance of accidents thereof. All these are investments for the MRO sector and financial planning must budget for these elements.

Augmented Reality

Through Professor Lori Brown's HoloLens work, Western Michigan University was the first university aviation program to use augmented reality in the classroom to train technicians on aircraft maintenance. Seen here are Students immersed inside a jet turbofan engine or get to interact with 3D cockpits.

Crunching Big Data

By 2025, more than 38,000 new

aircraft and their variants are expected to be operating worldwide. Imagine the volumes of Data generated, many times more than previous-generation aircraft. Sensors on modern aircraft combined with better data routers have resulted in a 60-fold jump in the number of data parameters collected from each flight, according to Mr. Serge Panabiere - Airbus Head of Services Business Development. The newest engines can generate up to one terabyte of data each cycle. Now, for MROs, this adds to the complexity of their businesses.

To better manage this deluge of data, MROs are compelled to turn to machine learning, deep learning, neural networks, artificial intelligence, blockchain, and other developing information management technologies. MROs' financial outlays must be such that they budget in current and futuristic technologies and stay ahead of the curve. Paring costs, flighting inflation, managing supply chains, and dealing with raw material shortages... are the real challenges the MRO sector must circumvent with great efficiency.

According to Grand View Research, the MRO market was valued at $79 billion in 2022 and is projected to grow at a rate of 5% through 2030, to reach a revenue forecast of $119 billion.

Smart Hangars: The Future Of MRO?

Making MROs business hardy and resilient may be the 'smart hangar' concept. One such smart hangar can facilitate finding the right tools at the right time, as wasted time would result in useless expenditure. Detecting Foreign Object Debris (FOD) becomes easier, and quicker. This saves time and costly repairs are avoided. Overall, a safer environment is achieved. Smart Hangars comes with a real-time location solution (RTLS) that tracks and locates assets and people in complex environments.

The system also tracks worker movements to ensure they follow safety protocol and are also alerted if they enter a dangerous area.

MRO providers can become more efficient, work in safer environments, and are better optimized. A tighter operation will ensure better TAT (Turnaround Time), and better customer satisfaction. Maintenance is a major contributor to aircraft operating costs, flight delays, and cancellations. Despite improved aircraft design and streamlined operations, airlines now spend more on maintenance than on fuel or crew. There is a constant see-saw between airlines and MROs where the former keeps MRO costs down while demanding quicker inspection and repairs, and streamlined parts management. On the other hand, MROs want to run a tight ship and remain profitable. Well, solutions lie in incorporating newer technologies as mentioned herein ■

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Boom Supersonic equips Honeywell Anthem integrated flight deck on the Overture aircraft

This collaboration involves integrating Honeywell's next-generation flight deck and modular avionics platform into the Overture, Boom's supersonic commercial aircraft.

Boom Supersonic, the company aiming to develop the world's fastest airliner, has chosen Honeywell's Anthem integrated flight deck for its Overture aircraft. This collaboration involves integrating Honeywell's next-generation flight deck and modular avionics platform into the Overture, Boom's supersonic commercial aircraft. Boom Supersonic's Overture is designed to be a supersonic commercial aircraft, offering faster-than-sound travel with sustainability in mind. By incorporating advanced avionics from Honeywell, Boom aims to equip Overture with cutting-edge technology, reducing pilot workload and enhancing overall safety.

The Honeywell Anthem flight deck will be customized to meet the specific mission requirements of Overture, emphasizing enhanced safety and situational awareness. The advanced avionics interface aims to provide a seamless experience for Overture pilots, from simulator-based training to actual flights. Honeywell's Anthem integrated flight deck underwent successful testing on its Pilatus PC-12 test aircraft, marking a crucial step toward Federal Aviation Administration certification.

"Honeywell has an extensive history of aerospace innovation and shares our vision of a faster future through sustainable supersonic flight," said Blake Scholl, founder and CEO of Boom Supersonic. "We're proud to work with Honeywell to realize one of the most advanced flight decks in the sky, with state-of-the-art technologies that reduce pilot workload and increase safety," he further added.

Honeywell, known for its history of aerospace innovation and expertise in integrated modular avionics, brings a wealth of experience to the partnership. The company has a track record of supporting aircraft programs and developing avionic systems for large and complex aircraft.

"For decades, Honeywell has supported aircraft programs that build the future for aviation," said Vipul Gupta, president, Electronic Solutions, Honeywell Aerospace."We are looking forward to partnering with Boom to usher in a new generation of supersonic travel," he further added.

As Boom Supersonic advances toward the goal of making commercial supersonic travel a reality, partnerships with industry leaders like Honeywell play a crucial role in integrating cutting-edge technology into the aircraft. The Honeywell Anthem integrated flight deck is expected to contribute to the overall performance, safety, and efficiency of Boom's Overture supersonic commercial aircraft ■

Air India's Skyward Surge with latest A350 Fleet to Transform Indian Aviation

Air India's strategic move with the A350 aligns with its vision for expansion and modernization, particularly in the context of long-haul flights.

Air India is poised for a significant leap in the aviation sector with the imminent induction of its new A350 fleet. This development, in collaboration with Airbus and other partners, is set to redefine the skies. The airline's strategic move aligns with its vision for expansion and modernization, particularly in the context of long-haul flights.

The newly allocated A350 fleet, previously designated for Russian airline Aeroflot, features a sophisticated configuration comprising 28 business class seats, 24 premium economy seats, and 264 economy seats. This setup is designed not only to enhance passenger experience but also to meet the diverse needs of long-haul travel. Engineers from Air India, Vistara, and AIX Connect have undergone extensive training at the Airbus center in Toulouse, ensuring a seamless integration process for these advanced aircraft.

What distinguishes this initiative is Air India's unwavering commitment to excellence, epitomized in its rigorous training program. Over 50 engineers have been meticulously trained, obtaining licenses for approving checks specifically tailored for the A350. This underlines the airline's dedication to maintaining the highest standards in aviation operations.

The induction of the A350 fleet is a multifaceted strategy for Air India. Beyond elevating passenger services, the airline is poised to make substantial contributions to India's air cargo capacity. With a visionary goal to triple its annual cargo capacity over the next five years, Air India aims for a remarkable 300% growth. This strategic move aligns not only with the airline's expansion plans but also with its commitment to boosting the Indian cargo ecosystem and making a substantial mark on the global export market.

Air India's growth trajectory is not confined to operational enhancements alone. There is a deliberate effort to foster collaboration between Airbus and the Indian aviation industry. The entry of the A350 into service involves a significant contribution from India, emphasizing Airbus's commitment to the Indian aerospace sector. Key components and technologies crucial for the A350 will be designed, built, and maintained in India. This collaborative approach is a testament to the mutual growth and development that can be achieved through strategic partnerships in the aviation industry.

As Air India gears up to induct five more A350-900s by March-April, with operational debut planned for May, the aviation landscape in India is on the cusp of transformative change. The airline's ambitious plans, ranging from passenger services to air cargo capacity expansion, position it as a key player in shaping the future of Indian aviation. The growth trajectory of Air India not only augurs well for the airline itself but also for the broader Indian aviation sector, promising increased connectivity, enhanced services, and a substantial boost to the country's standing in the global aviation market ■

Changing MRO landscape in India and Middle East – A comparison!

As the Indian and Middle Eastern markets are geared up to receive a huge chuck of aircraft over the next decade, aviation stakeholders in the respective regions are leaving no-stone unturned to build a strong foundation for a sound aviation eco-system in the region. The major load of this falls on the shoulders of MRO stakeholders as an aircraft requires steady and regular maintenance to remain airworthy. Keeping this long-sighted vision in focus, the MRO stakeholders in India as well as Middle-East have pulled up their socks to grab a large share of the pie from the new incoming aircraft fleet. Let's have a look as to how these two MRO markets are evolving and preparing for the future.

The pandemic might have put a dent in the MRO markets in India as well as ME, but airline as well as third party MROs in both the regions are fast-developing with strong backing of their respective government aids and support.

Indian airlines keen on building in-house MRO capabilities

One common trend that was observed while studying the Indian as well as the Middle East MRO markets was that the airlines in both the regions have realized the importance to bring the MRO capacities in-house. In India for example IndiGo, India's biggest domestic carrier build its second largest 13,000 square meter maintenance facility at Bengaluru airport complete the hangar accommodation of two narrowbody air-

craft along with infrastructure support like engine QEC shop warehouse and engineering offices for all repair and maintenance work.

Another major airline, Air India is streamlining its operations to achieve global excellence in service. After the acquisition by Tata Group, Air India is focussed on minute details of its operations to achieve excellence and perfection, and naturally MRO forms an important part of it. When Air India was under Government of India umbrella, most of its maintenance work was carried out by AIESL (Air India Engineering Services), but post privatization, the airline has taken it upon themselves to develop and nurture their in-house maintenance engineers so as not to depend on third party MROs for any job.

Air India recently received approval from India's Directorate General of Civil Aviation (DGCA) to carry out line maintenance on Airbus A350 and A320 aircraft, becoming the Indian airline to receive Civil Aviation Requirements 145 approval for A350 family aircraft.

The achievement marks an important step for Air India to ensure smooth operations and maintenance of the six A350s that will join its fleet through March 2024 in its first phase of the aircraft's induction.

Air India's engineering team has been preparing in advance to ensure it is ready to service the A350 aircraft type. A team of about 30 engineers from Air India, Vistara and AIX Connect recently completed training at Airbus' facility in Toulouse with specialized courses on structure assessment and engine run-up, with some senior executives from the engineering department took an A350 general familiarization course.

In addition, Air India's technicians received extensive general familiarization training for the A350.

Going ahead, as a one-stop solution to for engineering requirements and to strengthen India's expanding aviation ecosystem, Air India build a 54,000 ft.2 centralized warehouse consolidating 16 locations throughout Delhi and Mumbai into a single facility. This new warehouse serves as a storehouse for maintenance, checks and repairs of its aircraft and ground support equipment with a capacity to store over a million spares.

Just as the two big airlines from India are geared to develop their own MRO capabilities, two major Middle eastern carriers are also building their own in-house MRO facilities.

Top airlines in Middle East building their own MRO facilities

Flydubai is planning a purpose-built $190 million MRO facility in Dubai South reflecting its long-term commitment to further enhancing its in-house capability, which will support its growing fleet. flydubai has been expanding its in-house capabilities over the years and in 2022 received its CAR-145 Base Maintenance Approval from the General Civil Aviation Authority (GCAA) enabling it to perform C Checks and Entry-into-Service for its fleet of B 737 MAX aircraft; bringing the airline added operational and cost efficiencies.

