



Aircraft Spares and inventory market insights

Covid 19 impact did not spare the commercial aircraft aftermarket parts sector. For instance, Airbus SAS deliveries dropped from 571 aircraft in 2019, to 341 aircraft in 2020. Globally one saw 40% of aircraft deliveries negatively impacted. This naturally had a chain reaction across MRO and commercial spare parts or aftermarket parts businesses, reflected by the sharp reduction in the demand for the above activities.

The good news is that the global aircraft aftermarket

parts market is projected to grow from USD 31.22 billion in 2021 to USD 47.33 billion in 2028 at a CAGR of 6.12% in the forecast period. This rise in CAGR, can be attributed to a buoyant market, spurring demand and growth to return to pre-pandemic levels.

Driving this growth will be the instance of an increasing number of retired aircraft and the growing demand for MRO facilities. Importantly, businesses have adopted newer ways in g Data and Digitization. ■

Pg08

Brief News



XaaS Provides the Blueprint for the Future of Aircraft Material Procurement ■

Pg28



MRO Insider links API with Global Appearance Partners to enhance user experience ■

Pg30



Development of the world's largest aero-engine technology demonstrator enters conclusive phase at Rolls-Royce

Rolls-Royce reported that it has entered the final build phase for the world's largest aero-engine technology demonstrator, UltraFan, giving

a set-up of innovations that support sustainable air travel out long into the future.

Pg05

Rolls-Royce to maintain VietJet A330ceo fleet's Trent 700 engines under new TotalCare Agreement

The agreement is the execution of the memorandum of understanding that was signed in Edinburgh in 2021.

Rolls-Royce and VietJet, an international low-cost airline from Vietnam have signed a TotalCare service agreement for Rolls-Royce Trent 700 engines that will power 10 Airbus A330ceo aircraft. The agreement is the execution of the memorandum of understanding that was signed in Edinburgh last year and will provide the airline with predictability and reliability for the services and maintenance.

Ewen McDonald, Rolls-Royce Civil Aerospace, Chief Customer Officer, said, "We are delighted to execute this service agreement with VietJet as the airline begins operating widebody aircraft and expand its network into long-haul operations. We look forward to supporting

their Trent 700 fleet for many years."

Being Rolls-Royce's flagship service offering, the TotalCare agreement covers off-wing repair and overhaul of the aircraft and is designed to provide operational certainty for customers by transferring time on wing and maintenance cost risk back to Rolls-Royce. TotalCare will also deliver enhanced aircraft availability with the help of Rolls-Royce's in-depth engine knowledge that draws on our advanced engine health monitoring.

VietJet Managing Director Dinh Viet Phuong said, "The Trent 700 engines supported by TotalCare will bring a technological breakthrough to VietJet's fleet, helping increase range and im-

prove quality with the aircraft's technical reliability and operational efficiency. We hope this partnership with Rolls-Royce will also boost international trade through connecting people around the world both conveniently and economically in the future."

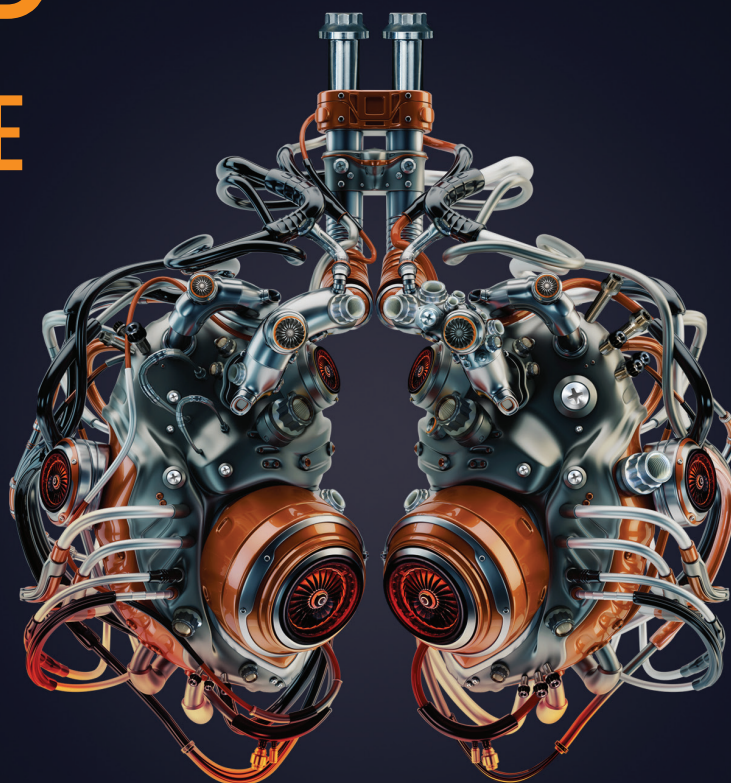
The Trent 700 delivers the highest thrust available on the A330, producing the greatest take-off performance, range, and payload capability, all of which equates to superior revenue-generating potential for operators. The Trent 700 has accumulated more than 65 million flying hours of experience, offers airlines reliability, with a 99.9% dispatch rate and the longest time on wing of any A330 engine option.

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■ Airbus and CFM, along with GE and Safran, signed the Air Transport Action Group goal in October 2021 to achieve aviation industry net-zero carbon emissions by 2050.

AIRBUS and CFM International form an alliance to flight test open fan engine architecture

The flight test program aims to achieve a 20% reduction in CO₂ emissions compared to the most efficient engines currently in the industry.

Airbus and CFM International, a 50/50 joint company between GE and Safran Aircraft Engines, are collaborating to flight test CFM's state-of-the-art open fan engine architecture. The Flight Test Demonstrator intends to develop and speed up the development of advanced propulsion technologies, as a part of CFM's Revolutionary Innovation for Sustainable Engine (RISE) exhibition program, on board an Airbus A380. Ahead of the A380 test flights, CFM will perform engine ground tests, along with flight test validation at GE Aviation's Flight Test Operations center in Victorville, CA, USA. The flight test campaign will be performed post-2025 on a date not yet announced by the company from the Airbus Flight Test facility in Toulouse, France. Sabine Klauke, Airbus Chief Technical Officer said, "New propulsion technologies will play an important role in achieving aviation's net-zero objectives, along with new aircraft designs and sustainable energy sources. By evaluating, maturing and validating open fan engine architecture using a dedicated flight test demonstrator, we are collaboratively making yet another significant contribution to the advancement of technology bricks that will enable us to reach

our industry-wide decarbonisation targets." This cooperation with CFM features the variety of Airbus' innovation demonstrator portfolio and supplements the work being done to assess ideas and mature advances for Airbus' zero-out-flow desire. In February 2022, the two organizations reported a joint flight test program to approve hydrogen propulsion capacity. Gaël Méheust, President and CEO of CFM International said, "The CFM RISE Program is all about pushing the technology envelope, redefining the art of the possible, and helping to achieve more sustainable long-term growth for our industry. CFM, its parent companies, and Airbus all share the same vision and commitment for the future; the open fan flight test demonstration program is an exciting next step toward achieving the industry's net-zero goals." Airbus and CFM, alongside parent companies GE and Safran, share the desire of satisfying the commitment they made in marking the Air Transport Action Group objective in October 2021 to accomplish flying industry net-zero fossil carbon emissions by 2050 by developing and testing the innovation important to make zero-emissions aircraft a reality within the ambitious timetable defined.

Delta Air Lines purchases 200 LEAP-1B engines for latest Boeing 737 10 fleet

Since entering service, the LEAP-1B engine has accumulated five million engine flight hours and 1.9 million cycles.

Delta Air Lines announced that it has placed an order with CFM International for LEAP-1B engines to power its new fleet of Boeing 737 10 aircraft. The order also includes additional spare engines and an option to purchase up to 60 additional engines in the coming time. Delta was the first operator to put a CFM engine into service on April 24, 1982, with the first commercial flight of a CFM56-2-powered first McDonnell Douglas DC-8-71 aircraft between Atlanta and Savannah, Georgia.

Mahendra Nair, S.V.P. – Fleet & TechOps Supply Chain, Delta Air Lines said, “These next-generation engines offer advantages in terms of fuel efficiency, reliability, and daily utilization that are central to our ongoing effort to streamline and elevate



Delta’s fleet.”

Delta Air Lines has continuously operated CFM engines since its first use in 1982. The airline currently operates more than 440 CFM-powered aircraft. CFM’s selection by Delta continues to strengthen the longstanding relationship between the two companies that spans more than 40 years.

Gaël Méheust, president and CEO of CFM

International, “We are delighted to have the opportunity to bring all of the benefits of the LEAP engine to the Delta Air Lines. Our customers are seeing 15 to 20 percent better fuel efficiency, which translates to an equivalent reduction in CO₂ emissions; and it has the highest reliability and daily utilization rates in this thrust class. We believe the LEAP-powered 737-10 will prove to be a real asset to Delta’s operations.”

The fleet powered by the LEAP-1B is providing 15 to 20 percent better fuel consumption and lower CO₂ emissions, as well as a significant improvement in noise compared to previous generation engines. Since its entry into service in 2016, the LEAP engine allowed the operators to save more than 14 million tons of CO₂.

ASIA CONNECT

Aviation Strategy

— September 7, 2022
Istanbul, Türkiye, Lazzoni hotel
International conference

Conference Focus

The conference focused on the current state and prospects of the air transport market in South Eurasia, where leaders of airlines, airports, leasing companies, financiers, aircraft manufacturers, and market experts meet together to discuss the region’s air transport development.

Among Participants



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ASIA CONNECT

MRO

— November 9–10, 2022
Istanbul, Türkiye, Halic Congress Center
International conference & exhibition

Reasons to Join

The event will provide attendees with a significant opportunity to explore the region’s commercial aviation and its MRO industry in depth. Exhibitors will have an excellent chance to share their capabilities and innovations, as well as to discuss vital issues with market leaders, and build new business relations in the region.

www.mro.ato-comm.eu



Development of the world's largest aero-engine technology demonstrator enters conclusive phase at Rolls-Royce



The demonstrator engine, UltraFan, has a fan diameter of 140 inches and is being completed at the facility in Derby, UK.

- Carbon titanium fan blades and a composite casing
- Advanced ceramic matrix composite (CMC) components that operate more effectively at high pressures and temperatures
- A geared design that delivers efficient power for the high-thrust, high bypass ratio engines of the future. The power gearbox has run at 64MW, an aerospace record

Chris Cholerton, President – Civil Aerospace, Rolls-Royce said, “Our UltraFan engine technology demonstrator is arriving just as the world is seeking transformative technology to deliver sustainability. We are now in the final build phase and we will perform the first test run on 100% Sustainable Aviation Fuel later this year. The suite of technologies we are testing on the demonstrator will create opportunities to make improvements to our current fleet and provide new capability for future propulsion systems. This programme is a significant investment in the future and I am delighted that the UK’s Aerospace Technology Institute and Innovate UK, Germany’s LuFo and the EU’s Clean Sky programmes have all recognized the benefits of UltraFan and provided their support.”

UltraFan supports a variety of sustainability solutions. In the nearer term, there are options to transfer technologies from the UltraFan development programme to current Trent engines to deliver even greater fuel efficiency and reductions in emissions. In the longer term, UltraFan’s scalable technology from 25,000-100,000lb thrust offers the potential to power new narrowbody and widebody aircraft anticipated in the 2030s.

■ When UltraFan is on test at Rolls-Royce’s new £90m Testbed 80 facility, data can be taken from more than 10,000 parameters.

Rolls-Royce reported that it has entered the final build phase for the world’s largest aero-engine technology demonstrator, UltraFan, giving a set-up of innovations that support sustainable air travel out long into the future. The demonstrator engine, with a fan diameter of 140 inches, is being finished at the company’s facility in Derby, UK, before its first run – on 100 percent Sustainable Aviation Fuel – in the later part of 2022.

It offers a 25% fuel efficiency improvement compared with the first generation of Trent engine. When UltraFan is on the test, data can be taken from more than 10,000 parameters, detecting the tiniest of vibrations at a rate of up to 200,000 samples per second.

Kwasi Kwarteng, Business Secretary Rolls-Royce said, “Rolls-Royce has long been synonymous with British excel-

lence in engineering. Building the cutting-edge UltraFan demonstrator shows there’s no sign of this reputation slowing down, with Rolls-Royce playing a central role in our plans to capitalise on the global shift to cleaner, fuel-efficient flight. UltraFan, backed by the UK Government through the Aerospace Technology Institute Programme, is a major opportunity for growth and jobs for the UK. I look forward to seeing planes across the world powered by technologies developed in this ultra-efficient engine demonstrator for years to come.”

Key engineering features of the engine include:

- A new, proven, Advance3 core architecture, combined with our ALECSys lean burn combustion system, to deliver maximum fuel burn efficiency and low emissions

HAL forms alliance with Safran to develop new Helicopter Engines

HAL and Safran Helicopter Engines have already multiple collaborations, which includes the Shakti engine, which powers HAL-produced helicopters, including the Dhruv, Rudra and the Light Combat Helicopter (LCH).