The airline has a strong team of 455 skilled engineers working in Line Maintenance, Technical Services, Materials and Workshops responsible for ensuring the airworthiness and safety of the fleet. Going ahead flydubai plans to recruit another 230 engineers in the next one year. This recruitment drive is well-timed to ensure that the airline is prepared in advance to meet the maintenance demands during the opening of new facility in 2026.

Another major carrier in the Middle East, Emirates has planned a $950 million engineering facility at the Dubai World Central. The one million square meter facility is designated to support the airline's fleet and operating requirements into the 2040s.

The huge facility will deliver eight maintenance hangars and one paint hangar, with a capacity to handle any size of commercial aircraft up to Code F (A380), an engine run-up facility, some 20 support workshops, storage facilities, and administration offices in the first phase of construction due to start in Q1 of 2024.

Speaking about other private investments in MRO sector, Saudi Arabia's Public Investment Fund (PIF) has announced investment in domestic MRO Saudia Technic and plans to develop a 10.7 million ft.2 designated MRO village in Jeddah. The site will include a center for engine maintenance, including an engine test cell which will eventually service both narrowbody and widebody engine types.

Saudia Technic currently holds capability for line, base, components and engine maintenance at its facility in Jeddah. The construction of the new MRO site will bring new hangar capacity and an increased number of component shops leading to a larger share of the country's future market demand.

Middle East Government boost for MROs

Going ahead, the Government of Saudi Arabia recently unveiled the global investment drive with the aim of attracting 100 million tourists by 2030 in Saudi Aviation Policy. To meet this demand there will be a huge influx of new aircraft in the Kingdom of Saudi Arabia in turn rising the demand for MRO market.

The Vallair Group and the National Industrial Development Center, established by the Government of the Kingdom of Saudi Arabia (KSA), signed an MoU to develop the aerospace industry in the Kingdom and throughout the Middle East. Both parties will form joint working teams to develop narrowbody MRO, aircraft disassembly, component repair shops, aircraft painting, and full training for all capabilities.

Foreign OEMs eyeing Middle Eastern market with caution

Honeywell announced two agreements during the Dubai Airshow expanding its footprint in ME. The 10-year deal with Saudia Technic covers a global license to service the 331-500 auxiliary power unit installed in the Boeing 777. The full-service MRO organization will become Honeywell's first authorized service center in the Middle East for the 777's APU.

In August 2023, Boeing and Joramco established a new Boeing Converted Freighter (BCF) line in Amman, Jordan with Joramco becoming the first MRO supplier in the Middle East supporting future Boeing freighter conversions of both domestic and foreign aircraft.

The rise & rise of third-party MROs and JVs in Middle East

The year 2023 saw massive development in the MRO sector in Middle East with many new third- party MROs as well as airline hangar sprouting up all over the UAE. The expansion work at Etihad Engineering's maintenance facility in Abu Dhabi is almost nearing completion. As a part of its expansion plan Etihad Engineering added 540,000 ft.2 of incremental space to its current facility along with two new widebody bays dedicated to B777-300ER passenger to freighter conversions.

In November Sanad officially announced the opening of its Leap Engine MRO in Abu Dhabi, marking a significant milestone as the first facility in the

Middle East specializing in CFM International Leap 1A and 1B engines. This strategic move came on the heels of an 11-year agreement with GE Aerospace and Safran Aircraft Engines, which was forged at the Paris Air Show back in June.

The new MRO center is poised to bolster Sanad's servicing capabilities significantly. According to Mansoor Janahi, CEO of Sanad Group, the facility is designed to handle annual servicing for up to 200 engines.

Saudia Technic that was formerly known as Saudi Arabian Aerospace Engineering Industries is creating an MRO Village in Jeddah, where it will inspect, repair, overhaul, and upgrade APUs.

In a separate, five-year deal Egyptair Maintenance and Engineering has gained a license to provide a flat-rate component repair service for aircraft operated by its sister airline. The deal covers Egyptair's Airbus A320 and A330 aircraft, along with the 737 and 777 from Boeing.

Joramco has expanded its presence in Jordan's capital two new hangars, the first conducts line maintenance with capacity for P2F conversion services and a large volume able to handle one Airbus A380 or four narrowbody aircraft. A second proposed hangar will focus on aircraft painting services, with capacity for one Boeing 777 aircraft or two narrowbody aircraft.

Etihad Airways Engineering has inked a pact with Amros Group to offer transition Continuing Airworthiness Management Organisation (CAMO) services to its customers as a part of its comprehensive suite of aircraft maintenance and engineering solutions.

Etihad Airways Engineering also announced its ambitious project to expand the capacity of its 500,000sqm aircraft maintenance facility adjacent to Abu Dhabi International Airport in collaboration with Aircraft Support Industries.

Airbus expects the Middle East aviation services business to witness a 4.7% average annual growth until 2041, surpassing the global average of 3.7%. Airbus also Middle East to witness an addition of 56,000 new pilots, 51,000 new technicians and 100,000 new cabin crews. Worth $9 billion today, the market is expected to be valued at $25 billion by 2041.

The industry is expected to recover to pre-pandemic levels this year with maintenance and training leading the way backed by digitalisation and innovation along with investment in new technology. Airbus further predicts that the demand for highly-skilled labour will increase by more than two million people over the next 20 years in ME.

The Indian MRO market forecast

Now, let's shift focus to Indian market, as per CRISIL Ratings the revenue generated by domestic maintenance, repair, and overhaul (MRO) services providers in India is projected to triple by fiscal 2028, reaching INR 5,500-6,000 crore.

This significant growth is attributed to the robust expansion of the domestic civil aviation industry, government support, and ongoing MRO capital expenditures at airports.

The demand for MRO services is closely linked to the size of the aircraft fleet. With substantial aircraft orders placed by airline operators, the Indian domestic fleet is expected to surpass 1,000 aircraft by 2027, up from approximately 700 as of March 2023. As a result, the overall expenditure by Indian airlines on domestic and global MRO services is projected to exceed INR 25,000 crore by 2028, compared to the levels of around 14,000 crore in the previous fiscal year.

Aircraft OEMs are ramping up production to keep up with demand and Asian operators are expected to take delivery of a significant chunk of new fleet arrivals. Increased aircraft production and delivery will usually translate to higher demand for aviation components and spare parts.

OEMs are also seeking reliable suppliers in India to meet the rising demand, and by becoming an approved supplier for OEMs India is opening its doors to new markets and partnerships.

OEM engagements in India

Airbus contracts

Airbus has inked aircraft component manufacturing contract with about four Indian suppliers, mainly Mahindra Aerospace, Aeques, Dynamatic Technologies and Gardner. These contracts are a part of Airbus' make-in-India initiative to boost the country eco-system in component manufacturing like sheet metal, machining and extrusion profiles".

As a part of the contract, the four companies will supply airframe and wing parts for Airbus A320neo, A330neo and A350s. With such contracts Airbus plans to ramp-up of commercial aircraft programmes globally along with strengthening the capability and capacity in the aviation ecosystem of India.

Airbus already procures $750 million worth of components and services annually from India and the latest contracts will add significantly to those volumes. Interestingly, every Airbus commercial aircraft has components and technologies that are made in India.

Hindustan Aeronautics (HAL)'s rise in commercial aerospace sector

Airbus has signed an agreement with Hindustan Aeronautics Limited (HAL) to provide the A320 tool package along with special consulting services to HAL to set up an aircraft maintenance, repair and overhaul (MRO) facility in Nashik, Maharashtra, this agreement is a part of Airbus' strategy to support HAL's entry into serving commercial aircraft in India and to build a sound MRO eco-system in India for the 'Make-in-India' initiative.

Safran Aircraft Engines has signed a MoU (Memorandum of Understanding) with Hindustan Aeronautics Limited (HAL) to develop industrial cooperation in forging parts' manufacturing for commercial engines.

Foreign OEM engagements in India

Safran Aircraft Engines have inked a pact with PTC Industries, to manufacture titanium-casting parts for CFM LEAP engines. The first titanium casting parts for LEAP engines are scheduled to be delivered early in 2024 for the LEAP engine powering single-aisle jets.

PTC Industries have recently invested about INR 300 crore to set up a titanium recycling plant in Lucknow, Uttar Pradesh, India. The plant will be the first of its kind plant in the private sector in the country. One of the most interesting aspects of this facility is that it will recycle the waste generated by the aerospace industry while making titanium castings. The facility is expected to come up in next three to four years.

Safran is all set to set up one of its largest LEAP MRO facilities in Hyderabad. Safran is also involved in a joint venture with HAL called Helicopter Engines MRO Pvt. Limited (HE-MRO).

Thales is set to open an avionics MRO facility in India towards the end of next year with an aim to double the number of engineers that it employs in India from 1, 500 to 3,000 in the next three years.

Rolls-Royce is also mulling the idea of

setting up an MRO facility in India after signing the Air India contract of 100 engines.

Boeing and GMR Aero Technic are to establish a new facility for converting Boeing passenger aircraft into freighters in Hyderabad to support the growth of air cargo in the country making GMR Aero Technic the first Boeing supplier in India that will have the capability to support future conversions of both domestic and foreign aircraft

With more and more Pratt and Whitney (P&W) engines getting grounded by domestic carriers, the company is considering setting up a maintenance, repair and overhaul (MRO) facility in India, sources from DGCA has claimed that the regulator is pushing the OEM for an MRO facility to solve the impending engine crisis in the country.

Boeing announced a significant expansion of its partnerships within the Indian MRO ecosystem over the

last year, like AI Engineering Services Ltd., Horizon Aerospace, and Air Works Group.

Boeing is planning to build a one-of-a-kind engineering research and development facility by investing over $200 million in Bengaluru, India. The facility will be built on a 43-acre campus and will be Boeing's largest facility of its kind outside the US.

The development of third-party MROs in India

After almost a decade, the AI Engineering Services (formerly known as Air India Engineering Services Limited/ AIESL) facility in Mihan-SEZ, Nagpur, India welcomed its first international customer, a Kuwait Airways B777 aircraft for a C-check marking an important milestone for the AIESL as the facility served a foreign airline for the first time

AI Engineering Services (AIESL) Trivandrum recently inducted its first Boeing 737 MAX aircraft for a 36-month heavy check.

Air Works received the European Aviation Safety Agency's (EASA) approval for its twin hangar engineering facility at Cochin International Airport and is now able to offer full Maintenance Planning Document (MPD) support for the Airbus 320 family of aircraft, including A318, A319, A320 and A321 from a second facility.

GMR School of Aviation is all set to open any time soon, provide the fully integrated Aircraft Maintenance Engineer (AME) licensing program with a four-year course will include two years of classroom training and a two-year training in maintenance, repair and overhaul (MRO) at GMR Aero Technic followed by aircraft type training.

Government push to develop MRO pockets in the country

The Indian government and domestic MRO stakeholders have begun planning and development of MRO hubs in various pockets of the country, including a development at the twin airport project in Noida.

The Government of Uttar Pradesh plans to develop an MRO hub near Noida International Airport, which is currently under construction. As a next step, the Yamuna Expressway Industrial Development Authority (YEIDA), which handles infrastructure near the airport, is preparing to issue a global tender for an MRO facility, as part of the airport's second phase expansion.

Another MRO hub will soon come up at Tirupati International Airport, recently a delegation from Canadian aviation visited the airport to assess the feasibility of the project. The delegation will submit its report to the Government soon.

At the same time, a construction boom is underway. The Delhi and Bengaluru airports have established dedicated MRO facilities for select private airlines, with more in the works. Plans are also in place for the setup of MRO facilities at the airports in Belagavi, Bhopal too.

The Ministry has termed this phase as the 'the time is right now' for the country to look deeply at manufacturing aerospace products in India.

NITI Aayog, has recommended that the country take incremental steps to boost its MRO sector like setting up joint ventures with established global MRO players, first focusing on segments with less-stringent IP control such as electrical and electronics, avionics and structural repair, and gradually ascending the value chain.

But is this enough? Or is there a need for more and what else needs to be done to create a sound MRO ecosystem in India. The question is still under debate at a lot of aviation talk shows and exhibitions across the world.

All-in-all both the Middle East and Indian MRO market is rapidly developing to create a solid foundation and a strong eco-system in the respective countries for the huge fleet influx that the two countries are about to witness over the next couple of decades ■

Airbus handovers first A350-1000 jet to Japan Airlines

This state-of-the-art A350-1000 is poised to become JAL's flagship international aircraft, with its debut flight scheduled on the prestigious Tokyo Haneda to New York JFK route.

Airbus, in a significant milestone, has officially delivered the inaugural A350-1000 to Japan Airlines (JAL) at the Airbus delivery center in Toulouse, France. This state-of-the-art A350-1000 is poised to become JAL's flagship international aircraft, with its debut flight scheduled on the prestigious Tokyo Haneda to New York JFK route.

The A350-1000 in JAL's fleet is configured with a focus on passenger comfort, featuring four distinct classes. The First Class introduces six Suites, each offering a versatile setup with options for a sofa, seat, single bed, or double bed. Business Class also embraces the Suite concept, presenting 54 seats with privacy doors. Premium Economy Class, with 24 seats, and Economy Class, with 155 seats, prioritize personal space and comfort in their respective categories.

The A350-1000 cabin design is a testament to the elegance of Japanese aesthetics and tranquility. With a serene ambiance that accentuates the beauty of Japan, JAL's A350 cabin promises passengers an immersive experience. The interior, crafted to high-quality standards, aligns with JAL's renowned service. JAL has a substantial order of 31 A350 aircraft, comprising 18 A350-900s and 13 A350-1000s. The carrier has been operating the A350-900 on high-density domestic routes in Japan since 2019.

As the world's most modern and efficient widebody aircraft, the A350-1000 stands as the long-range leader in the 300-410 seater category. Its clean-sheet design incorporates cutting-edge technologies and aerodynamics, ensuring unparalleled efficiency and comfort. The A350's Airspace cabin is renowned for being the quietest among twin-aisle aircraft, providing an optimal in-flight experience for passengers and crew.

The A350's new-generation engines and the use of lightweight materials contribute to its status as the most fuel-efficient large widebody aircraft. Remarkably quiet, the A350 boasts a 50 percent reduction in noise footprint compared to its predecessor, making it an excellent choice for environmentally conscious air travel.

As of November 2023, the A350 Family has amassed an impressive 1,070 firm orders from 57 customers globally, solidifying its position as one of the most successful widebody aircraft in aviation history. JAL's adoption of the A350-1000 underscores a commitment to offering passengers a cutting-edge and sustainable travel experience ■

Air India secures DGCA approval for Airbus A350 and A320 MRO

This DGCA approval is pivotal for the seamless operation and maintenance of the six A350 aircraft slated to join Air India's fleet, with the first arrival expected by the end of December 2023.

Air India, a prominent player in India's aviation sector, has achieved a significant milestone with the Directorate General of Civil Aviation (DGCA) granting approval for the engineering line maintenance of Airbus A350 and A320 aircraft. This regulatory approval is pivotal for the seamless operation and maintenance of the six A350 aircraft slated to join Air India's fleet, with the first arrival expected by the end of December 2023.

The Civil Aviation Requirement (CAR) 145 certification from DGCA is a rigorous process ensuring that Air India's Maintenance, Repair, and Overhaul (MRO) processes, systems, and controls adhere to strict airworthiness standards. This approval not only enables Air India's engineering team to conduct line maintenance on the A350 and A320 but also signifies their competence in performing maintenance tasks safely and effectively.

"This approval will further inspire us to ensure smooth operation of our fleet, including, of course, the A350, with the highest technical despatch reliability," said S.K. Dash, Chief Technical Officer, Air India.

Air India holds the distinction of being the first Indian airline to incorporate the A350 into its operations. The engineering team has undergone comprehensive training, including specialized courses on Structure Assessment and Engine Run Up at the Airbus center in Toulouse. Senior executives have completed a General Familiarization Course to deepen their understanding of the A350's intricacies.

Collaboration with SIA Engineering Company (SIAEC) has further fortified Air India's preparation for the A350. Engineers have gained hands-on experience in scheduled maintenance activities and turn-around inspections. Workshops and training sessions have contributed to building comprehensive familiarity with the A350 aircraft, ensuring a smooth transition as these advanced planes join the fleet.

This regulatory approval and meticulous training initiatives underscore Air India's commitment to maintaining the highest standards of safety, reliability, and operational efficiency. As the aviation landscape evolves with the introduction of advanced aircraft like the A350, Air India's proactive approach positions it as a leader in adopting and adapting to cutting-edge aviation technologies. The airline is poised to provide passengers with a superior travel experience while reinforcing its position as a key player in India's aviation industry ■

Airbus handovers first A220 jet to Qantas Group

This delivery is part of Qantas Group's order for 29 Airbus A220s, designated for operation by QantasLink, the regional subsidiary providing services across metropolitan and regional destinations in Australia.

Airbus has delivered the first new-generation A220 aircraft to Qantas, Australia's flagship airline marking a significant milestone and becoming the 20th operator of this modern aircraft type. This delivery is part of Qantas Group's order for 29 A220s, designated for operation by QantasLink, the regional subsidiary providing services across metropolitan and regional destinations in Australia. Adorned with a distinctive livery inspired by Aboriginal artwork, the A220 will make its way to Sydney from the Airbus final assembly line in Mirabel. The delivery route includes stops in Vancouver, Honolulu, and Nadi.

The A220 is set to gradually replace QantasLink's existing 717 fleet. With its increased range, the A220 has the capability to connect any two points across Australia non-stop, offering operational flexibility. Furthermore, the aircraft boasts a notable 25% reduction in fuel consumption and carbon emissions compared to its predecessors, aligning with Qantas' commitment to sustainability. Designed for the 100-150 seat segment, the A220 is recognized for its modern features, including the latest generation Pratt & Whitney GTF engines, allowing non-stop flights of up to 3,450 nautical miles or 6,390 kilometers. The aircraft's spacious cabin, large windows, and advanced technology contribute to superior passenger comfort.

Qantas' A220 configuration includes 137 seats in a two-class layout, with 10 in business class and 127 in economy. The aircraft's introduction signifies a step forward in the airline's commitment to offering enhanced travel experiences to its customers.

One notable aspect of the A220 is its compatibility with Sustainable Aviation Fuel (SAF). Airbus aims for all its aircraft to be capable of operating with up to 50% SAF by 2030, aligning with industry efforts to reduce aviation's environmental impact. With close to 850 orders from 30 customers and over 300 delivered globally, the A220 has gained popularity for its efficiency, range, and passenger comfort. Qantas' adoption of this advanced aircraft underlines its strategic approach to fleet modernization and sustainability in aviation ■

Metrojet HK MRO completes 8C inspection on Gulfstream G650 business jet

The 8C inspection by Metrojet HK MRO on the Gulfstream G650 jet was a comprehensive examination involving in-depth assessments of various critical components of the aircraft, ensuring their functionality and serviceability.

Metrojet HK MRO, specializing in aircraft maintenance, repair, and overhaul, successfully conducted an 8C inspection on a Gulfstream G650 aircraft, showcasing its expertise in handling heavy scheduled maintenance events. The 8C inspection is a comprehensive examination that involves in-depth assessments of various critical components of the aircraft, ensuring their functionality and serviceability. The Gulfstream G650, known for its long-range capabilities and luxurious interiors, requires meticulous attention during maintenance to meet safety and regulatory standards.

More than seven engineers at Metrojet were dedicated to the detailed 8C inspection for the Gulfstream G650. The inspection covered a wide range of work scopes, including the nose, tail, cockpit, engines, landing gears, and flight control system. The involvement of skilled engineers is crucial to maintaining the aircraft's reliability, safety, and performance.

As a Gulfstream Authorized Facility (AWF), Metrojet possesses the necessary certifications and expertise to conduct maintenance events for various aircraft types. Being an Authorized Facility involves meeting stringent standards set by both aviation authorities and the original equipment manufacturer (OEM). This ensures that the maintenance and overhaul services provided by Metrojet comply with safety regulations and adhere to the manufacturer's specifications.

The Gulfstream G650 is a flagship business jet known for its impressive range and high-performance capabilities. Its maintenance, especially during heavy inspection events like the 8C inspection, requires specialized knowledge and experience. Metrojet's capability to handle such maintenance tasks underscores its commitment to delivering quality and timely services to its clients.