Hindustan Aeronautics Limited (HAL) and Safran Helicopter Engines signed an agreement to create a new joint venture intended to develop helicopter engines. Through HE-MRO joint venture in Goa, HAL and Safran Helicopter Engines will provide MRO (Maintenance, Repair and Overhaul) services for TM333 and Shakti engines that are in service with Indian Armed Forces. The venture will be operational by the end of 2023. This MoU demonstrates the commitment of both Safran Helicopter Engines and Hindustan Aeronautics Limited to the Indian Government's vision of "Aatmanirbhar Bharat" or achieving self-reliance – particularly in defence technologies.

Mr. R. Madhavan, CMD, HAL said, "Safran Helicopter Engines has been our valued partner for several decades. We now look forward to utilize this opportunity to leverage HAL's experience in manufacturing of more than 15 types of aircraft and helicopter engines to jointly co-develop and manufacture engine with immediate focus on IMRH and its naval variant the Deck Based Multi Role Helicopter (DBMRH). This partnership will involve and utilize the Indian Defence manufacturing ecosystem within India".

Mr. Franck Saudo, CEO Safran Helicopter Engines said, "The creation of this new joint venture marks a turning point in our relationship with HAL and the Indian MoD with the development and production of a new generation of helicopter engine. We are proud to further expand our structuring partnership with HAL, which began more than 50 years ago, and which was recently illustrated with the development and production of the Shakti engine and the inauguration of our joint venture Helicopter Engines MRO Pvt Limited (HE-MRO). With a fleet of over 1,000 engines, India's Armed Forces are one of the largest operators of Safran-designed helicopter engines".

Through a Memorandum of Understanding (MoU), signed by Mr. R. Madhavan, CMD, HAL and Mr. Franck Saudo, CEO Safran Helicopter Engines within the sight of Mr. Olivier Andriès, Safran CEO. The two partners will broaden their long-lasting partnership by laying out a new aero-engine company in India. It will be devoted to the development, production, sales and support of helicopter motors and one of its main objectives will be to meet the prerequisites of HAL and Ministry of Defense's helicopters in the future, including the 13-ton IMRH (Indian Multi-Role Helicopter).



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EasyJet orders 112 CFM LEAP-1A engines for upcoming A320neo fleet

EasyJet's current fleet powered by LEAP-1A provides 15 to 20 percent better fuel consumption and lower CO₂ emissions.

CFM International recently announced that EasyJet, a Europe based airline has further extended its selection agreement for LEAP-1A engines, to power the 56 Airbus A320neo family aircraft planned to be delivered between 2026 and 2028. This extension in the agreement with CFM brings easyJet's total A320neo family order commitment to 227 aircrafts.

Gaël Méheust, president and CEO of CFM International said, "We are delighted to expand our 25 years-partnership with easyJet; this engine selection commitment reinforces the strength of the relationship between our two companies. The LEAP engine will continue to deliver the kind of fuel efficiency, reliability, durability, and sustainability

benefits that easyJet has come to expect from CFM."

The EasyJet Airlines currently operates a commercial fleet of 260 CFM56-powered A320ceo family aircraft and 58 A320neo LEAP- powered aircraft. Prior to the new announcement of this extension, easyJet had an outstanding order book of 113 LEAP-powered A320neo family aircraft which has now increased to 169 future deliveries between now and December 2028.

Kenton Jarvis, Chief Financial Officer, easyJet said, "The delivery of these aircraft, powered by CFM LEAP engines, will enable us to continue the company's fleet refresh, as older A319s and A320s leave the airline and new A320 and A321 neo aircraft enter, providing benefits

to easyJet through up gauging, cost efficiencies and sustainability enhancements. We believe this will support positive returns for the business and the delivery of our strategic objectives."

The engine also provides 15 to 20 percent better fuel consumption and lower CO₂ emissions, as well as a significant improvement in noise compared to previous generation engines. The advanced CFM LEAP engine continues to set new industry standards for fuel efficiency and asset utilization, logging 20 million engine flight hours in commercial operation. Since its entry into service in 2016, the LEAP engine allowed industry customers to save more than 14 million tons of CO₂.

Rolls-Royce signs TotalCare agreement with Italia Trasporto Aereo Airways for Trent XWB engine maintenance

Rolls-Royce will power all ITA Airways' new generation widebodies which also includes the Airbus A330neo, powered by the Rolls-Royce Trent 7000.

Rolls-Royce and Italian airline Italia Trasporto Aereo (ITA) Airways have recently signed a TotalCare service agreement for Rolls-Royce Trent XWB engines that will power six Airbus A350-900 aircraft. The agreement is the first of its nature to be signed between Rolls-Royce and ITA Airways and will provide the airline with predictability and reliability for the services and maintenance of the new six Airbus A350-900 aircraft fleet for the next 12 years.

Ewen McDonald, Rolls-Royce Civil Aerospace, Chief Customer Officer said, "We are delighted to sign this long-term service agreement with ITA Airways, and we have incredible pride in being the engine manufacturer that will

power all their new-generation widebodies. Through this agreement, we are embarking on a long-term partnership with ITA Airways to ensure their fleet will fly reliably, efficiently and sustainably for decades to come".

Being Rolls-Royce's flagship service offering, TotalCare will cover off-wing repair and overhaul of the fleet and is designed to provide operational certainty for customers by transferring time on wing and maintenance cost risk back to Rolls-Royce. It will also deliver enhanced aircraft availability with the help of Rolls-Royce's in-depth engine knowledge that draws on the company's advanced engine health monitoring.

Francesco Presicce, ITA Airways, Chief

Technology Officer said, "We are proud to sign this service agreement with Rolls-Royce knowing that our engines will stay on-wing for as long as possible. The engines form an important part of our business plan and our goal of operating a new environmentally-friendly fleet."

According to Rolls-Royce, the Trent XWB is the world's most efficient large aero engine in service today, delivering a 15 per cent fuel consumption advantage over the first Trent engine, enabling the operators to fly further on less fuel. Rolls-Royce also claims that the engine is ready to operate on Sustainable Aviation Fuels as they become more available to airlines in the future.



Aircraft spares and inventory market insights

Covid 19 impact did not spare the commercial aircraft aftermarket parts sector. For instance, Airbus SAS deliveries dropped from 571 aircraft in 2019, to 341 aircraft in 2020. Globally one saw 40% of aircraft deliveries negatively impacted. This naturally had a chain reaction across MRO and commercial spare parts or aftermarket parts businesses, reflected by the sharp reduction in the demand for the above activities.

The good news is that the global aircraft aftermarket parts market is projected to grow from USD 31.22 billion in 2021 to USD 47.33 billion in 2028 at a CAGR of 6.12% in the forecast period. This rise in CAGR, can be attributed to a buoyant market, spurring demand and growth to return to pre-pandemic levels.

Driving this growth will be the instance of an increasing number of retired aircraft and the growing demand for MRO facilities. Importantly, businesses have adopted newer ways in their working processes like introducing use and analysis of Big Data and Digitization. Improvement from these changes in the aftermarket parts' operational processes is expected to result in growth.

Leveraging big data & digitisation

Demand for commercial aircraft spares/aftermarket parts has brought into sharp focus, accessibility and availability of parts. To circumvent this challenge, spares and parts companies have been quick to leverage advanced technology like use of Big Data and

Digitisation, as mentioned earlier. This allows for implementation of cost-effective methods like predictive maintenance, especially when the supply chain capabilities keep spreading across a larger geographical expanse.

Collection of real time data and analysis thereof from Next-Generation aircraft became a reality because of the advance sensors fitted on these new aircraft. Again, data culled from the aircraft via its sensors, is being applied to use for predictive maintenance algorithms and creating processes.

Digitisation of the entire MRO process improves visibility of spares aftermarket and systems. More importantly, big data are aiding companies to gain better understanding of uncertainties that

around the aviation business and aircraft order fluctuations, particularly. Now, better informed, logistics and supply chain providers can make strategic adjustments followed by necessary actions. Some of these positive steps towards ease of operations, have given the parts aftermarket business a healthy boost.

Mro demand to lead aftermarket parts market growth

The MRO parts segment is expected to showcase considerable growth during the forecast period. The growth is due to the rising next-generation aircraft and their growing maintenance needs. Airbus SAS expects an increase in passenger fleet to double from 21,000 aircraft in 2019, to a whopping 45,000 by 2035. Such will be the scale of operations in the MRO and aftermarket spares spaces,

going forward.

Again, in the near future, Airbus SAS estimates a 7200 plus demand for commercial aircraft over the next two decades. MRO services and commercial aircraft spare parts are expected to see a healthy rise mainly from the Asian countries.

Globally, the total MRO spend will see a jump from USD 81.8 in 2019, to USD 115.9 billion by 2029! Such expenditures will be seen mainly towards servicing and maintenance of engine and airframe parts.

Demonstrated here is an example of the importance and requirement of aircraft components manufacturing, given the demand. A 10- year agreement was concluded between GE Aviation and Barnes Aerospace for manufacturing LEAP engine components, in September

2020 during the pandemic years.

Growth of used serviceable material (usm)

The pandemic and its negative impact have compelled airlines to resize their fleets by considering early retirement of aircraft. Thus, the commercial aircraft disassembly, dismantling, and recycling activity - an industry of its own, is growing steadily since 2020. This is the Used Serviceable Materials (USM) segment of the aerospace business.

For non-OEM (Original Equipment Manufacturers) MROs, the need to contain costs and better competitiveness will be even more important post COVID. Gaining access to USM markets can help reduce prices and/or improve margins on flying hour-based contracts. Better availability of USMs can at times, improve



turnaround times and responsiveness, and it's not always about just costs.

Several aircraft aftermarket parts providers find it cost effective to use USM parts other than costlier aircraft aftermarket parts. Thus, the increasing demand for USM parts will significantly contribute to the aviation parts market growth. Especially now, with airlines undergoing fleet rationalisation, they will try to derive maximum value out of using USM parts vis-à-vis fleets that are no longer economically feasible to operate but still do have viable life in them. The Boeing 777s and the Airbus A330s fleets are examples of this.

As (pent up) travel picks up, the demand in the USM parts business is expected to grow significantly at 68 per cent per annum through 2022, with market forecast to hover around a whopping USD 7.9 billion.

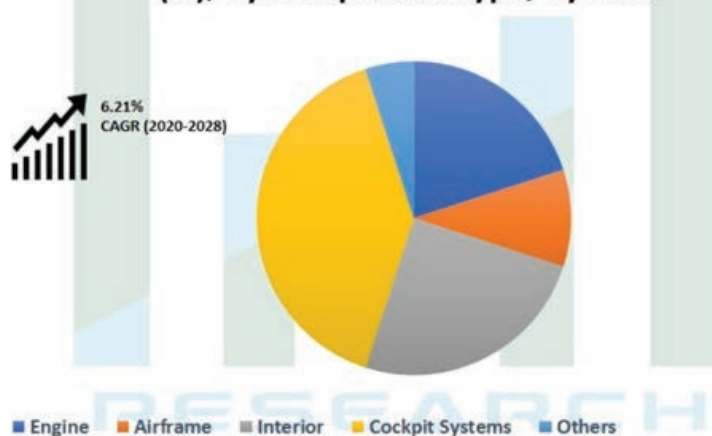
Effective communications and integration essential for overall growth

The airlines reach out to aftermarket parts and MRO service providers for their scheduled maintenance services. To deliver efficiency and timely service, both the MRO and aftermarket parts entities must communicate effectively, as also have well-integrated processes. This need becomes more acute with several aftermarket parts entities operating from remote locations.

Bifurcation of types of spare parts

Rotable parts and MRO spares segmentation of the global aircraft aftermarket parts industry, is appended in the infographic below. The rotable parts and spares form the majority and has seen the highest rate of growth vis-à-vis MRO parts.

Global Commercial Aircraft Aftermarket Parts Market Share (%), By Component Type, By 2018



The aftermarket parts market is classified into MRO parts and rotable replacement parts.

The rotable replacement parts segment is anticipated to grow at the highest CAGR during the forecast period. The demand for scheduled checks on aircraft like A checks, B checks, C checks and D checks are conducted by airlines on a regular basis - the more comprehensive D checks (a complete check and components and systems replacement) happen every six years. This is yet another growth area for this market.

Aircraft components growing the aftermarket parts sector

Component - wise, aircraft aftermarket parts can be spread across main sections of an aircraft like engine, airframe, interiors, cockpit systems, and others.

In terms of market share, the Interiors Systems is pegged to see the fastest growth. The engine sections are estimated to hold the largest market share, due to higher cost of maintenance parts

for engines.

The airframe segment is expected to grow during the forecast period due modernization programmes by airlines. Being high-cost and time-consuming, they are generally carried out every six years.