The successful completion of the 8C inspection on the Gulfstream G650 reinforces Metrojet's position as a reliable service provider in the field of aircraft maintenance. The company's focus on safety, adherence to regulations, and skilled engineering teams contribute to its reputation as a trusted partner for aircraft operators in need of maintenance, repair, and overhaul services ■

Universal Avionics secures FAA certification for AerAware on Boeing 737NG jet

Universal Avionics has achieved STC approval from the FAA for AerAware EFVS powered by ClearVision to be fitted on Boeing 737NG jets marking the world's first EFVS to achieve a 50% reduction in minimum visibility.

Universal Avionics has achieved Supplemental Type Certification (STC) approval from the FAA for AerAware, an Enhanced Flight Vision System (EFVS) powered by ClearVision on the Boeing 737NG. This marks the world's first EFVS to achieve a 50% reduction in minimum visibility requirements and the first aircraft to be certified with a complete dual-pilot EFVS solution featuring a wearable Head-Up Display (HWD). AerAware incorporates Universal Avionics' ClearVision, including dual SkyLens Head-Wearable Displays (HWD) and an EVS-5000 multispectral camera. This EFVS provides head-up capabilities to enhance visibility during low-visibility conditions, both day and night. The approval is a result of a unique partnership with AerSale Corporation, which led the design, installation, flight testing, and certification efforts.

The certified ClearVision system, known as AerAware, is a groundbreaking solution that significantly increases situational awareness during low-visibility operations for Boeing 737NG, including Boeing Business Jets. It is designed to reduce natural visibility requirements on approach, leading to increased safety.

"Certified for EFVS operations all the way to touchdown and rollout in low visibility conditions, ClearVision improves accessibility to most airports and increases approach capacity at congested airports, leading to fewer delays," said Dror Yahav, CEO, Universal Avionics."AerAware serves as the only commercially viable retrofit solution that substantially increases situational awareness during low visibility operations for thousands of 737NG, including over one hundred Boeing Business Jets, reducing natural visibility requirements on approach and increasing safety," he further added.

ClearVision is a comprehensive Enhanced Flight Vision System that integrates Synthetic Vision (SVS) and Enhanced Vision (EVS) Systems into a Combined Vision System (CVS). This provides pilots with unparalleled environmental awareness, displayed along with 737-tailored symbology on the pilot and copilot SkyLens HWD. SkyLens is a compact and lightweight Head-Wearable Display offering an unlimited field of regard, allowing pilots to comfortably turn their heads while retaining critical flight information.

"This marks a milestone achievement for AerSale as we announce the FAA's issuance of a Supplemental Type Certificate for AerAware," said Nicolas Finazzo, AerSale's Chief Executive Officer. "I am proud of our team and grateful to our partners and the FAA for their tireless effort to complete a comprehensive and robust certification process and bring AerAware to its commercialization phase," he further added.

The benefits of AerAware include enhanced safety, reduced operating costs, increased airline efficiency, and environmental advantages. It aligns with the FAA's Next Generation Air Transportation System project, contributing to the enhancement of airport capacity, particularly during low-visibility operations. The AerAware EFVS solution is in line with the FAA's Human Systems Integration Roadmap, contributing to the transformation of the National Airspace System ■

Airbus handovers first A321neo jet to Sunclass Airlines

The Airbus A321neo aircraft was delivered to Sunclass Airlines from Airbus' Hamburg facility in Germany.

Sunclass, the Danish leisure airline, has received its inaugural Airbus A321neo aircraft in line with its commitment to advancing efficiency, curbing fuel usage, and reducing emissions. The delivery took place at the Airbus facility in Hamburg, Germany. As an exclusive Airbus operator, Sunclass Airlines strategically operates both the A330neo and A321neo, capitalizing on the benefits of Airbus's standardized features. The A321neo is set to offer Sunclass passengers an expansive and comfortable cabin experience.

Positioned as the lengthiest fuselage variant within Airbus's highly sought-after A320 Family, the A321neo boasts the capacity to comfortably carry up

to 244 passengers with a range of up to 4,700 nautical miles (8,700 kilometers). The A320neo Family, inclusive of the A321neo, is celebrated for featuring the industry's broadest single-aisle cabin.

This family of aircraft delivers a minimum 20% decrease in fuel consumption and CO2 emissions, coupled with a 50% reduction in noise compared to its predecessors. These advancements are attributed to the integration of cutting-edge technologies, such as new-generation engines and Sharklets designed for improved aerodynamics and performance.

Sunclass's introduction of the A321neo aligns with its strategic goals of operational efficiency and environmental responsibility by adopting contemporary, fuel-efficient aircraft. As of the close of November 2023, the A321neo had amassed over 5,600 orders from a diverse clientele of more than 100 global customers ■

American Airlines receives $22 million from State of Oklahoma for Tulsa MRO base upgrades

This investment comes as part of the airline's ongoing commitment to improve its facilities, with more than $400 million in enhancements announced at the Tulsa maintenance base over the last three years.

American Airlines has been awarded $22 million from the State of Oklahoma's Business Expansion Incentive Program, to be received over three years. The funds will be utilized to further expand and enhance American Airlines' maintenance base and engine repair and overhaul facility in Tulsa, Oklahoma (Tech Ops – Tulsa). This investment comes as part of the airline's ongoing commitment to improve its facilities, with more than $400 million in enhancements announced at the Tulsa maintenance base over the last three years. The recent award is in addition to American's capital investment of $31.6 million in the engine shop for modernizing machinery and an ongoing multi-million dollar improvement project at Tech Ops – Tulsa.

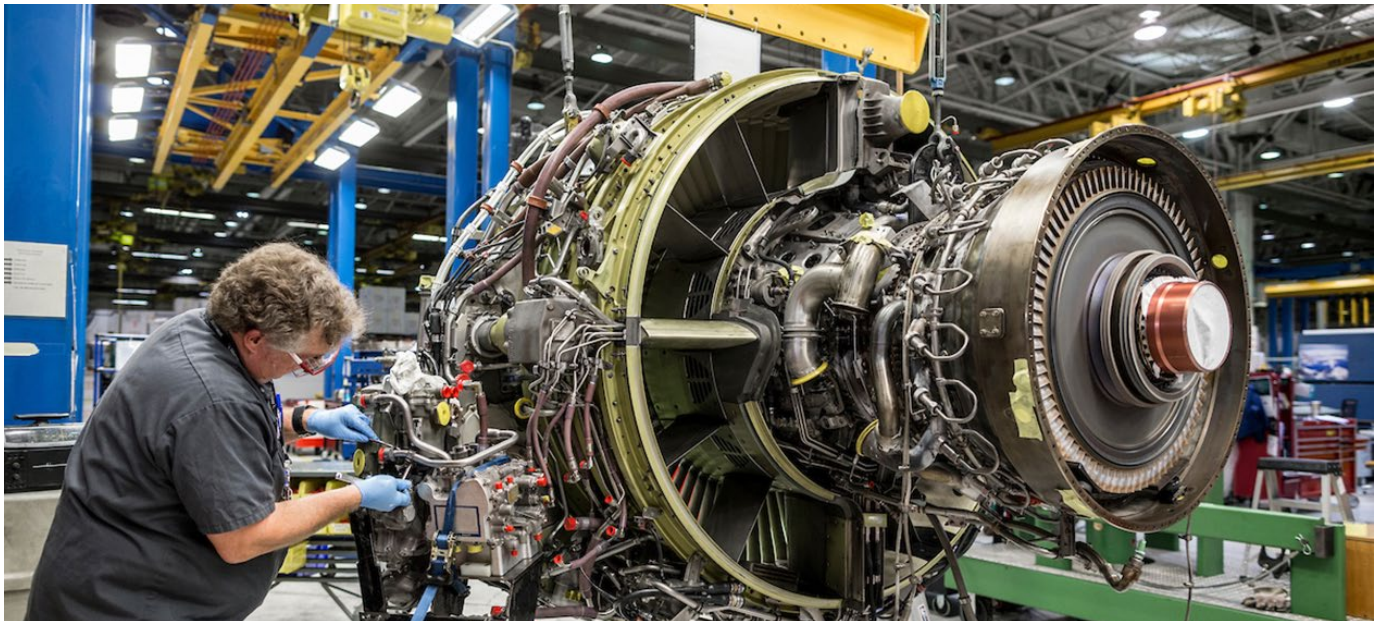
Tech Ops – Tulsa has been the principal location for airframe and engine maintenance and overhauls for American's aircraft since 1946. It stands as the largest commercial aviation maintenance base globally, situated on 246 acres of land at Tulsa International Airport. The facility comprises approximately 3.3 million square feet of building space, six hangars with 24 aircraft bays, and 22 support facility buildings. Currently employing nearly 5,000 team members, Tech Ops – Tulsa sees more than 800 of American Airlines' aircraft visiting the facility annually.

"We graciously thank Governor Stitt, Lieutenant Governor Pinnell and the State of Oklahoma Department of Commerce for recognizing the important work our team does and appreciate their investment in the future of our Tulsa maintenance base," said Greg Emerson, Vice President of Base Maintenance and Facilities, American. "American has a long, rich history in Oklahoma and this investment in our Tech Ops – Tulsa facility and team members ensures a bright future for years to come. We're also eager to add more than 300 new team members to our team in high-paying jobs as a result of this investment, further bolstering our presence in the Tulsa community," he further added.

The new investments are set to create over 300 new positions at Tech Ops – Tulsa, enhancing existing engine repair and overhaul work. The roles include licensed airframe and powerplant mechanics, engineers, machinists, welders, maintenance planners, and more, with total annual compensation packages reaching nearly $120,000.

"For Oklahoma's business sector to succeed, we must support the existing companies that are right here in Oklahoma," said Matt Pinnell, Lt. Governor and Secretary of Workforce and Economic Development, Oklahoma. "Because of resources like the Business Expansion Incentive Program and the P3 Pooled Finance Program, Oklahoma companies will strengthen and grow, boosting local economies and moving our state forward," he further added.

This move reflects American Airlines' commitment to investing in its infrastructure, fostering economic growth in the Tulsa community, and creating high-quality job opportunities. The state's support through incentive programs contributes to the airline's ongoing efforts to enhance its operational capabilities and facilities ■



Embraer to expand support facility to strengthen MRO capabilities in the USA

The expansion involves the addition of three Embraer Executive Aviation MRO facilities in Dallas Love Field, TX, Cleveland, OH, and Sanford, FL with plans to increase its Mobile Response network by adding 28 teams.

Embraer is set to double its maintenance service capacity in the United States to support the growing customer base of its executive jets. This expansion involves the addition of three Executive Aviation Maintenance, Repair, and Overhaul (MRO) facilities in Dallas Love Field, TX, Cleveland, OH, and Sanford, FL. The move comes in response to the rapid growth of Embraer's Executive Jets fleet, reflecting strong demand across its product portfolio.

As part of this expansion, Embraer plans to substantially increase its Mobile Response network by adding 28 teams and enhancing its capabilities, including access to interior services, paint, and component repairs. Service at these new locations is expected to commence in the second quarter of 2024. Currently, Embraer has three owned U.S.-based service centers for its executive jet customers in Mesa, AZ, Melbourne, FL, and Fort Lauderdale, FL. Additionally, the company has 24 authorized service centers for its executive jets across the USA.

"We are pleased to offer additional service locations for our customers as we will significantly expand the capacity, capability, and footprint of our MRO network in the USA. Our Executive Jets fleet has been growing rapidly over the last several years as strong demand continues across the entire product portfolio. This expansion will provide immediate additional capacity and ensures that we are poised to care for our valued customers and strategically grow for many years to come," says Frank Stevens, Vice President MRO Services, Embraer Services and Support.

Embraer, with more than 54 years in aerospace, aims to redefine private air travel by incorporating industry-leading innovation, design, and technology. The company's portfolio includes the Phenom 100EX, Phenom 300E (the best-selling light jet for the past 11 consecutive years), and the Praetor 500 and Praetor 600 (considered the most disruptive and technologically advanced midsize and super-midsize business jets, respectively). Embraer's commitment extends beyond performance and technology to include sustainability and socially responsible practices. The expansion of its maintenance service capacity in the U.S. aligns with the company's strategy to offer a superior experience in business aviation and enhance customer support services ■

Airbus secures order for four more A330neo jets to Azul Linhas Aéreas

With the five Airbus A330neo jets already in operation and the additional order, Azul will standardize its international fleet with the new jets.

Airbus and Azul Linhas Aereas of Brazil have confirmed a firm order for four additional A330-900 aircraft, following a purchase agreement signed in June 2023. With this order, Azul will expand its fleet and international route offerings. Azul has positioned itself as a carrier with a highly fuel-efficient fleet, with over 80% of its capacity coming from next-generation aircraft. The A330neo has been a strategic choice for the airline's widebody operations. With the five A330neos already in operation and the additional seven on order, Azul aims to standardize its international fleet. This move is expected to enhance the airline's customer experience and maintain its reputation for on-time performance.

"We are proud to announce this order, as it confirms Azul as the airline with the most fuel- efficient fleet in the region, with over 80% of our capacity coming from next-generation aircraft. With the five A330neos we currently operate and the seven we now have on order, we will standardize our international fleet, allowing us to further enhance Azul's renowned customer experience and on-time performance," said Alexandre Malfitani, Chief Financial Officer, Azul.

The A330neo, Airbus' latest widebody aircraft, is equipped with the latest generation Rolls-Royce Trent 7000 engines, enabling non-stop flights of 7,200 nautical miles or 13,300 kilometers. With over 1,800 firm orders from 130 customers globally, the A330 Family is recognized as the world's most popular widebody family. The A330neo features the award-winning Airspace cabin, designed to offer passengers a high level of comfort, spaciousness, and modern amenities. Airbus' commonality between the A330 and A320 Family fleets provides operational synergies for airlines like Azul.

"Azul's re-confirmed confidence in the A330neo underscores once again, that the A330neo's economics and performance are making a true difference in Azul's widebody strategy, coming out on top of the competition," says Christian Scherer, Chief Commercial Officer and Head of Airbus International."While Azul will leverage the full potential of Airbus' unique commonality between its A330 and A320 Family fleets, passengers can rave about a spacious, best-in-class cabin experience – and this on every long-haul flight the airline offers on its attractive, globally growing network," he further added.

Azul Linhas Aereas, established in 2008, has become one of Brazil's largest airlines, serving over 160 destinations within Brazil, the United States, Europe, and South America. With the A330neo forming a key part of its fleet, Azul aims to further strengthen its position in the market. In Latin America and the Caribbean, Airbus has sold over 1,150 aircraft, with more than 750 in operation and around 500 in the order backlog. Airbus holds a dominant market share of 58% of in-service passenger aircraft in the region, securing 75% of net orders since 1994 ■

Airbus secures order for 157 additional A320neo jets from easyJet

Airbus and easyJet have signed a firm order for 157 additional A320neo aircraft, including 56 A320neo and 101 A321neo aircraft also involving the conversion of 35 A320neo into the larger A321neo.

Airbus and easyJet have finalized a firm order for 157 additional A320neo Family aircraft, consisting of 56 A320neo and 101 A321neo aircraft. This order also involves the conversion of 35 A320neo into the larger A321neo. The decision aligns with easyJet's strategy for fleet renewal, incorporating more efficient aircraft and facilitating disciplined growth.

"We are very pleased to be able to confirm this significant order which not only enables easyJet to replace its older aircraft with more efficient aircraft, a core component of our net zero roadmap, but also provides us ability for disciplined growth, including the significant opportunity that upgauging brings," said Johan Lundgren, CEO, easyJet."With this order easyJet will be able to continue to cement its leading position at Europe's primary airports and so we look forward to working in partnership with Airbus in the years to come," he further added.

The A320neo Family, renowned as the world's most popular single-aisle aircraft, has garnered over 18,000 orders from nearly 140 customers globally. The A321neo, the largest member of the A320neo Family, boasts unparalleled range and performance. With new-generation engines and Sharklets, it provides a 50% noise reduction, over 20% fuel savings, and CO2 reduction compared to previous-generation single-aisle aircraft.

"Airbus is delighted to be accompanying easyJet in its fleet growth and renewal. Its Airbus fleet allows easyJet to differentiate its offering in its competitive market with the most state-of-the-art, modern and comfortable aircraft," said Christian Scherer, Chief Commercial Officer and Head of International at Airbus. "easyJet and Airbus both are strong advocates for the aviation sector to de-carbonise. This significant investment into the most fuel efficient and SAF-capable aircraft is a testimony to our joint commitment in this respect. Bravo easyJet, and thank you," he further added.

Airbus emphasizes sustainability, with the entire A320 Family capable of operating with up to 50% SAF, and the company aims for all its aircraft to be capable of operating with up to 100% SAF by 2030. To date, over 5,600 A321neos have been ordered by more than 100 customers worldwide ■

LATAM announces orders for five more Boeing 787 aircraft

The LATAM group has chosen to install GEnx engines from GE Aerospace in the upcoming Boeing 787s it acquires.

LATAM Group has announced that it has placed an order for five additional Boeing 787 Dreamliners. According to the acquisition, the South American airline group is now the biggest Dreamliner operator in Latin America in keeping with its goal of becoming more sustainable and efficient. With this order, LATAM group will have 46 Boeing 787 aircraft overall, in addition to the already planned deliveries of this model in the ensuing years. This investment furthers the group's goal of having one of the most advanced and productive fleets in South America, with the addition of 20 more aircraft of this model from the pre-pandemic fleet.

Ramiro Alfonsín, LATAM Airlines Group S.A CFO, said, "These actions are fully aligned with the commitment to sustainability and brings LATAM closer to the goal of becoming a carbon neutral group by 2050. The incorporation of GEnx engines is a decision that provides greater flexibility and options for the expansion of the long-range fleet. Furthermore, increasing the Boeing 787 fleet size will allow the group to operate with two different engine models, known for their cutting-edge technology and reduced environmental impact, in a complementary way."

Moreover, LATAM Group has made the decision to outfit the upcoming Boeing 787s it acquires with GEnx engines from GE Aerospace, making it the first airline in South America to do so. These engines are renowned for their exceptional performance and efficiency.

Mike Wilson, vice president of Latin America and Caribbean Sales, Boeing Commercial Airplanes, said, "The 787 Dreamliner is perfectly suited to support LATAM group's sustainability and operations goals with its exceptional performance, flexible route capability and enhanced passenger comfort. We look forward to partnering with LATAM group as it connects Latin America with the world and makes a difference in the communities it serves."

Based on data from its manufacturer, the GEnx engine family has accumulated over 50 million flight hours since going into service in 2011. It is the fastest-selling, high-thrust engine in GE history, with nearly 3,000 engines in service and on backlog, including spares.

Kathy MacKenzie, Vice President, GE Commercial Programs for GE Aerospace, said, "GE Aerospace is pleased to welcome the LATAM Airlines Group to the GEnx engine family. As LATAM group continues to expand and grow its 787 Dreamliner fleet, we look forward to supporting their continued success every step of the way."

Superior fuel efficiency from the 787 Dreamliner family keeps airline customers competitive. Compared to the aircraft it replaces, the Boeing 787 uses 25% less fuel and emits 25% less emissions. Based on data from its manufacturer, the Boeing 787-9 can fly 300 passengers 7,565 nautical miles (14,010 km).

According to information provided by the company, the Boeing 787 is built for comfort, with a roomy cabin, huge windows, changeable LED lighting, enhanced air quality, smooth ride technology, and plenty of storage for a more pleasurable flight experience. The airline now operates 332 aircraft: 256 Airbus types (A319, A320, A320neo, A321 y A321neo) and 56 Boeing passenger aircraft (models 767, 777, and 787). LATAM Cargo also operates 20 cargo aircraft ■

Embraer inks a Follow-On Support Agreement with the Hellenic Air Force

Under this contract, four ERJ-145 AEW&C and one ERJ-135LR aircraft will receive full integrated logistic support services.

Embraer will supply integrated logistical support services for the Hellenic Air Force's fleet of four ERJ-145 AEW&C and one ERJ-135LR aircraft through the recently signed Follow-On Support Agreement contract. The contract includes maintenance, repair, pool, spare parts, and technical services for the five Embraer jets that the Hellenic Air Force currently operates.

General Kontantinous Kleniatis, Chief of Staff of the Hellenic Air Force Support Command, said, "The Hellenic Air Force is pleased to sign this contract with Embraer. We have been operating the aircraft since January 2000 and have counted on excellent support from Embraer when needed. With the Follow On Support Agreement, the Hellenic Air Force will raise even more the readiness and availability of its fleet."