The interior segment too is expected to see a healthy growth during the forecast period. Aircraft interior components and systems are serviced and maintained here. Focus on passenger safety and comfort increasing over the years, have compelled airlines to upgrade their aircraft systems with technologically advanced interior systems.

The cockpit segment is anticipated to see far-reaching changes in the coming years, and grow in tandem, due the emergence and incorporation of artificial intelligence (AI) and Internet of Things (IoT) based systems and components.

The landing gear, wheels, and other components maintenance and servicing form other significant areas of activities involving aftermarket parts providers and MROs.

Narrow-body segment to lead market share

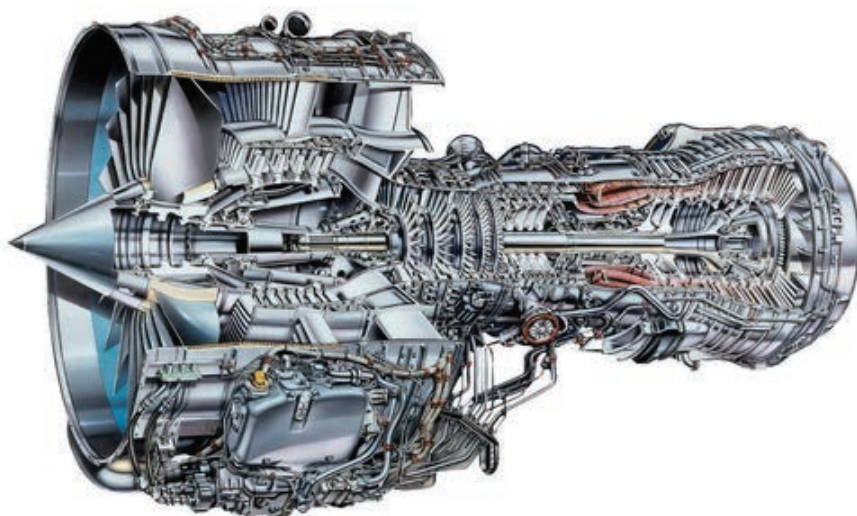
Narrow-body aircraft fleets will lead the market, in market share, with domestic flights and low-cost airline fleets in the Asia-Pacific and European regions taking off. This would call for aircraft maintenance and services on these aircraft types for their engines, landing gears and smaller components to ensure safety and reliability of operations.

Wide-body aircraft fleets too will see

Global Aircraft Aftermarket Parts Market Share, By Parts Type, 2020



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Argentina have shown a healthy investment appetite in the areas of aircraft aftermarket storage infrastructure, which will no doubt give a fillip to the commercial aircraft spares market, in Latin America.

THE LEADING PARTS COMPANIES

General Electric Company is the foremost company providing top-of-the-line engine-based aftermarket parts, and services. General Electric invest significantly in research and development, and innovations, and have a strong presence in Singapore and India, outside of the United States.

Other key entities in this space are The Boeing Company, Honeywell International Inc., Eaton Technologies, UTC Aerospace Systems, as also Meggitt PLC and the AJW Group of the UK.

Option for green-time engine offerings

With the demand for green-time* engine offerings, OEMs will face competition from this alternate option available to airline companies, replacing engine shop visits. According to Oliver Wyman in a recent forecast, this shift could lead to a USD 1.75 billion reduction in engine MRO spend.

CONCLUSION

An efficient and effective way of planning aircraft inventories can help carriers reduce maintenance costs that normally form 13% of the total operating cost. Therefore, excellence in management of inventory is essential for regulatory, financial and operational reasons. Aircraft inventory is not just of great value, it is a very expensive business to get into. Hence, handling of spares inventory must be done on quick turnaround times to keep a check on costs. With the use of new software solutions, radio frequency identification (RFID) and automation, inventory planning can be done right up to the minutest detail and level. In fact, that's the way to go.

****'Green time' engines refer to older engines with limited life remaining that have been taken from aircraft that have been retired.***

Image Courtesy: Aviationbusinessnews.com
fortunebusinessinsights.com
Oliver Wyman

a healthy growth during the forecast period, and so will their parts and components as a result of a large number of retired aircraft. This will in turn mean a demand for services in the areas of repair or replacement of aircraft components.

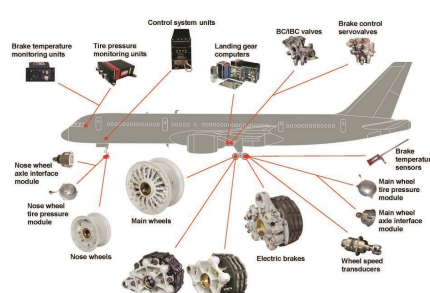
The regional jet segment is buoyed by the rise in demand for business and private jets, and the maintenance services for these fleets can then be assured of a steady growth rate.

Aftermarket parts regional markets overview

The global aircraft aftermarket parts market can be segregated into North America, Europe, Asia-Pacific, and the Rest of the World.

Taking the lead in the spares and aftermarket parts globally is the North American market at USD 11.45 billion in 2020, and will continue its dominance during the forecast period over the rest of the world. With key players located in the North American region, like the Boeing Company, Collins Aerospace and other entities, and investments by MRO service providers in the aftermarket facilities in United States and Canada, the region will remain a front runner. Robust supply chain networks for MRO services amongst U.S. firms, is a boon.

The European region is expected to see exponential growth, going forward. This can be attributed to export and import policy restructuring by respective governments. Challenges like the Brexit impact, high fuel cost and global trade



war may hold back growth acceleration.

The Asia-Pacific market holds maximum promise for projected growth and at the highest CAGR during the forecast period. Investments in aftermarket parts hubs in Japan, Singapore, and Australia are testimony to the rapid growth in this market.

In January 2021 for instance, saw ST Engineering award a ten-year contract to Honeywell International Inc. for component MRO and warranty repair services to all Asia-Pacific operators. This agreement covers components installed on CFM International Leap engines.

Given the vast expanse that China is, the increase in narrow-body fleet and related services, will give the country's aftermarket parts market a significant growth trajectory.

From the countries that comprise the Rest of the World, here too one can expect similar exponential growth like most regions. Spearheading the growth story will be the big-ticket orders for next-generation aircraft augmenting fleets of carriers from United Arab Emirates, Saudi Arabia and Israel.

Apart from the above, Brazil and

Dassault Picks Hexcel's Carbon Fiber Prepreg for F10X

Hexcel provides a range of prepregs under the HexPly trademark for aerospace and industrial applications, using specially formulated epoxy, phenolic, and BMI resin matrix systems.

Hexcel Corporation, an American public industrial materials company, based in Stamford, U.S. has declared that it has signed a long-term agreement with Dassault Aviation S.A. to supply the HexPly M21EV/IMA carbon fiber prepreg for the Falcon 10X program. This is the first Dassault business jet program to incorporate high-performance advanced carbon fiber composites in the manufacture of its aircraft wings.

Dassault Aviation S.A. is a French manufacturer of military aircraft and business jets. In 1971 Dassault acquired Breguet, forming Avions Marcel Dassault-Breguet Aviation (AMD-BA). In 1990 the company was renamed Dassault Aviation. The Dassault Aviation Group has been headed by Éric Trappier since 9 January 2013.

Thierry Merlot, Hexcel President Aerospace Europe, Asia Pacific, Middle East, Africa & Industrial said, "I am delighted that Dassault has decided to expand our partnership of more than 40 years with the selection of Hexcel materials to design and produce its first Falcon carbon fiber wing based on Hexcel advanced composite technology. Our strong, durable, and lightweight carbon fiber prepreg is helping customers such as Dassault every day to push the boundaries and create the future of next-generation aircraft."

Hexcel's HexPly M21EV/IMA is a high-performance advanced composite that is being used in aircraft for over the past 10 years to meet high-efficiency manufacturing standards. With the Hexcel carbon fiber composites, the wide, high-speed wing will be made for maximum strength, reduced weight, and minimum drag. The Falcon 10X is planned to enter service at the end of 2025.



■ HexPly prepregs are reinforced with woven, multiaxial and unidirectional (UD) carbon and glass fibers.

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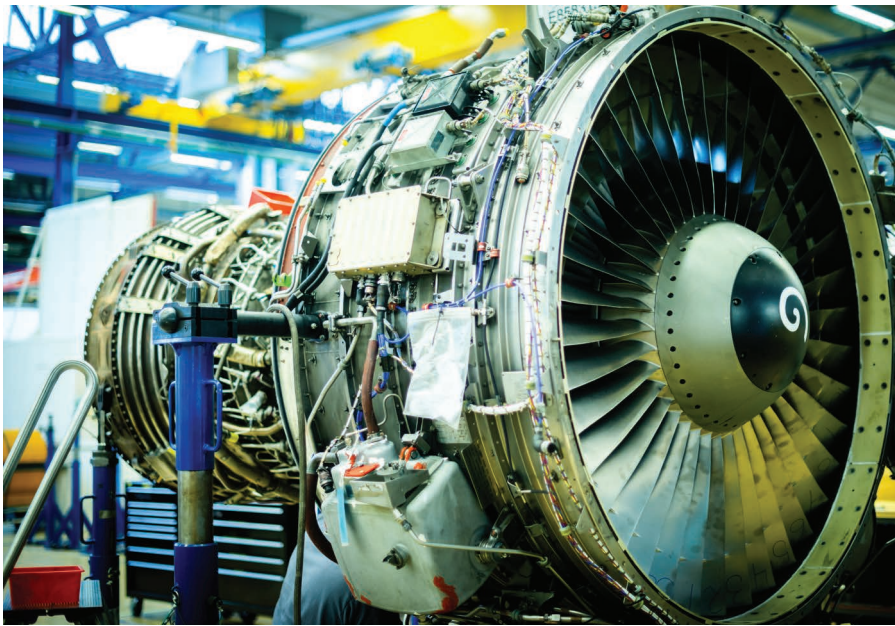


Aero Norway boosts inventory with special facility for CFM56 Engine, introduces innovative 'fast-track' inspection lane

Aero Norway is an authorised CFM repair station based in Stavanger Airport, Sola, Norway. The modern facility was designed specifically to provide MRO services for CFM56 engine variants and is fully equipped with all the necessary equipment to provide high quality maintenance services with industry recognised EGT margins for CFM56-3, CFM56-5B and CFM56-7B engines. The COVID pandemic was a tough time for the entire aerospace industry and Aero Norway came out of it was flying colours. **Glenford Marston, CEO, Aero Norway** discusses the strategies that helped the company sustain and grow during the COVID times and their plans forward in an exclusive Interview with **MRO Business Today**. Read ON....

Q - The pandemic was a tough time for the entire aerospace industry, during such a time you put in extensive measures to ensure that Aero Norway would be able to sustain the commitment of faster TATs. Can you tell our readers about those measures?

A - To keep our specialist CFM56 engine MRO facility open during the pandemic we put people first. We made sure we adopted all the correct health protocols so that people felt comfortable. They understood they could be ill and stay



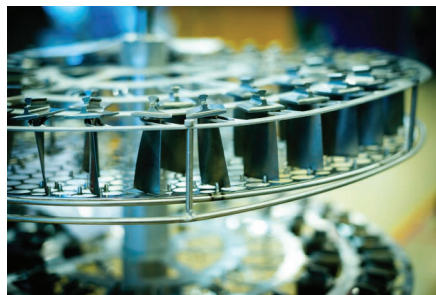
away from work – their jobs would be safe. We kept everyone informed about the changing business circumstances as they evolved and they all understood that there would be financial consequences for the business. I want to stress that we did not furlough anyone and there were times that we were overstaffed. But we saw a throughput of complex work during this time so we were prepared to manage that effectively.

We also took on a lot of smaller workscopes and to streamline the way we handled these, we needed to think outside our normal system. So we introduced an innovative ‘fast-track’ inspection lane for specialised workscopes. This enables us to move much more quickly and deliver exceptional TATs across many modules.

The ‘fast-track’ innovation has been very successful and it has now become part of the Aero Norway process.

Q – Six months down the line, post-pandemic – What is your take on the global MRO recovery, especially with respect to engine MRO?

A - There is a global MRO recovery, but because everyone suddenly wants to fly again, a lot of things are hurting right now. Staff shortages at airlines and airports means that operators cannot get all aircraft flights back in the air quickly enough. Across Europe and the US there have been a lot of cancellations.



The knock-on effect is that aircraft are not flying, engines are not using up their flight cycles, so they are not coming into the shop at their scheduled time. It will balance up in time but we need all of the aircraft out of storage first.

Q - With newer and more innovative and advanced engines being tested and manufactured almost every day, how do you manage to keep the engine parts inventory updated?

A - Currently Aero Norway exclusively works with in-service CFM 56 engines. No-one wants a huge inventory of parts but we do need to keep some stock of course. With an engine throughput of circa 120 engines per annum our optimum is to keep to about \$26 million of stock. This is not a big number. To remain cost-effective and deliver the TATs we strive for we have developed ‘preferred customer’ relationships and consignment stock agreements. For example, if we have a lessor customer wanting to bring 20-30 engines into shop work we put in place supplier

agreements that guarantee materials for Aero Norway, in return we establish an exclusive procurement agreement with the supplier.