For Embraer's military clients, the contract includes a parts pool programme wherein inventory costs are divided amongst customers using the service. This is an affordable method of guaranteeing availability for the AEW&C, Legacy 600/650, and ERJ-135/145 used by government and defence customers.

Carlos Naufel, President and CEO, Embraer Services & Support, said, "Embraer is honored to be selected by the Hellenic Air Force for this contract, which demonstrates their trust in our platform and support. Our solution is very competitive and Hellenic Air Force's decision for this model reinforces a worldwide trend, with customers looking for a complete logistics solution."

The contract includes a dedicated parts Pool Program for Embraer's military customers, in which inventory costs are shared between customers purchasing the service. Over the course of its more than 15 years of operation, the programme has allowed for the availability of high-value resources, support, and component exchange services ■

CPaT Global to provide training courses for ATSA Peru

The agreement involves CPaT delivering Aircraft System courses and a comprehensive General Subjects library for ATSA Peru's Bombardier DHC-8 100/300 and Bombardier DHC-8 Q400 fleets.

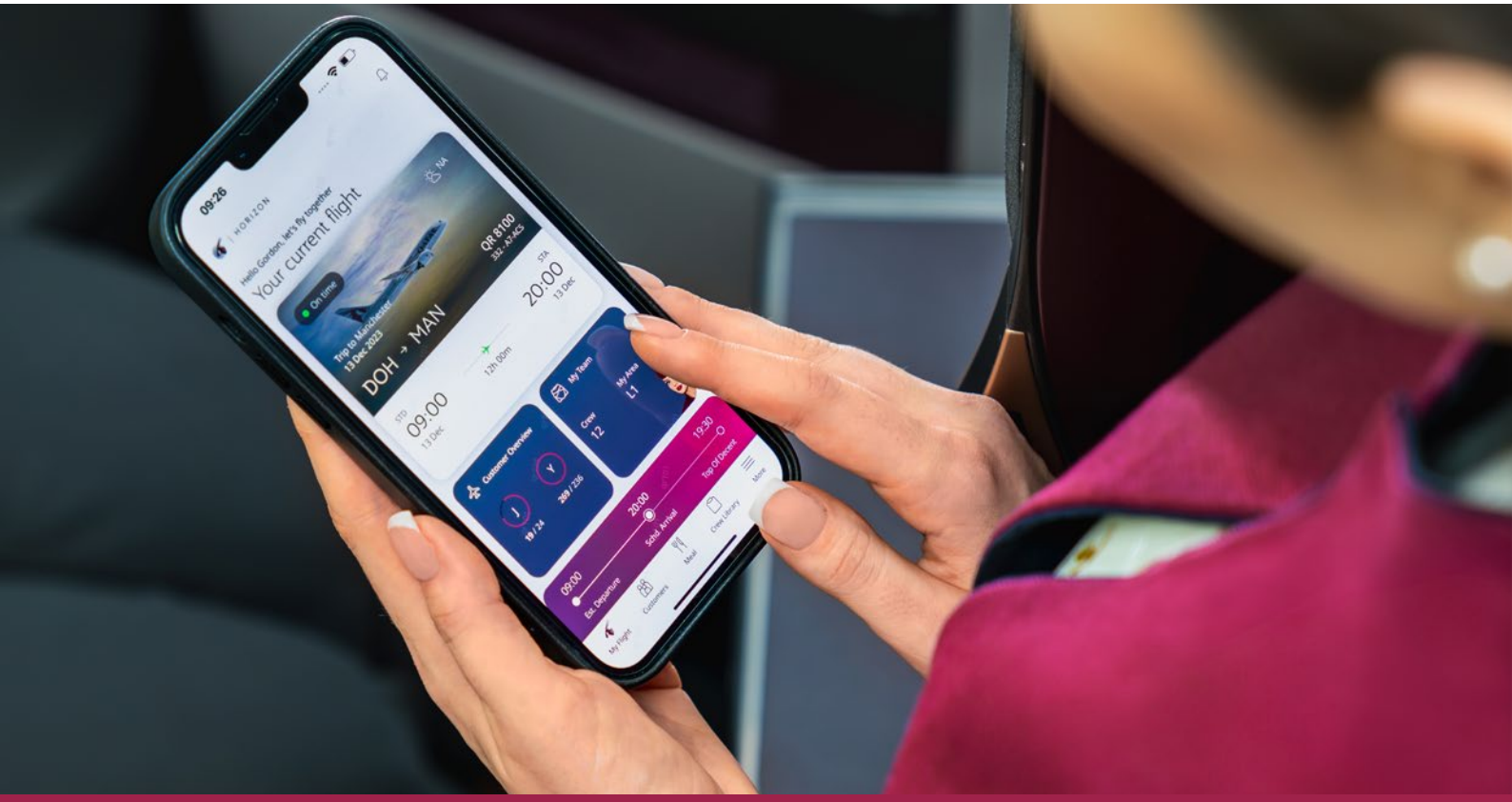
CPaT Global, a leading provider of distance learning for the airline and aviation industry, has secured a new contract with ATSA Peru. The agreement involves CPaT delivering Aircraft System courses and a comprehensive General Subjects library for ATSA Peru's Bombardier DHC-8 100/300 and Bombardier DHC-8 Q400 fleets. Additionally, CPaT will provide ATSA Peru with CPaT Invent, enabling them to create and modify content to suit their specific training requirements.

"CPaT is excited to support yet another airline in the South American region," said Capt. Greg Darrow, Vice

President of Sales, CPaT Global. "By utilizing our content for their Bombardier fleets, as well as CPaT Invent, ATSA Peru will be able to provide their pilots with high-quality education tailored to their unique training needs," he further added.

ATSA Peru, headquartered in Callao, Peru, has a rich aviation history spanning more than 43 years. With the backing of Grupo Romero, ATSA offers exclusive services in VIP flights, passenger and cargo charter flights, assisted aerial evacuation, fixed base operations service (FBO), and aeronautical maintenance workshops with a focus on quality, efficiency, and high safety standards.

CPaT Global, with over 25 years of experience, stands as a market leader in distance learning for the aviation industry. They deliver software-as-a-service applications to over 300 global aviation customers, serving more than 100,000 individual users and providing nearly two million hours of training each year. CPaT is renowned for pioneering the use of distance learning in aviation training and continues to offer innovative and practical training solutions spanning aircraft systems, general subjects, and operational procedures ■



Qatar Airways unlocks Digital Transformation with latest Smart Onboard Functionality for Cabin Crew

The Qatar Airways application provides real-time insights into flight information, customer details, and service information enabling Cabin Crew to access passengers' profiles, including privilege club members and oneworld members.

Qatar Airways has introduced an in-house application to empower its Cabin Crew to deliver personalized experiences to passengers. In its initial phase, the application provides real-time insights into flight information, customer details, and service information. This enables Cabin Crew to access passengers' profiles, including privilege club members and oneworld members, along with special service requests and preferences, enhancing the personalized journey with the airline. The application also provides Cabin Crew with access to up-to-date digital training materials.

As part of the digital transformation, Qatar Airways plans to provide more than 15,000 mobile devices to Cabin Crew in the coming months of 2024. The roll-out will be completed in multiple stages, with plans to expand the project's scope to Hamad International Airport and overseas airports and lounges. The goal is to integrate passengers' unique itineraries and requirements across all touchpoints.

Engr Badr Mohammed Al Meer, Chief Executive Officer, Qatar Airways Group said,"We, at Qatar Airways, are incredibly excited to introduce a new phase in the airline's digital transformation, especially one that will enhance our world-class onboard experience. As leaders in industry innovation and digital adoption, Qatar Airways excels in identifying and responding to emerging trends for the comfort and convenience of our passengers and this project is a defining step towards a more connected and insightful interaction between our customers and staff."

The move towards digital solutions not only streamlines processes but also aligns with Qatar Airways' commitment to sustainability by reducing paper waste and embracing more environmentally friendly ways of working. This digital transformation aligns with the broader trend in the aviation industry to leverage technology for improved customer experiences and operational efficiency.

Qatar Airways has been actively pursuing digital transformation initiatives, as seen in its collaboration with Google Cloud to explore data analytics and artificial intelligence solutions. These efforts reflect the airline's commitment to staying at the forefront of industry advancements and providing passengers with innovative and seamless travel experiences ■

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uAvionix introduces latest AV-30-E Software Version 2.4.1 for pilot safety

uAvionix has released the AV-30-E software version 2.4.1, designed to offer experimental aircraft owners enhanced safety, efficiency, and in-flight interoperability.

UAvionix, a leading provider of avionics solutions, has announced the release of AV-30-E software version 2.4.1, designed to offer experimental aircraft owners enhanced safety, efficiency, and in-flight interoperability. This update introduces several anticipated features, including support for the AV-APA (Analog Port Adapter), a new accessory connecting the AV-30 display to legacy autopilots.

One of the standout features of the 2.4.1 upgrade is the AV-APA accessory, a significant advancement from uAvionix. This accessory facilitates the connection between the AV-30 and legacy installed autopilots. By combining the AV-30 with the AV-APA, aircraft owners can replace outdated, heavy, vacuum-driven directional gyros with the multifunction AV-30 digital display. This transition allows for the adoption of advanced GPS navigation modes, contributing to a reduction in pilot workload and aircraft weight while enhancing safety and reliability.

Ryan Braun, Managing Director for Crewed Aviation, uAvionix, said, "Staffed by both technology providers and pilots, uAvionix has a keen awareness of our customer needs, staffed by both technology providers and pilots. We understand the importance of workload reductions, capability improvement, and ongoing safety enhancements. This upgraded software offers pilots features that easily and affordably bridge the gap between legacy systems and modern avionics, which has always been the value that uAvionix strives to deliver."

The key enhancements in the AV-30-E Software Version 2.4.1 include:

1. **Support for AV-APA:** The AV-APA is a new accessory that seamlessly connects to the AV-30, providing more robust heading control, improved navigation accuracy, and enhanced interfaces for flight plans. This addresses the need to integrate modern avionics into legacy systems.
2. **Improved Attitude Calculations and Performance:** The software update includes enhancements to attitude calculations and performance, contributing to more accurate and reliable data for pilots.
3. **Streamlined Transponder Control Interface:** The upgrade introduces a more intuitive and streamlined interface for transponder control, making it easier for pilots to manage this critical aspect of their avionics system.
4. **Increased Safety Measures:** AV-30-E Software Version 2.4.1 includes additional safety measures, such as improved carbon monoxide warnings, addressing a crucial aspect of in-flight safety. The upgrade also expands density altitude capabilities, providing pilots with more comprehensive information.

The AV-APA is a pivotal addition to the uAvionix product lineup. This accessory is available for pre-order for experimental aircraft, and shipments are scheduled to commence in January 2024. The initial phase will include support for the S-TEC System 20, 30, 40, and 50 autopilots. Following FAA certification efforts, support for certified aircraft will be implemented.

As an industry leader, uAvionix has consistently delivered cutting-edge, operator-efficient avionics solutions. The AV-APA joins the company's successful product lineup, which includes groundbreaking ADS-B, Display, and Portable technologies, all aimed at enhancing safety and efficiency for pilots worldwide.

In conclusion, the AV-30-E Software Version 2.4.1 represents a significant step forward in uAvionix's commitment to providing innovative solutions for the aviation community. This upgrade not only addresses the specific needs of experimental aircraft owners but also showcases uAvionix's dedication to bridging the gap between legacy systems and modern avionics, promoting safety, efficiency, and sustainability in aviation ■

Icelandair and Panasonic Avionics sign agreement to enhance passenger experience

Panasonic Avionics has signed an contract to install the Astrova IFE solution and a suite of digital solutions on Icelandair's new fleet of Airbus A321neo LR aircraft.

Panasonic Avionics Corporation (Panasonic Avionics), a global leader in in-flight engagement and connectivity (IFEC) solutions, has signed an agreement with the airline in order to install its Astrova in-flight entertainment (IFE) solution and a suite of digital solutions on Icelandair's new fleet of Airbus A321neo LR aircraft.

Icelandair's A321neo LR aircraft fleet will have the highly acclaimed Astrova seat-end IFE system from Panasonic Avionics installed, featuring 16-inch monitors in Business Class and 13-inch monitors in Economy. By providing an immersive experience with industry-leading 4K OLED screens that offer industry-leading high definition capabilities along with high-fidelity audio that is accessible via Panasonic Avionics' Bluetooth technology, Astrova will improve Icelandair's passenger engagement.

The goal of Marketplace, the turn-key eCommerce experience platform from Panasonic Avionics, is to assist Icelandair in growing its service and ancillary sales initiatives. Incorporating OneMedia's clever and focused advertising into Astrova's captivating entertainment experience will help Icelandair boost ancillary income and advertise partnerships and products. OneMedia offers a variety of distinctive targeting options along with user-friendly analytics and campaign management tools.

The 3D integrated moving map application from Panasonic Avionics, called ArcTM, is intended to improve passenger travel by offering high-quality point-of-interest content. With a variety of captivating features, such as real-time flight data, street map views, point of interest details, and world clock time zones, it offers advanced map design.

Andy Masson, Vice President of Product Management at Panasonic Avionics Corporation said, "We are thrilled to be expanding our partnership with Icelandair. By delivering the innovation of Astrova and a range of digital solutions, we are confident that Icelandair will be able to engage more effectively in-flight with its passengers than ever before."

With the new approach Panasonic Avionics has taken to its IFE operating system (OS), Icelandair will be able to develop and deliver passenger experiences more quickly and frequently. This entails a grouping of common system services and utilities that facilitate increased innovation-to-market velocity, effective maintenance, and quicker delivery. With technology that enables airlines to swiftly develop, test, and implement new applications utilising industry-standard technologies, Panasonic Avionics' OS powers Astrova and its other IFEC hardware, which has won multiple awards. Together, these products offer clearly defined, reusable capabilities and services. Consequently, Icelandair will have the ability to oversee the deployment of their own applications.

Tómas Ingason, Chief Operating Officer at Icelandair said, "This partnership with Panasonic Avionics brings our passenger experience to the next level. We look forward to enhancing our services with the Astrova seat-end solution and improving our offerings with their advanced digital solutions."

Icelandair's new A321neo LR aircraft will be able to transfer files and content dynamically and quickly thanks to Panasonic Avionics' ZeroTouch service. Together with real-time access to media, content updates, passenger data software, fleet inventory content, and other resources that will help Icelandair passengers have a relevant and customised experience, it will offer the necessary infrastructure to facilitate effective application-based data movement over cell modem ■

Airbus Helicopters receives order for a record 82 H145M helicopters from the German Armed Forces

Airbus Helicopters and the German Bundeswehr have signed a contract for up to 82 multi-role H145M helicopters, comprising 62 firm orders and an additional 20 options making it the largest-ever for the H145M.

Airbus Helicopters and the German Bundeswehr in a historic move, inked a contract for the procurement of up to 82 multi-role H145M helicopters, comprising 62 firm orders and an additional 20 options. This monumental order not only marks the largest-ever for the H145M but also represents a significant milestone for the HForce weapon management system. The comprehensive contract includes seven years of support and services, ensuring a seamless and efficient entry into service. The German Army is set to receive fifty-seven helicopters, with an additional five designated for the Luftwaffe's special forces.

The H145M stands as a versatile military helicopter, offering a broad spectrum of mission capabilities. With rapid reconfiguration capabilities, it can swiftly shift from a light attack role, armed with axial ballistic and guided weapons and a cutting-edge self-protection system, to a special operations version equipped with fast rappelling gear. The mission packages include hoisting and external cargo capabilities, with the new German H145M incorporating future-ready features such as Manned-Unmanned Teaming integration, upgraded data links, and advanced communication systems.

We are proud that the Bundeswehr has decided to order up to 82 H145M helicopters", said Bruno Even, CEO, Airbus Helicopters. "The H145M is a robust multi-role helicopter and the German Air Force has gained a significant amount of operational experience with its H145M LUH Special Operations Forces fleet. We will ensure that the Bundeswehr receives the helicopters in accordance with the very ambitious delivery schedule which includes first deliveries in 2024 less than a year after contract signature," he further added.

The ordered H145Ms in their basic configuration will be equipped with fixed provisions, including the HForce weapon management system developed by Airbus Helicopters. This strategic choice allows the Bundeswehr to train its pilots on the same helicopter model used for operational and combat purposes, eliminating the need for costly type transfers and ensuring the highest level of professionalization.

The H145M is the military variant of the well-established, light twin-engine H145 helicopter, which has accumulated over seven million flight hours globally. Already in service with armed and law enforcement forces worldwide, the Bundeswehr currently operates 16 H145M LUH SOF and 8 H145 LUH SAR helicopters. Notably, the U.S. Army employs nearly 500 helicopters from the H145 family under the designation UH-72 Lakota. Other operators of the H145M include Hungary, Serbia, Thailand, Luxembourg, and Cyprus, which has six aircraft on order.

Powered by two Turbomeca Arriel 2E engines with full authority digital engine control (FADEC), the H145M features the Helionix digital avionics suite, incorporating a high-performance 4-axis autopilot to reduce pilot workload. Its remarkably low acoustic footprint positions the H145M as the quietest helicopter in its class ■

Airbus to deliver 16 C295 surveillance jets for Spanish Maritime Patrol

Airbus and The Spanish Ministry of Defence have signed an order for 16 C295 aircraft valued at €1.695 billion equipped for anti-submarine, anti-surface warfare, intelligence, surveillance, and reconnaissance missions.

Airbus and The Spanish Ministry of Defence have signed an order for 16 C295 aircraft in Maritime Patrol Aircraft (MPA) and Maritime Surveillance Aircraft (MSA) configurations, with a contract value of €1.695 billion. This move aims to bolster Spain's national anti-submarine warfare capability and enhance surveillance, reconnaissance, and search and rescue capabilities. Designed and manufactured entirely in Spain, these aircraft will contribute to the country's industrial defense footprint and sovereignty. The Maritime Patrol version is considered the most complex C295 mission configuration to date, incorporating advanced technologies to provide operational advantages.

The C295 MPA is slated to replace the retired P-3 Orion fleet and will be equipped for anti-submarine, anti-surface warfare, intelligence, surveillance, and reconnaissance missions. Additionally, it can carry armaments such as torpedoes and other weapon systems. The MPA configuration emphasizes high connectivity, enabling collaborative operations with other platforms in different domains and functioning as a flying command-and-control center.

"The aircraft will be fully designed and manufactured in Spain, fostering the national industrial defence footprint and sovereignty" said Mike Schoellhorn, CEO, Airbus Defence and Space. "In particular, the Maritime Patrol version is the most complex C295 mission configuration to date. A major development project that will bring together the latest technologies to provide an operational advantage to our customer," he further added.

On the other hand, the C295 MSA will serve as a natural replacement for the CN-235 VIGMA aircraft fleet, operational since 2008. Primarily configured for maritime and overland operations, it will be employed in activities such as anti-smuggling, anti-illegal immigration, anti-drug trafficking, and national and international search-and-rescue missions.

The contract includes training systems (Full Flight Simulator and Mission System Simulator) and an initial logistics support package. The assembly of these aircraft will take place at Airbus' military facilities in Seville. This strategic move underlines Spain's commitment to modernize and reinforce its defense capabilities with state-of-the-art technology ■

Florian Guillermet appointed as next future EASA Executive Director

The nomination of Florian Guillermet as the Executive Director of EASA followed a transparent procedure initiated by the European Commission.

EASA's Management Board In a significant development, has selected Florian Guillermet as the future Executive Director of the European Union Aviation Safety Agency (EASA). Florian Guillermet currently serves as the Director at DSNA, the French State's designated Air Navigation Services Provider. With over 26 years of experience in aviation, he brings a wealth of knowledge, particularly in Air Navigation and Air Traffic Management. His extensive career includes a role as the Executive Director at SESAR Joint Undertaking from 2014 to 2021. Before that, he held various positions at EUROCONTROL starting in 2004. Guillermet has also worked with the French Civil Aviation Authority and Air France.

"I am pleased to announce that we have selected Florian Guillermet as the Executive Director of EASA," said Piotr Samson, Chair of the Management Board and President of Civil Aviation at the Polish Civil Aviation Authority, EASA. "I have known Florian for many years and deeply respect his operational knowledge of aviation as well as his high-level strategic thinking. I am sure that, under his leadership, EASA and the European aviation community will grow and prosper even further," he further added.

The nomination of Florian Guillermet follows a transparent procedure initiated by the European Commission. A preliminary selection identified the candidate best suited in terms of merit, competence, and relevant experience in civil aviation. The EASA Management Board then made the final selection in Cologne on December 13 2023. The next step in the process involves the selected candidate presenting to the European Parliament's Committee on Transport and Tourism (TRAN), scheduled for January 22, 2024. A formal appointment notice is planned for February 15, and the actual start date is yet to be confirmed.