Q - In Inventory management how do you tackle the problem of uncertain demand, around 80% of aircraft spare parts, where planners can’t predict what part will need to be replaced, where, or when?

A - This is not true for engine MRO. Aero Norway’s business model is based on core-performance restoration. We know what is needed and we keep parts available in stock for these scheduled repairs. If you look at HPC blades for example it is evident that during a work scope around 20 to 50% will be scrapped – so we hold a well-balanced stock. We do that for all parts.

Q- There is a general observation that MROs end up buying surplus spare parts leading to excess spending and surplus inventory, leading to tied-up capital in inventory. Despite this many times, the target service levels are not achieved. Is there a way to reduce the inventory investment while improving service levels?

A - As already mentioned, Aero Norway already keeps our inventory of parts as low as possible. Also, the stock we do hold is predominantly USM. This reduces costs for customers, minimises any supply chain issues, and is perceived as better for the environment as it ‘recycles’.

Q – How do you see the future of the aircraft teardown business going ahead?

A - Very healthy. Every owner/operator/lessor is looking to have as much USM in their engine as possible – 95%+ is wanted. That being said there will always be a need for LLPs from the OEMs which need to be purchased new to get the lifecycles required. Currently, demand is outstripping supply for USM. There are engines available – but fewer are being torn down. Many aircraft have seen a new lease of life during the pandemic as fleets renewals were deferred/cancelled due to uncertainty about the levels of air traffic – therefore expected teardowns have

not yet happened and it will be a good couple of years before that situation resolves itself.

Q – Now that the pandemic is history, the problem of skilled labor shortage especially in the MRO sector has sprung up again. Your views

A – There is a huge shortage of skilled labour across all MRO operations. This is something we at Aero Norway predicted would happen. We have not yet reached the peak surge but already some of our repair vendors' TAT has doubled because of staff shortages and shorter working hours.

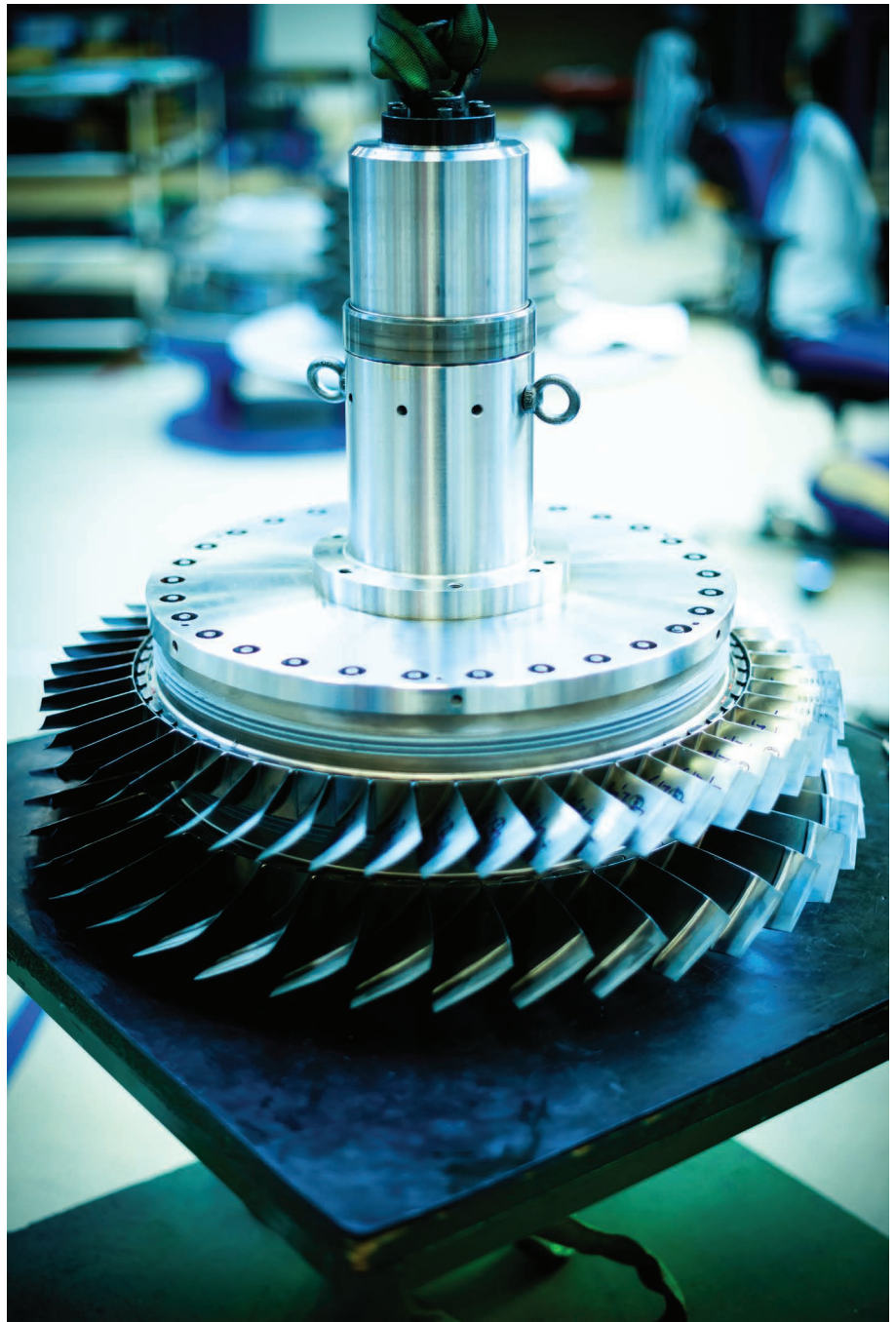
Whilst we have taken precautions at Aero Norway, we are not 100% cushioned. Our trained engineers can still pursue opportunities in the oil industry, luckily they also return after taking new opportunities. Our turnover of staff is low for Norway, but it is proving harder to recruit skilled aerospace personnel from abroad because people can now find jobs in their own country.

Q – What is Aero Norway's contribution towards developing a sound AME training eco-system to tackle the problem of labor shortage?

A – Fortunately, we have developed a strong apprentice scheme programme and this is now yielding value because we have fully trained engineers lined up ready to work, just as some of our older people retire. Home-grown skills are very important to Aero Norway. Additionally, over the last 12 months we have put a great deal of energy into establishing relationships with technical schools across Norway. Our support is enabling us to choose the best of the best for future training. This programme will be rolled out across all technical schools in Scandinavia over the coming years.

Q – You have recently made significant upgrades to the equipment with the addition of high-speed grinding and plasma spraying machines. Can you elaborate on how these upgrades will enhance the operations?

A – The plasma spraying expands our internal repair capabilities and broadens the scope of what we can offer. This helps sustain Aero Norway's TAT guarantees by



reducing the time needed for repairs. We are in the process of introducing a new shot peening machine which eventually will compliment the plasma machine in extending repair capability for fan blades.

Q – The future of MRO is in technology, Digitalization, Additive Maintenance, Robotics, AI, etc. Your views. What are your plans for leading the technology race?

A – All developments in technology are important to us and we're moving closer to being fully paperless via digitalisation

of all processes. This will make us faster. Robotics and Ai are a long way off in engine MRO, but we do anticipate greater application of these technologies in manufacturing.

Q – Any expansion plans on the cards in the recent future?

A – Aero Norway's expansion plans are focused on the induction of LEAP 1A and 1B engine MRO capabilities at the end of 2023.

We have no plans to enlarge our global footprint, just to improve what we already have.

Astral Aviation is the inaugural client for Embraer's New Passenger-to-Freight Conversion program

Astral Aviation has emerged as the launch customer for the Embraer E190F passenger-to-freight conversion program.

The world's largest regional aircraft leasing company, NAC (Nordic Aviation Capital) has agreed a memorandum of understanding to place the first two E190F passenger-to-freight conversions with Astral Aviation, which is based in Nairobi, Kenya.

Embraer and NAC reached an agreement in principle to take up to 10 conversion slots for E190F/E195F in May 2022. The first delivery will be starting from 2024. The aircraft for conversion will come from NAC's existing E190/E195 fleet.

Sanjeev Gadhia, Founder & CEO Astral Aviation, said, "We are honored to be the launch operator of the Embraer 190F, which will be based in Astral's Nairobi hub. It will operate on a combination of scheduled and charter flights on our in-

tra-African network. The E-Jets are well known for their efficiency, flexibility and sustainability. We are confident that the E-Jet freighter platform will be a game-changing addition to our growing fleet. We are grateful to NAC and Embraer for choosing Astral to be the launch operator of the E-Jet Freightier."

Astral Aviation, with a fleet of 15 freighter aircraft, operating to 50 destinations across Africa, Europe, the Middle East, and Asia from 4 hubs, is amongst the fastest growing freighter airlines in the world.

Norman C.T. Liu, President & CEO of NAC, said "As a launch lessor for the E-Jet freighter conversion program, we are pleased to have executed a MoU to place two E190F aircraft with Astral Aviation, a leading cargo carrier servicing

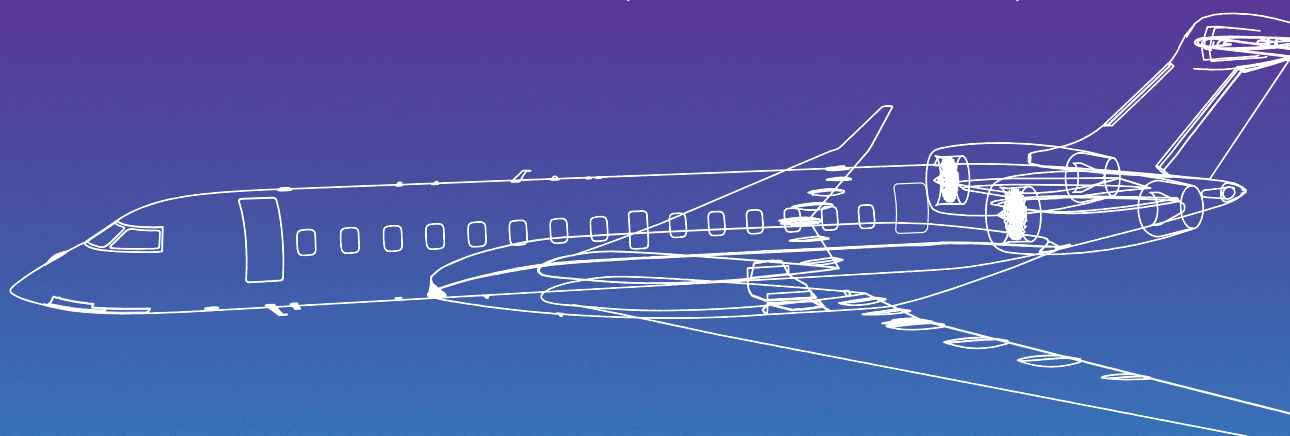
Africa. NAC aims to remain the leader in regional aviation and expand into larger narrow body aircraft, while building our full life cycle asset management capabilities."

Johann Bordais, President & CEO, Embraer Services & Support said, "The response to Embraer's P2F program, which was launched only in March of this year, has been incredible. NAC has already placed their first two aircraft, and it's great to welcome yet another operator to our E-Jet family."

The E190F and E195F are the ideal aircraft to take over larger aircraft operations that are suboptimally deployed both in weight and volume. With much lower emissions and smaller operational costs they can carry similar volume as their larger counterparts.



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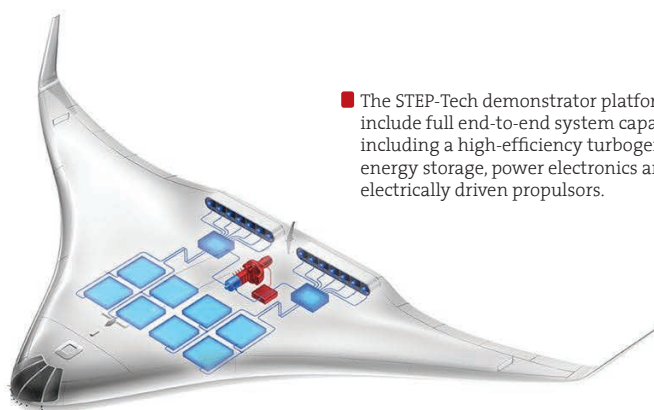
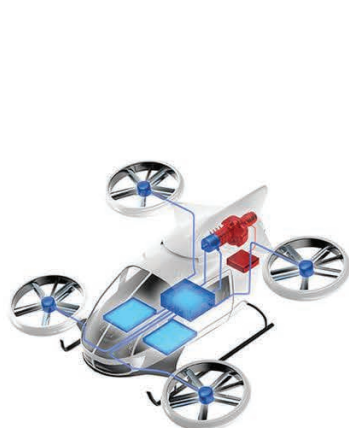


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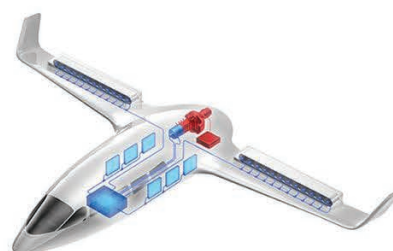
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Pratt & Whitney and Collins Aerospace collectively launch the hybrid-electric demonstrator program

The STEP-Tech demonstrator platform addresses a variety of potential applications including advanced air mobility vehicles, high-speed eVTOL, and blended wing body aircraft.