Magda Kopczyńska, Director-General for Mobility and Transport, the European Commission said, "Ensuring the highest levels of safety in the sky will always be our top priority, and the European Union Aviation Safety Agency continues to lead efforts to keep passengers safe. I am very pleased with the selection of Florian as the future Executive Director of EASA. Based on his impressive track record, I can be very confident that the future of aviation safety in Europe and beyond is in capable hands. I look forward to our continued cooperation!"

Florian Guillermet will succeed Luc Tytgat, who has been serving as the Acting Executive Director since September 1, 2023. Tytgat assumed the role following the departure of Patrick Ky, whose 10-year mandate as Executive Director concluded on August 31 2023.

EASA plays a central role in the European Commission's aviation strategy, ensuring aviation safety and contributing to the sector's sustainability. The agency, celebrating its 20th anniversary in 2023, has expanded responsibilities, particularly in promoting Sustainable Aviation Fuels under the RefuelEU legislation. EASA is actively engaged in supporting innovation in drones, urban air mobility, and various other aviation domains ■

RTX appoints Christopher T. Calio as CEO

The aerospace and defense sector is undergoing rapid transformation, and under Christopher T. Calio's leadership, RTX will work on staying at the forefront by delivering on a record backlog of customer demand.

RTX marks a strategic shift in the company's top-level management with the leadership transition appointing Christopher T. Calio, with over 26 years of experience in aviation, brings a wealth of industry knowledge and a track record of successful leadership to his new role as CEO. His previous role as President and COO has seen him oversee the realignment of RTX's business segments, showcasing his ability to navigate complex organizational changes.

The deliberate and disciplined succession planning process by the Board reflects a commitment to continuity and effective leadership. Greg Hayes' role as Executive Chairman ensures that the company benefits from his seasoned insights and strategic vision, providing a smooth transition for Chris Calio as he assumes the CEO position.

"Today's announcement reflects the Board's deliberate, disciplined succession planning process," said Greg Hayes, chairman and CEO, RTX."Chris has a deep understanding of the industry, our customers' needs and our operations. I have every confidence in his ability to lead RTX and drive the company's long-term success," he further added.

RTX's focus on operational excellence and technological innovation aligns with industry trends and demands. The aerospace and defense sector is undergoing rapid transformation, and under Calio's leadership, RTX aims to stay at the forefront by delivering on a record backlog of customer demand. This strategic direction is crucial in an environment where technology, sustainability, and operational efficiency are paramount.

"Greg has had a remarkable career leading RTX, his vision to transform from a conglomerate to a top global aerospace and defense company has created tremendous value for shareowners, employees and our nation," said Fredric G. Reynolds, Board lead director, RTX. "The Board looks forward to Greg's continued influence and leadership as executive chairman. The Board is very pleased to have Chris Calio succeed Greg Hayes as RTX CEO. Chris has been disciplined in leading the company's operations and strategic growth strategy. We look forward to working with and supporting Chris as he leads RTX to continued growth and success," he further added.

As the world's largest aerospace and defense company, RTX plays a pivotal role in shaping the future of aviation and defense systems. With a global workforce exceeding 180,000 employees, the company's impact on the industry is substantial. The Board's confidence in Chris Calio reflects not only his individual capabilities but also the strategic direction he is expected to provide for RTX in the coming years.

"I deeply value the Board's confidence in me and am grateful for the opportunity to lead the RTX team forward," said Chris Calio, CEO, RTX. "I am honored to succeed Greg, who has built the best positioned portfolio in aerospace and defense. As a leadership team, we are focused on driving operational excellence and accelerating technological innovation as we deliver on the record backlog of customer demand and meet shareowner expectations," he further added.

The continuity provided by Greg Hayes in his role as Executive Chairman ensures a seamless transition and underscores RTX's commitment to maintaining stability and innovation. The mention of the company's impressive 2022 sales of $67 billion highlights its financial strength and market position.

In conclusion, the leadership transition at RTX is a strategic move that positions the company for continued success in a dynamic and evolving industry. Chris Calio's appointment as CEO and Greg Hayes' continued role as Executive Chairman form a leadership duo poised to guide RTX through future challenges and opportunities. The company's focus on growth, operational efficiency, and technological advancements signals its commitment to remaining a global leader in aerospace and defense ■

Michael Vollrath appointed as the new Managing Director and CFO of Spairliners

Michael Vollrath brings to Spairliners extensive experience in the aviation industry, having worked with Lufthansa Technik for over 20 years in various roles, including finance, and controlling of strategic projects.

Michael Vollrath has assumed the role of Managing Director and Chief Financial Officer at Spairliners, a joint venture between Lufthansa Technik and Air France Industries KLM Engineering & Maintenance. Working alongside Benoît Rollier, who continues as Managing Director and Chief Executive Officer, they now jointly head the executive board of Spairliners, a component provider for the Embraer E-Jet family.

Vollrath brings extensive experience in the aviation industry, having worked with Lufthansa Technik for over 20 years in various roles, including finance, controlling of strategic projects, in-house consulting, and digital transformation. With a master's degree in Economics from the University of Bayreuth, he expressed excitement about his new role, emphasizing Spairliners as a world-class company with cutting-edge products and a highly qualified team.

"I am very excited about my new role at Spairliners, a world class company with cutting edge products, and a fantastic team of highly qualified and dedicated people. I have been following the development of Spairliners very closely over the past years and I am absolutely convinced that we will play an important role in the industry's transformation process, helping our customers to serve their clients even better in the future. Cooperation and flexibility are in our DNA," said Michael Vollrath, Managing Director and Chief Financial Officer, Spairliners.

Vollrath takes over the position from Thies Möller, who successfully led Spairliners for five years. Under Möller's leadership, the company navigated challenges during the Covid pandemic, ensuring operational continuity, financial security, and expanding into the Americas market. His tenure also saw the renewal of major contracts and continuous improvements in Spairliners' profitability. This transition in leadership positions Spairliners to continue its contributions to the aviation industry's evolution, leveraging Vollrath's experience and the company's commitment to innovation and customer service ■

GA Telesis names Kevin Larson as the new CIO

Kevin Larson as the CIO of GA Telesis will lead the company's technology strategy, supervising the creation and application of solutions to improve the customer and employee experience.

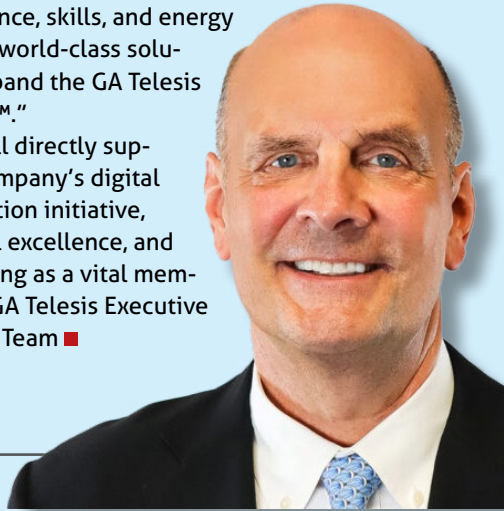
GA Telesis Ecosystem has announced Kevin Larson to be the new Global Chief Information Officer (CIO). Larson will be taking up the responsibility to extend the GA Telesis EcosystemTM's reach and capabilities through technology. Larson will lead the company's technology strategy for all of its international divisions, supervising the creation and application of creative solutions that improve the experiences of both customers and employees. Larson will also support GA Telesis's 2022 announcement of its digital transformation initiative.

Abdol Moabery, CEO of GA Telesis said, "Kevin is a real pro and has decades of experience that will enable us to get to the next evolution of our technological journey. I have specifically tasked Kevin to build out our world class IT group and to work in close lockstep with our CDxO, Dr. Rainford Knight to accelerate our digital transformation."

With 26 years of experience, Larson has led technological innovation in the aviation sector working as AAR Corp.'s chief information officer for eighteen years. Among Larson's areas of expertise are cybersecurity controls, digital automation, customer-facing integration, enterprise solutions, technology, and team building.

Kevin Larson, CIO of GA Telesis said, "I am excited to join GA Telesis as I am attracted to the organization's mission, culture, and innovations that are all at the highest level in the industry. I look forward to contributing my experience, skills, and energy to develop world-class solutions to expand the GA Telesis Ecosystem™."

Larson will directly support the company's digital transformation initiative, operational excellence, and team building as a vital member of the GA Telesis Executive Leadership Team ■



International CALENDAR

2024

Date	Event	Venue
12 – 14 Feb 2024	African Air Expo	Cape Town, South Africa
14 – 15 Feb 2024	MRO Latin America	San José, Costa Rica
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	Aerospace & Defence MRO South Asia 2024	New Delhi, India
28 – 29 Feb 2024	Aviation Festival Asia	Suntec, Singapore
28 Feb – 01 Mar 2024	Aero-Engines Americas	Miami, FL, USA
29 Feb – 01 Mar 2024	Engine Leasing, Trading & Finance Americas	FL, USA
05 –0 6 Mar 2024	Aircraft Interiors Middle East 2024	Dubai, United Arab Emirates
05 –0 6 Mar 2024	MRO Middle East	Dubai, UAE
7 – 8 Mar 2024	PBExpo 2024	Miami, FL, USA
12 – 14 Mar 2024	Aerospace & Defence Supplier Summit	Seattle, USA
26 – 27 Mar 2024	MRO Central Asia	Tashkent, Uzbekistan
9 – 11 April 2024	MRO Americas	Chicago, USA
17 – 18 April 2024	Aerospace Tech Week Europe	Munich, Germany
17 – 19 April 2024	Vietnam Aviation Forum	Hanoi, Vietnam
24 – 25 Apr 2024	Aero-Engines Asia-Pacific	Hong Kong
28 – 30 May 2024	Aircraft Interiors EXPO	Hamburg, Germany
28 – 30 May 2024	EBACE 2024	Geneva, Switzerland
30 Apr – 2 May 2024	Global Aerospace Summit 2024	Abu Dhabi, UAE
02 –04 June 2024	IATA AGM & World Air Transport Summit	Dubai, UAE
05 –06 Jun 2024	Engine Leasing, Trading & Finance Europe	London, UK

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