■ The STEP-Tech demonstrator platform will include full end-to-end system capabilities, including a high-efficiency turbogenerator, energy storage, power electronics and modular electrically driven propulsors.



Pratt & Whitney (P&W) and Collins Aerospace (Collins), both Raytheon Technologies entities, recently announced the launch of a new hybrid-electric technology demonstrator program applicable to future advanced air mobility vehicles. The STEP-Tech demonstrator will be based at the Raytheon Technologies Research Center in East Hartford, CT. Existing P&W-Collins collaborations on hybrid-electric technology include the regional aircraft flight demonstrator, based on a De Havilland Canada Dash 8-100 turboprop, and supported by the governments of Canada and Quebec.

The demonstrator's primary focus will be developing high voltage distributed turboelectric hybrid-electric propulsion concepts in the 100-500kW class, with a potential to scale to 1MW and beyond. Successfully demonstrated technology could be implemented in a range of novel aircraft applications, including high speed eVTOL, Unmanned Aerial Vehicles (UAVs), and small to medium sized commercial air transporters.

Geoff Hunt, senior vice president, engineering and technology, Pratt & Whitney said, "Innovation has always been at the heart of Pratt & Whitney, and we are delighted to expand our work on hybrid-electric technology by leveraging our close collaboration with Collins. Hybrid-electric offers the potential to not only

unlock even greater efficiency in future aircraft, but also support the emergence of a whole new arena of advanced air mobility solutions. Ultimately our continual pursuit of advanced propulsion technologies will help enable aviation's pathway to net zero CO₂ emissions by 2050."

The Scalable Turboelectric Powertrain Technology (STEP-Tech) demonstrator broadens Pratt and Whitney and Collins Aerospace's longstanding cooperation hybrid-electric technology improvement, which is a center component of the two company's methodologies for driving sustainable aviation and empowering clients to accomplish the objective of net zero CO₂ emanations by 2050.

The secluded and versatile nature of the STEP-Tech demonstrator platform empowers many arrangements to be quickly prototyped and illustrated. Having finished verification of idea concentrates on recently, ground testing with the platform is focused on to start in late 2022.

Henry Brooks, president, Power &

Controls for Collins Aerospace, said, "With Pratt & Whitney's track record in aircraft propulsion and Collins' legacy of innovation in electric power systems, we are exceptionally well-positioned to lead the advancement of hybrid-electric technology for the next generation of sustainable aircraft. Our demonstrator programs will help mature technologies and components that can be adapted to a range of different applications, from smaller eVTOLs, to regional turboprops, to single-aisle airliners."

Hybrid-electric propulsion gives chances to enhance engine performance across various phases of flight, resulting in more noteworthy fuel efficiency and lower CO₂ outflows across a scope of various airplane segments. Hybrid-electric technology is additionally exceptionally adaptable, which implies that motor components and electric control system created as a component of the demonstrator declared recently may ultimately uphold bigger scope applications, including single-aisle commercial aircraft.

Triumph to provide wire control cables for Boeing's latest fleet

The contract spans hundreds of variations of wire control cables used on the Boeing 737 MAX, 767, 777 and 777X programs.

Triumph Group, Inc. (TRIUMPH) recently announced that the company's Actuation Products and Services business has been awarded a contract from Boeing. TRIUMPH is a provider of mechanical and electro-mechanical control cables for commercial, military, and industrial platforms applications and has been providing wire control cables to Boeing since 2003.

The content of the contract includes the production and supply of hundreds of variations of wire control cables that are used on the Boeing 737 MAX, 767, 777 and 777X programs. TRIUMPH Group will provide manufacturing, and life cycle support for these highly

engineered mechanical components. The tasks under this agreement will be performed at TRIUMPH's Shelbyville, Indiana facility.

Mike Boland, President of Triumph Actuation Product and Services said, "We are proud to be selected as the provider for Boeing's wire control cable requirements. We will continue to deliver enhanced value to Boeing over the life of the contract".

TRIUMPH, headquartered in Berwyn, Pennsylvania, designs, engineers, manufactures, repairs, and overhauls a broad portfolio of aerospace and defense systems and components. The company serves the global aviation industry, in-

cluding original equipment manufacturers and the full spectrum of military and commercial aircraft operators.

Triumph Actuation Products and Services is an innovator in design, development, manufacture and backing of complex electro-hydraulic driven and mechanical systems and equipment for the aviation and defence industry. Items incorporate actuators, pumps, motors, supplies, control valves and many mechanical controls for commercial and military airplane. The company's Actuation Products and Services business services have clients all over the planet with ten manufacturing destinations across North America and Europe.

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Indigo chooses RECARO's BL3710 aircraft seating for A320N fleet

At less than ten kilograms in weight, the RECARO BL3710 is a distinctively lightweight seat ideal for short and medium-haul flights.



The Recaro Aircraft Seating (Recaro) BL3710 was selected as the seating option for IndiGo's brand-new A320neo and A321neo aircraft. The low-cost Indigo airline is the first to feature the bestselling economy class seat in the Indian sub-continent. The six-way adjustable headrest of the BL3710 with integrated neck support is just one of the innovations to enhance passenger comfort. Another practical comfort feature is that the tray-table can be folded out even when the tablet holder is in use.

Dr. Mark Hiller, CEO at Recaro Aircraft Seating said, "Our new partnership with IndiGo demonstrates our commitment to not only building a distinct product with a sustainable lifecycle, but also our comprehensive approach to customer service. The BL3710 is an excellent product that will serve both IndiGo and its passengers for many years."

The RECARO BL3710 has received the prestigious Red Dot Design Award and iF Design Award, the BL3710 was specifically created for short and medium-haul flights.

Sanjay Kumar, Chief Strategy & Revenue Officer of IndiGo said, "As we expand our network, domestically and internationally to cater to the travel demand, the comfortable seats will be key to upgrading the customer experience onboard IndiGo."

The combination of the ergonomic design and weight of less than 10kg per pax has made the economy class seat a bestseller since it first entered the market in 2019. The BL3710 economy class seat will be installed on 75 Airbus aircraft starting from January 2023. Since its establishing in 2006, IndiGo has developed into India's biggest passenger carrier. Currently, the low-cost airline flies travelers to 73 domestic and 24 international destinations on its fleet of north of 275 airplanes.

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Hutchinson selects Singapore Component Solutions as the licensed repair station in Asia Pacific

The companies have combined their respective expertise to add value to the Asia-Pacific market with extensive MRO service solution offered by Hutchinson products in Singapore.

Hutchinson recently announced the finalization of its long-term agreement with Singapore Component Solutions, the joint venture between Sabena technics and Air France Industries KLM Engineering & Maintenance dedicated to component support, to offer a competitive & quality component repair to the operators in Asia-Pacific. Singapore Component Solutions brings its comprehensive portfolio of customizable, mix & match reliable solutions for A320, A330, ATR and Fokker 100 aircraft operators.

Thibaut Campion, CEO of Singapore Component Solutions said, "At SCS, we are continuously looking to develop new repair capabilities for operators in Asia-Pacific, and this partnership will allow us to do so. To be chosen by a major OEM

such as Hutchinson is a strong mark of trust. We are proud of this new milestone and we hope to bring our collaboration even further in the near future."

The two companies have combined their respective skills to offer the Asia-Pacific market a value-adding MRO service solution of Hutchinson products in Singapore. From the commencement of the agreement operators can benefit from extensive capabilities including Engine and APU Vibration Isolation Systems, Engine Component Repairs, Cabin Interior and composite and structural repairs.

Norbert Langlois, Executive Vice President of Hutchinson Aerospace Services said, "Our partnership with SCS is shaping up; It will, for sure, brings added value to our mutual customers in South

East Asia and Pacific Rim region. We are delighted to start our cooperation with SCS. It allows Hutchinson Aerospace Services to complement its network worldwide."

Hutchinson designs and produces customized materials and connected solutions to respond to the needs of its global customers, on land, in the air and at sea. A global provider of specific aero structure, thermal and acoustic management, vibration control, fluid management and sealing system technologies, Hutchinson stands offers spanning multiple areas of expertise and delivering synergies and value-added. Hutchinson reported revenues of 3.9 billion in 2021 and has 38,000 employees in 25 countries.

APOC awards 737-800 teardown contract to Willis Lease

The B737-800 airframe was acquired by APOC through Dutch asset investment manager, Arena Aviation Capital.

APOC Aviation recently announced its partnership with Willis Aviation Services Limited ("WASL"), a wholly-owned subsidiary of Willis Lease Finance Corporation ("Willis Lease") for APOC's first part-out (teardown) project to take place at their Teesside Airport facility in the UK. The B737-800 airframe was acquired by APOC through the leading Dutch asset investment manager, Arena Aviation Capital. For the job, APOC has signed a framework agreement for this and future teardowns at Teesside Airport with the experienced end-of-life solutions provider, WASL.

Jasper van den Boogaard, VP Airframe Acquisition & Trading at APOC, said, "We were particularly interested in this airframe as our initial inspection showed the parts installed are perfect for our stock, most having come directly from the KLM/Air France B737-800

component pool. We highly value the services provided by WASL and their specialist part-out team. The project has run very smoothly from the start, and we are working closely with the team onsite. Our full involvement at all times means that our customers can benefit from acquiring parts directly from the project. We have completed several deals with Arena to date and it is always a pleasure doing business with them and their professional team. We look forward to continuing this positive relationship in the future."

APOC announced to have ample stock readily available at their global hubs located in The Netherlands, Singapore, and Miami.

James Cobbold, Director Sales at Willis Lease said, "We are honored to support industry leaders like Arena and APOC and that they entrusted their asset with

our Part 145 MRO services and dedicated disassembly team at our newly refurbished hangar. With our experienced and dedicated engineers along with APOC's expertise and industry knowledge, the project has been a success, providing APOC with specific components when required."

APOC is certified with the ASA-100 ASA Accreditation Program (ASAAP) which is a 36-month audit program based on the ASA-100 Standard. The standard was created to comply with the FAA Advisory Circular (AC) 00-56, the Voluntary Industry Distributor Accreditation Program. With secure and readily available funding, APOC's strategy is to continually assess the marketplace for the right airframe acquisitions to add the youngest and most desirable components to their growing A320 and B737NG parts inventory.

Leonardo's Distributor Agreement gets extended till 2024 by Sloane Helicopters

Sloane Helicopters is Leonardo's regional distributor for the Irish and British market till 2024 as per the new Agreement.

Italian aerospace company Leonardo has confirmed the renewal of its Distributor Agreement with Sloane Helicopters, the company's regional distributor in the Irish and British markets for the 2022-2024 timeframe. Sloane made a public statement about this development at the Farnborough International Airshow on 19 July.

- The Distributorship Agreement will provide the customers with continued benefits by dramatically reducing delivery times and providing customers with product expertise and a full range of support packages.

- Leonardo and Sloane Helicopters' long-term partnership broadened as the Distributor Agreement was renewed between both parties.

- The first of seven new helicopters,

under this new Distributor Agreement, an AW109 GrandNew, has already been signed for at Farnborough International AirShow 2022.

This new agreement brings the total helicopter orders by Sloane Helicopters in 2022 to seven, all planned to be handed over before the end of 2023 and this obviously exhibits high interest in the UK for the class-driving light twin type. This successful order will strengthen the position of Leonardo in the UK and Ireland helicopter market.

The agreement covers the AW109 GrandNew, AW109 Trekker, and AW169 types, and predicts at least seven new helicopters bought during the 2022-2024 time period. Under this new Distributor Agreement, an AW109 GrandNew has been endorsed.

David George, Chairman of Sloane Helicopters, commented on this occasion "We are delighted to continue and further develop our close partnership with Leonardo. The new Agusta branding focuses on an enhanced VIP customer experience. Combined with the helicopters' leading performance and safety characteristics, along with excellent support services, the Agusta helicopters are the clear leader in the VIP/corporate sector."

The long-term partnership between Sloane Helicopters and Leonardo was established in 1995 when Sloane became the sole distributor of Leonardo VIP/corporate helicopters in the UK and Ireland. Under this collaboration, more than 100 Leonardo commercial helicopters have been delivered to operators and private users in the UK and Ireland.

ATR gets eight-year pay-by-the-hour maintenance contract for Emerald Airlines ATR 72-600 fleet

The contract also covers propeller availability and maintenance services for its entire fleet of ATR 72-600 aircraft.

New Irish regional carrier, the licensed operator of the Aer Lingus Regional network, recently signed a Global Maintenance Agreement (GMA) with regional aircraft manufacturer ATR. Through this eight-year pay-by-the-hour contract, Emerald Airlines will benefit from the repair, overhaul and pooling services of Line Replaceable Units. The agreement also covers the availability and supply of propeller and maintenance services for its entire fleet of ATR 72-600 aircraft.

Richard Spencer, Director of Engineering and Fleet at Emerald Airlines said, "We are very pleased to have signed a Global Maintenance Agreement with our partners at ATR. Entering into an agreement and forging a close working relationship with the aircraft manufacturer will prove to be significantly advantageous in all aspects of our airline. We will no doubt benefit from the team's vast experience and operational support as we continue to develop Emerald's network. We look forward to working closely with the team at ATR."

Emerald Airlines provides vital connectivity across 18 routes from Dublin and Belfast to the United Kingdom. These air links prove convenient for local communities who can rely on quick access to essential goods and services, economic and educational opportunities across Europe.

David Brigante, Senior Vice-President, Customer Support and Services at ATR said, "An aircraft is only valuable when it is flying. For over 20 years, ATR has been reducing operators' maintenance costs and increasing time in the air through maintenance and repair. This contributes to making regional air transport

ever more reliable, accessible and sustainable. We will be supporting Emerald Airlines at every step of its expansion plan, offering our expertise to ensure it can make the most of its ATR fleet."

ATR is a regional aircraft manufacturer with its ATR 42 and 72 aircraft, the best-selling aircraft in the less than 90-seat market segment. The company with over 1,400 employees in 2019 had a turnover of US\$1.6 billion. Due to the efficiency of turboprop technology and the benefits of the company's continuous innovation, ATR aircraft open more than 100 new routes every year and burn up to 40% less fuel and emit up to 40% less CO₂ than regional jets. ATR aircraft have been chosen by some 200 companies in 100 countries around the world. ATR is a joint-venture between Airbus and Leonardo.

Safran to supply wheels and carbon breaks for Flynas Airlines A320neo fleet

Safran Landing Systems is the biggest supplier of wheels and carbon brakes for the A320 across the globe, equipped in more than 70% of the A320-family fleet worldwide.

Safran Landing Systems was awarded the order to supply the wheels, brakes, and carbon heat sinks to Flynas, a Saudi based air carrier and a leading low-cost airline in the Middle East, for its Airbus A320neo fleet. This order is part of a long-term agreement between the two companies. The contract is an extension of a partnership of more than ten years.

Bander Almohanna, Chief Executive Officer and Managing Director of Flynas said, "As a world leader in aircraft landing and braking systems, Safran Landing Systems ensures the highest standard of safety and quality which will support us to achieve a very reliable and sustainable growth, to expand locally, internationally and to contribute to the Saudi Civil Aviation Authority's drive to reach

330 million passengers annually, linking the world to the Kingdom through more than 250 destinations."

The Carbon brakes designed for the Airbus A320neo family provide good performance in terms of efficiency, weight, and endurance, due to the new SepCarb IV carbon material and Anoxy 66 oxidation protection systems, which are designed to offer ever longer service life and greater reliability. The optimized weight of the system contributes to the reduction of operators' fuel consumption and therefore cuts their CO₂ emissions.

Cédric Goubet, Chief Executive Officer of Safran Landing Systems said, "We are delighted to be selected by Flynas to equip its growing A320neo fleet with our state-of-the-art wheels and carbon brakes. This new long-term partnership

perpetuates a long-standing collaboration with a major Middle East carrier. It strengthens our presence in the region as well as our position as world leader in the wheels and brakes market, in particular on the A320 family, with currently more than 5,000 airplanes equipped by Safran Landing Systems."

Safran Landing Systems is the world leader in the A320 wheels and carbon brakes market, equipping more than 70% of the A320-family fleet worldwide. Flynas recently announced that the company's has decided to increase the volume of new orders for aircraft to 250 aircraft, with which Flynas aims to become the first low-cost airline in the Persian Gulf to enable the Kingdom of Saudi Arabia to reach its goal of 100 million annual tourists by 2030.

JetSMART Airlines SpA awards 10-year power-by-the-hour support deal to AJW Group

AJW will provide inventory from all strategic European and North American hubs as well as supply dedicated on-site inventory in Chile, Peru, and Argentina.

AJW Group, an independent component parts, repair and supply chain solutions provider, recently announced the signing of a 10-year power-by-the-hour (PBH) support contract with South American ultra-low-cost carrier JetSMART Airlines SpA. The support contract went live on 1st July 2022.

The agreement will see AJW Group utilize its ability to deal with the supply, repair, and overhaul of components for the operator's quickly growing fleet of A320CEO and NEO airplanes at JetSMART's primary headquarters in Santiago, Chile. AJW will uphold with stock from all strategic European and North American hubs as well as provide committed on-site inventory in Chile, Peru, and Argentina to support dispatch reliability.

Rodrigo Barrios, Chief Operating Officer, JetSMART Airlines said, "We see

a strong partner in AJW, known for its global supply chain excellence and innovation. We are confident that this partnership will support our key focus on safety, efficiency, reliability, and operational excellence enabling us to concentrate on achieving our aggressive fleet growth plan, always ensuring high quality and ultra-low-cost operations".

The signing of this contract will help AJW reinforce its position as the market leader for end-to-end supply chain solutions for the A320 aircraft and the supplier of choice for airlines across the South American region. AJW Technique, the Group's flagship maintenance facility in Montreal, will be the trusted provider of component repair services, in concert with strategic partners across the supply chain, to guarantee an exceptional end-to-end customer experience.

Sajedah Rustom, CEO & Board Di-

rector, AJW Technique said, "We are delighted to announce our long-term power-by-the-hour contract with JetSMART, who notoriously place the utmost importance on flawless execution and on-time performance, values we share. This strategic contract reinforces the expansion of our capabilities across the Americas and builds solidly on our continued success with key operators in the region. The partnership is a testament to our strength in supporting dynamic supply chain management, confirming AJW's position as the market leader on the A320 CEO and NEO platform."

JetSMART Airlines SpA was created by Indigo Partners in 2017 which also controls US airline Frontier Airlines, Mexico's Volaris, Hungarian airline Wizz Air, Canadian airline Lynx Air, and Philippine airline Cebu Pacific.

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(*Audited figure as on
18th Feb, 2022)

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Bell acquires Eagle Copters Maintenance with intentions to improve aftermarket footprint

The takeover will include ECM's two facilities for Coffs Harbor, New South Wales, and Redcliffe, Queensland, ECM had been a Bell client support office (CSF) for roughly six years.

Bell recently announced the acquisition of Australia based, Eagle Copters Maintenance Pty. Ltd. (ECM), a maintenance, repair, and overhaul (MRO) business and current Bell customer service facility (CSF). The acquisition will help Bell to expand its regional footprint by providing coveted solutions in Australia and Asia-Pacific.

Chris Schaefer, director, Support and Services, Bell said, "This acquisition enables us to provide local support and solutions to our customers in Australia and in Asia-Pacific. "We are confident ECM has the right portfolio of service offerings for competitive aftermarket support in the region. We are excited to have them join the Bell family."

ECM has facilities in Coffs Harbour and



Redcliffe, Australia. In 2013, a Calgary, Canada-based Company, Eagle Copters Ltd. and Australian company, Aero Assist, partnered to form Eagle Copters Australasia Pty. Ltd. These companies bring in decades of experience in helicopter support and local knowledge to its customers. Over the past 40 years, the Eagle Copters group of companies has grown to be one of Bell's top producing

CSF networks of facilities in the world.

Grant Boyter, director, ECM said, "We've always felt a part of the Bell team from being a CSF partner for more than six years. We have a positive and strong reputation in the region and provide dedicated support to our customer network. The team is excited for this new journey with Bell and to continue bringing robust solutions in Australia and Asia-Pacific."

Around the world, Bell as of now has 12 company run administration facilities giving aircraft services such as maintenance, blade repairs, customizations, and more. These facilities are situated in the Czech Republic, Singapore, United Kingdom, UAE, Australia, US, Canada, and China.

Boeing signs primary five-year deal with GAMECO to supply management solutions in mainland China

The agreement marks the first time Boeing will provide a comprehensive materials-management solution in mainland China.

Aircraft and components manufacturing giant Boeing, and Guangzhou Aircraft Maintenance Engineering Co., Ltd. (GAMECO) have signed a 5-year Integrated Materials Management (IMM) program contract for mainland China.

This agreement further strengthens the alliance between Boeing and GAMECO, which have in the past worked cooperatively on passenger-to-freighter conversions for standard and wide-body airplanes, including the 737-800 Boeing Converted Freighter (BCF) and 767-300BCF lines as well as 777/737 landing gear overhaul. GAMECO's performance has helped Boeing improve and grow conversion services to clients around the world. Likewise, the participation has assisted GAMECO with reinforcing its maintenance abilities and achieve key priorities.

Norbert Marx, General Manager, GAMECO said, "Boeing's Inventory Manage-



ment Program is data-based and tailored to the needs of GAMECO. This program will secure the availability of parts and material in a timely and cost-efficient way while reducing our inventory holding costs. GAMECO is excited to enter into this smart program with Boeing to the benefit of better support to China Southern Airlines and our broad domestic and international airline customer base."

Boeing's new 5-year program will provide demand planning, on-site personnel, and logistics services to help GAMECO's operations to upgrade materials buy and stock expenses and furthermore further develop production service levels.

Mini Desai, Vice President of Commer-

cial Spares and Managed Parts, Boeing Global Services said, "We continue to leverage our BGS capabilities and strengths to build packaged offerings that address the value propositions most important to our customers. China is a strategic and important market for BGS. This partnership will enable us to better serve our customer base in China and provide solutions as market demands increase in the future."

GAMECO, laid out in October 1989 at Guangzhou Baiyun International Airport, is a joint endeavor between China Southern Airlines Co. Ltd. also, Hutchison Whampoa (China) Ltd. from Hong Kong that has expertise in aircraft and airborne component maintenance, repair and overhaul. Boeing develops, manufactures and services commercial airplanes, defense products and space systems for customers in more than 150 countries.

Hexcel collaborates with Spirit AeroSystems to develop sustainable technologies for aircraft production

The AIC has been established as a centre of excellence for the research and development of advanced materials, digital manufacturing technologies and processes.



Hexcel Corporation recently joined hands with Spirit AeroSystems Europe in a strategic collaboration at the company's Aerospace Innovation Centre (AIC) to develop more sustainable aircraft manufacturing technologies for future aircraft production. Spirit AeroSystems Europe opened the new 90,000-square-foot innovation Centre at its Prestwick, Scotland site in September 2021.

A portion of the cooperative exercises at the AIC among Hexcel and Spirit Europe incorporate the proceeded with the improvement of resin transfer molding (RTM) production applications that will exhibit future open doors for liquid composite molding (LCM) arrangements.

The AIC has been laid out as a focal point of excellence for the innovative work of cutting-edge materials, digital manufacturing technologies, and processes, where Spirit Europe will team up with scholarly and industry accomplices including Hexcel to improve, train, and foster abilities for now and in the future. Settled in Wichita, Kansas, Spirit has production facilities in the U.S., U.K., France, Malaysia, and Morocco.

Hexcel HiTape, an elite exhibition dry unidirectional support streamlined for completely computerized lay-up, and HiMax multiaxial fabrics empower RTM production of primary aerostructure components utilizing HiFlow imbue ment resins.

Hexcel reported that it is pleased to help Spirit Europe and its development community as together, the two companies aim to keep on improving more solid and more sustainable high-level lightweight composite materials that assist with lessening emanations and make more productive airplanes today and for the years to come.

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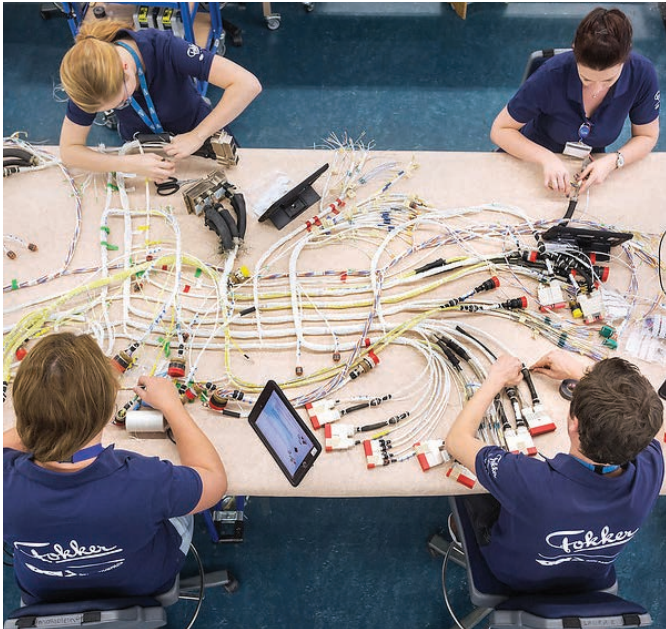
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Dutch alliance to execute R&D Programmes for Sustainable Aviation worth \$112 dollars under GKN Aerospace

'Luchtvaart in Transitie' consortium brings partners in the Dutch aerospace eco-system together to collaborate on the development and industrialization of sustainable aviation technologies.



■ GKN Aerospace will use its long-term experience and in-depth knowledge of thermoplastic aerostructures and electrical wiring interconnection systems (EWIS) throughout the projects.

GKN Aerospace is currently leading two historic cooperative R&D programs, zeroed in on electrification and thermoplastics, to help the improvement of sustainable aviation technologies and pave the way for the industry to arrive at net zero emissions. The two programs are important for the Dutch 'Luchtvaart in Transitie' proposal and are financed in partnership with the Dutch Growth Fund.

The Royal Netherlands Aerospace Center, Technical University of Delft, individuals from Lucht en Ruimtevaart Nederland, and members from Netherlands Aerospace Group will band together with GKN Aerospace on the research & development programs, making it genuinely cooperative across industry, knowledge institutes, SMEs and universities. Around 100 profoundly concentrated engineers and operators will cooperate on the projects, based out of GKN Aerospace's centers of excellence in Hoozevee, Papendrecht, and Hoogerheide.

Micky Adriaansens, Dutch Minister of Economic Affairs and Climate Policy said, "Inspiring to see how a large number of parties in the Netherlands, from manufacturing industry including SMEs to knowledge institutes, work together in an adaptive ecosystem to make the necessary steps towards significantly more sustainable aviation. In the longer term, innovative technologies like thermoplastic composites promise to have a notable contribution to the ambitions of the

international aviation industry to achieve net zero targets and sustain an economic impact as well."

The electrification project includes research and development toward advanced Electrical Wiring Interconnection Systems (EWIS) for sustainable aviation. This consists of developing High Voltage High Power Wiring, necessary for the distribution of high electrical power as part of a (hybrid) electric powertrain or a hydrogen fuel cell system, as well as to transport data signals.

The new technology will need to meet these advanced requirements, with a lower weight and volume within an aircraft than today's equivalent. The project also covers the development of cost-efficient design and assembly automation technologies for high power and electrical data distribution systems.

John Pritchard, President Civil Airframe GKN Aerospace said: "GKN Aerospace has deep knowledge and expertise in thermoplastic technology and EWIS and we are proud to lead these projects. Accelerating the adoption of lightweight, cost-effective advanced thermoplastic aerostructures and development of high voltage high power wiring systems is a critical stepping stone for the aerospace industry and its move to more energy-efficient aircraft. Ensuring we can not only develop these technologies, but also manufacture them across the Netherlands supply chain, will maintain our world-leading position in this area and underpin our commitment to sustainability. The Dutch Ministry of Economic Affairs and Climate Policy is a key part of the Dutch eco-system and it is providing vital support to the industry as we focus on shaping the next generation of sustainable aircraft."

•**Electrification:** One programme will explore and develop advanced High Voltage High Power wiring and distribution systems to support the increased electrical power required for Electrical aircraft and Hydrogen Fuel Cell Systems

•**Lightweighting:** The second programme will focus on the development of new thermoplastic materials and processes for scalable high volume production of lightweight sustainable components

The thermoplastics project intends to foster new thermoplastic materials and cycles for versatile and reasonable high-volume creation. Thermoplastic composites are advanced lightweight materials offering weight savings of no less than 10% contrasted with traditional aircraft materials, as well as being more proficient to produce and with an elevated degree of fire safety and recyclability. This makes thermoplastics a cheaper, sustainable answer for airplane structural components.

Embraer and Raízen sign joint declaration to encourage SAF development

Embraer intends to become the first aircraft manufacturer to use Sustainable Aviation Fuel (SAF) that may be distributed by Raízen, a global leader in bioenergy.



■ Raízen has a broad portfolio of renewable solutions and a unique business model to lead its markets and drive the global energy transition.

Brazilian aircraft manufacturer, Embraer and Raízen recently signed a Letter of Intent with a commitment to stimulating the development of the sustainable aviation fuel (SAF) production ecosystem, reinforcing the sustainability agenda of both companies. This drive expects to benefit the air transport industry around the world, and the utilization of this innovation is a central piece of Embraer's procedure to neutralize the carbon impression of its operations by 2040 as over 60% of outflows in the company's operations (scope 1) emerge from the utilization of aviation fuel in tests and production flights.

Carlos Alberto Griner, Vice President of People, ESG, and Communications at Embraer said, "SAF plays a key role in reducing aviation emissions in the short and medium term. Therefore, this agreement aims to stimulate the growth and sustainability of the value chain as a whole. ESG is one of the pillars of

our strategic plan and we are looking at every opportunity to accelerate the reduction of our carbon emissions."

This initiative aims to strengthen the sustainability plan of the two companies, adding to the air transport industry's decarbonization.

Antonio Cardoso, Vice President of Marketing and Services at Raízen said, "As an integrated energy company, Raízen has challenging goals as we intend to expand the offer renewable energy and fuel sources to the market by 80% and make this increase as efficient as possible in our production process to help produce the impact on our customer. "As the largest sugarcane ethanol producer in the world, it is only natural that we are looking at a possible supply of SAF. This partnership with Embraer, a global reference, reinforces the sustainability agenda and expansion of the company's portfolio."

The development likewise supports

Raízen's obligation to develop and research sustainable fuel for sectors that are assembling to look for answers for their carbon impression reduction difficulties.

Roberto Chaves, Embraer's Chief Procurement Officer said, "The partnership with Raízen demonstrates our pioneering spirit on the subject and symbolizes the many opportunities for strategic partnerships that can generate new business possibilities in the area of sustainable fuels for our company, and regarding the air transport industry as a whole.

The assumption is that Raízen will assist Embraer to arrive at the objective of having SAF blends addressing 100 percent of its fuel utilization in Brazil by 2030. Since it was founded in 1969, Embraer has delivered more than 8,000 aircraft. On average, about every 10 seconds an aircraft manufactured by Embraer takes off somewhere in the world, transporting over 145 million passengers a year.

XaaS Provides the Blueprint for the Future of Aircraft Material Procurement

By Erkki Brakmann, CEO at SkySelect



Companies around the world are adopting cloud infrastructure and cloud service technologies to simplify IT, increase business agility, and streamline operations. Entire business models are being transformed thanks to new computing technologies and services. This, of course, is spilling over into aviation: operations, commercial functions, and MRO, including material procurement.

For years, airlines and the aviation support industry have invested billions in IT infrastructure, systems, and software for a limited return, particularly within operations and maintenance. On the commercial side, internet technologies have created a revolution in aviation, shifting the connection from the customer back to the airline and allowing the rapid deployment of new systems with strong ROIs. Internet direct booking and customer apps are fundamentally changing the relationship airlines have with their customers.

XaaS, which we'll explain below, allows airlines to improve supply chain performance by tapping into world-class infrastructure, machine learning, AI, and network buying effects, with limited

internal change management costs.

We are anticipating that this may have the same impact on airline supply chains as internet booking had on revenue operations. Rapid deployment of new solutions, immediate ROIs, better access to data, and the knowledge that machine learning and AI can bring.

Understand Different Technology Service Models

Before we get deeper into material procurement, let's first take a step back to understand today's underlying technology services. The rise of digital transformation — where more people are turning to digital technology to solve legacy problems — is increasing customer demand for as-a-service offerings. There are four main models to understand (which each have their own offshoots).

Infrastructure-as-Service (IaaS)

IaaS refers to all IT infrastructure components, including servers, networking, storage, security, etc. In this model, the service provider provides the customer with the infrastructure components housed in its own facility, so all of the

hardware is owned by the provider and used by the client. This model is best for clients who want to take control of their IT without having capital expenses and the hassle of managing a data center.

Platform-as-a-Service (PaaS)

In the PaaS model, the provider supplies the operating system (i.e., computing platform) in addition to the infrastructure components provided in IaaS. This model is best for customers using or requiring custom software applications.

Software-as-a-Service (SaaS)

Chances are you've heard of this model as it's become one of the most common business models for technology companies. Applications like customer relationship management (CRM), project management, collaboration, and communications, document processing, and enterprise resource planning (ERP) are a few of many SaaS examples. In addition to what is offered in PaaS, the provider supplies software applications to the client (as opposed to clients using customer applications). This model is best for customers looking for a managed service with standard applications for business users who want a swift implementation process.

Everything-as-a-Service (XaaS)

XaaS has become the new gold standard, surpassing SaaS. With this model of products and services, pricing is based on either the outcome or the value offered. The philosophy of XaaS is anchored on helping customers achieve specific business outcomes by providing both the tools and know-how to get the job at hand accomplished. So it provides not only a software application but also the requisite service needed to run lightweight and agile operations. XaaS can be thought of as the next level of SaaS, which allows companies to reduce fixed overhead costs while staying nimble. Some examples are

Amazon Web Services (AWS), Stripe, and Hubspot.

Applying XaaS to Aviation Parts Procurement

All of this sounds great, but how is it being applied to aircraft parts procurement? Let's start with a term you are likely familiar with. eProcurement is the purchase and sale of supplies, work, and services through digital means, such as electronic data interchange and enterprise resource planning. So, you can think of eProcurement as the software application (SaaS) behind purchasing transactions.

The next level of that is eProcurement-as-a-Service (ePaaS), which adds an additional service layer on top of the software, making it a XaaS offering. Airlines, MROs, or lessors can simply hand over their material requirements, and ePaaS does the rest with its combination of experts and technology. These value-added services are layered on top of AI-powered algorithms to provide an

end-to-end eProcurement experience from sourcing, purchasing, and order processing to delivery tracking.

This provides a much leaner and more effective tool as opposed to the legacy systems that have historically been deployed. The ePaaS model allows airlines to adopt the asset-light strategy so they can focus on what they do best - their core business of transporting people and things from A to B.

ePaaS allows customers to see tangible benefits within 8 weeks of deployment as opposed to traditional implementation phases that can take months and require entire systems to be uprooted.

ePaaS has proved to be especially useful for this time in aviation, where many organizations are faced with resource crunches and budgetary constraints. Not only does ePaaS allow for up to 90% of purchases to be automated, but it also drives down up to 20% costs while making transactions more streamlined and efficient.

If there is ever anything in question,

outlying questions, or additional training needed, the service layer of ePaaS provides customers with the peace of mind that comes from hands-on customer service, which cannot be found in other models.

Conclusion

The world is changing rapidly because technology and material procurement is part of this evolution. There is no reason to fall back on outdated practices and tech that hasn't innovated in decades. Everything-as-a-Service (XaaS) is the winning business model of the digitized world.

XaaS in the value chain transforms supplier-buyer relationships into a value network. Suppliers become specialized partners who cooperate as 'best-of-breed' in a data-driven ecosystem. Growth for the buyer represents growth for the "on-demand" business process partner. This highlights the direct goal alignment between supplier and buyer in the value network.

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West Star Aviation completes first installation of Line Fusion and CMS system in Challenger 604 aircraft

The project was an example of West Star's Challenger and Avionics expertise and was returned to service twelve weeks after input.

West Star Aviation a U.S. based Aviation service company recently announced the completion of the first installation of the Collins Pro Line Fusion system and Collins Venue CMS system in a Bombardier Challenger 604 aircraft at the company's Grand Junction, CO facility. West Star Aviation has avionics specialists with decades of experience with the in-depth cockpit and cabin upgrades over several generations of Collins equipment in various airframes. The company recently partnered with Collins on successful Fusion 1st of Type STC on the CJ2+.

Walt Marcy, Avionics Technical Sales Manager said, "However, the combination of Pro Line Fusion and the Collins Venue CMS retrofit on a Challenger 604 represented a unique first for not only West Star, but the industry as well.

The Fusion system offers several benefits to the proven and still robust Challenger airframe such as:

- Removes obsolescence issues with Pro Line IV cockpit components
- Brings aircraft back into full compliance with all international standards
- Adds full synthetic vision to the aircraft with multiple overlay options
- Enhanced safety through increased

awareness with heads-up flying

- Adds full dual graphical flight planning with data link integration
- Adds domestic data link capabilities

The operator selected enhanced options with their install, including FANS/CPDLC, ANT B1/Link 2000+, Multiscan Weather, SXM Weather, Auto Throttle upgrade as well as a full Collins Venue CMS/IFE retrofit.

While in GJT for the cockpit and cabin avionics installations, the aircraft also underwent a full cabin refurbishment, including all soft goods and all new carbon fiber woodwork as well as a 96-month inspection.

MRO Insider links API with Global Appearance Partners to enhance user experience

The API integration will allow the MRO Insider users to request vetted detailers through Global Appearance Partners.

MRO Insider recently announced that the company has completed Application programming interface integration with U.S based aircraft maintenance company Global Appearance Partners, allowing MRO Insider users to request detailing services without leaving their MRO Insider dashboard. By integrating with the Global Appearance, MRO Insider users will have an expansive network of vetted detailing companies through Global Appearance Partners at over 350 airport locations.

Andy Nixon, President of MRO Insider said, "The integration with Global Appearance Partners seemed like the perfect fit for flight departments using our platform. Considering the number of our registered tail numbers who use Global Appearance Partners to manage the appearance of their aircraft, it seemed logical to build a portal allowing the user to seamlessly transition to managing their detailing through the MRO Insider app. MRO Insider users who

do not have an Atlas account through Global Appearance Partners will be able to submit a request through the MRO Insider platform. Users who may be unfamiliar with the value Global Appearance has to offer will have access to the network and expertise that the company provides – yet another way we aim to improve efficiency and transparency while we raise the bar for business aviation services."

The MRO Insider app was founded in 2016. The app allows the users to 'ping' service providers based on the current aircraft location, eliminating the redundant phone call and email process. The platform currently has over 2,500 registered tail numbers and over 400 provider locations.

Jared Wolf, CEO of Global Appearance Partners said, "We are really excited to partner with Andy and his team at MRO Insider. Their use of technology to solve problems for operators is one of the key reasons we wanted to partner

with them. We believe that integrating our Atlas app and the full capabilities of Global Appearance Partners, helps to broaden the appeal of their platform. We look forward to both supporting their existing customers as well as helping to grow the network in the future."

Global Appearance Partners is the premier fleet appearance management company. The only service of its sort, Global offers start to finish the management of the airplane aesthetics process. Through simple booking, standardized pricing, a verified vendor network, and transparency, the group at Global endeavors to be the unrivaled place customers need to go to keep their airplane looking perfect and traveler prepared. Moreover, with the sendoff of their custom application Atlas, the industry's first application designed specifically for the management of aircraft cleanings, Global Appearance Partners have become the most comprehensive solution to aircraft aesthetics.

Ramco Aviation Goes Live at Taiwan's first privately-owned aircraft maintenance company AACL

Accessible on cloud and mobile, Ramco Software continues to innovate with 'Anywhere Apps', reducing transaction time both during aircraft-on-ground (AOG) conditions and critical aircraft turnarounds.



Global aviation software provider Ramco Systems announced that it has successfully gone live at Air Asia Company Limited (AACL). AACL is Taiwan's first privately-owned airplane maintenance company catering to aircraft maintenance of commercial aircraft, helicopters, military and a designated 'Government owned contractor operated facility' (GOCO), with its Aviation M&E MRO Suite V5.9.

In the process of digitalization Ramco will be automating and digitally transforming AACL's business processes. Ramco will add modules for Production Planning, Commercials, Maintenance Execution and Supply Chain Management, Ramco's one stop solution, Ramco Aviation Suite V5.9 replaced AACL's existing legacy system for proposal management, production Planning, heavy maintenance process for commercial aircraft, and interfaces with AACL's inventory management solution.

In addition to this, Ramco's next-gen innovations like its Mechanic Anywhere mobile app and real-time Dashboards together with the digital transformation initiatives for Task Card Management, Electronic Signoffs, enable the company to streamline communication between its departments, analyze man-hour consumptions, track opportunity details, progress of work packages and report non-routine tasks on the go. As a result, AACL has now recorded a 15% reduction in its production planning process.

Eric Y.C. Tsai, Director of Commercial Aircraft Planning, Air Asia Company Limited, said "With a primary goal to achieve paperless operations and support green environmental protection, and with a vision to become a world-class and professional aircraft Maintenance, Repair and Overhaul (MRO) service provider, we found a perfect technology partner and a best-in-class Aviation software provider in Ramco Systems. Ramco's rich domain expertise along with

the able team members at AACL and Ramco ensured to turnaround this project during the pandemic. Ramco's Digital Task card feature has been helping us achieve our goal. We are confident that these will be signed off by the Civil Aviation Authority (CAA) and Federal Aviation Administration (FAA), as well."

Air Asia Company Limited (AACL) was inaugurated in 1955. AACL has been the principal private-owned aircraft maintenance company in Taiwan. In 1994, AACL formally become an auxiliary of Taiwan Aerospace Corporation (TAC) as the main Taiwan-based proficient MRO with rich experience, standard facility and equipment, well-talented labor forces and cutthroat costs in servicing both business and military airplane in the Asia Pacific region.

Manoj Kumar Singh, Chief Customer Officer – Aviation, Aerospace & Defense, Ramco Systems said, "With the growing aviation industry, organizations today are being mindful of choosing innovative solutions that are not only helping them improve efficiency, but are also helping them achieve green initiatives. Ramco's Task Card Digitization is a step towards sustainability in aviation. Equipped with the latest technology stacks around artificial intelligence and machine learning, Ramco Aviation Suite has been helping companies embrace paperless operations and embark on digital transformation. We are happy to support Air Asia Company Limited in their endeavor and help them scale to greater heights."

Ramco Aviation, Aerospace & Defense has over 24,000 plus users to manage a fleet of more than 4,000 aircraft globally. Accessible on cloud and mobile, Ramco Aviation & Defense Software will continue to innovate with 'Anywhere Apps', aiming to significantly reduce transaction time both during aircraft-on-ground (AOG) conditions and critical aircraft turnarounds.

Ramco is attempting for a paradigm shift of enterprise software with Artificial Intelligence based solutions, powered by new features such as digital task cards, offline capability, chatbots, mail bots, HUBs and cognitive solutions. With 80+ Aviation companies onboard, Ramco aspires to be the solution of choice for top heli-operators, leading defense companies, space launch vehicles, UAS/Drones, eVTOL and multiple MROs around the world.

Boeing's F/A-18 Super Hornet perfects operational drills to meet the Indian Navy test requirements

The tests followed eight ski-jumps in various weights and configurations during previous tests held at NAS, Patuxent River in Maryland in late 2020.

Boeing's F/A-18 Super Hornet successfully completed operational demonstration tests at Indian Naval Station Hansa in Goa, India, thus assuring the Super Hornet's ability to effectively and safely function off Indian Navy carriers.

Two U.S. Navy F/A-18E Super Hornets completed multiple ski-jumps, roll-in and fly-in arrestments, as well as performance flights, in a variety of weights in the air-to-air, air-to-ground, and air-to-surface configurations, meeting the Indian Navy test requirements.

Alain Garcia, vice president, India business development for Boeing Defense, Space & Security and Boeing Global Services stated "The Boeing team was privileged to showcase the F/A-18 Super Hornet's compatibility with Indian carriers in Goa. As the most advanced frontline multi-role



naval fighter, the F/A-18 Super Hornet is one of the world's most proven and affordable multi-role fighters and continues to evolve with the development of the next-generation Block III capability which will be game-changing for India. "With the Super Hornet Block III, the Indian Navy would not only get the most advanced platform but would also benefit from tactics,

upgrades and knowledge related to the naval aviation ecosystem that the U.S. Navy offers."

The tests were followed by eight ski-jumps in various weights and configurations during previous tests held at Naval Air Station (NAS) Patuxent River in Maryland in late 2020 that demonstrated the Super Hornet's ability to operate from a short takeoff but arrested recovery (STOBAR) aircraft carrier.

Boeing has strengthened its supply chain with more than 275 local companies in India and a joint venture to manufacture fuselages for Apache helicopters. Annual sourcing from India stands at \$1 billion. Boeing currently employs close to 4,000 employees in India, and more than 7,000 people work with its supply chain partners.

Safran signs deal to support New Zealand Defence Force NH90 engines

This agreement demonstrates the relevance of the flight hour-based support model for RTM322-powered NH90 engine users.

Safran Helicopter Engines, the world's leading manufacturer of helicopter engines recently signed an agreement with New Zealand Defence Force (NZDF) to support the engines of its NH90 fleet operated by the Royal New Zealand Air Force (RNZAF). This Support-By-the-Hour-Military (SBH) contract regularizes a long-term Maintenance, Repair and Overhaul (MRO) and services agreement supporting a total of 21 RTM 322 engines.

Safran Helicopter Engines Australia, in Sydney will manage this contract, which already assists more than 200 operators flying in the course of the Pacific Islands (Papua New Guinea, French Polynesia), Australia and New Zealand.

Cédric Jochum, Safran Helicopter Engines Australia, Managing Director said "This SBH marks a major milestone



in the strong partnership that has been built over the last decade between the RNZAF and Safran Helicopter Engines Australia while supporting their engines".

This agreement demonstrates the rel-

evance of the flight hour-based support model for RTM322-powered NH90 users. Currently, 90 percent of RTM322 flight hours are included by means of a Global Support Package (GSP) or SBH flight hour-based support contract.

SBH is Safran Helicopter Engines' Support-By-the-Hour program for Military operators. It provides the visibility into engine operating costs and eliminates coins peaks, streamlines financial flows, while making scheduled and unscheduled maintenance operations more flexible.

Safran Helicopter Engines is the world's leading manufacturer of helicopter engines, with more than 75,000 produced since being founded. It offers the widest range of helicopter turbo-shafts in the world and has more than 2,500 customers in 155 countries.

David Lamoureux appointed as the new CEO OF Bonus Tech Inc.

David brings significant project and change management experience as a Six Sigma Black Belt.

Bonus Tech Inc., an Air France Industries KLM Engineering & Maintenance announced the appointment of David Lamoureux as the Chief Executive Officer of the company. David commenced his duties as the CEO on 1st July 2022 at the facility based in Miami. Bonus Tech Inc. is an Air France Industries KLM Engineering & Maintenance joint venture and is one of the major global market company for engine teardown. Engine teardown facilitates the generation of used serviceable and repairable material from end-of-life engines and is a key enabler of circularity in engine materials, contributing to the drive for sustainability in the aviation industry.

David Lamoureux at Bonus Tech took over from Aurélie Kergoat, who led the company for five years as Bonus Tech Inc. CEO. Aurélie Kergoat drove growth in Bonus Tech's engine portfolio. The company saw a growth in turnover and profitability during Aurélie's tenure and launched the development of complementary services for its customers. One

such example is the engine inspection to be offered through Bonus Tech Engine Services, including Part 145 Approval.

Michael Grootenboer AFI KLM E&M SVP Group Engines Product and Bonus Tech Inc. said, "I want to warmly thank and commend Aurélie for the leadership she has demonstrated, for her tireless efforts and for the fantastic shape in which she hands over Bonus Tech Inc. into David's hands. I want to welcome David to the Bonus Tech Inc. family. I am fully confident that with his extensive knowledge and experience he will continue the development and success of the company."

David Lamoureux joined Bonus Tech with 15 years of experience behind him in the MRO Engine business at AFI KLM E&M, from dedicated logistics, asset life-cycle management, engine maintenance operations, and most recently served as Technical Sales Director for CFM56-5 and GE90 Engine maintenance services worldwide. David also brings significant project and change management experience as a Six Sigma Black Belt.



Dennis Kohr delegated as the new Head of Corporate Sales Asia Pacific

Dennis Kohr will succeed Thomas Böttger, who became Head of Purchasing in March 2022.

Dennis Kohr will be appointed as the new Head of Corporate Sales Asia Pacific for Lufthansa Technik Group. The decision will come into effect from 1 August 2022. Dennis Kohr till that date will continue to hold the position of "Head of Product Sales & Fulfillment Open Loop, EMEA" and has previously held several leading positions in Sales and Customer Service, which include responsibilities outside the Lufthansa Group.

Dennis Kohr currently the Head of Product Sales & Fulfillment Open Loop, EMEA on his appointment expressed, "I am looking forward to the exciting new task of further expanding Lufthansa Technik's market share in APAC together

with my colleagues in the APAC sales team and in cooperation with all product segments, and to carry the "voice of the customer" from Asia to Hamburg. As local travel restrictions are further eased, the goal is to successfully position Lufthansa Technik in this trend-setting



growth phase. On a personal level, I am also excited to get to know Lufthansa Technik even better in all its product diversity".

Since joining Lufthansa Technik in 2006 as a project manager in Component Sales, Dennis Kohr's professional career led him to Jet Aviation, among other companies, first to Switzerland as Director Sales and Customer Support and later to Austria as Accountable Manager. After eight years of stints at different companies, Dennis Kohr returned to Lufthansa Technik in 2018 as Head of Product Sales EMEA (Europe, Middle East, and Africa) in the Component division.

Bradley Carucci appointed as Managing Director of GA Telesis US SPAH Facility

Prior to this, Bradley Carucci held the position as a director of Component Repair & Manufacturing in Airborne Maintenance and Engineering services.

GA Telesis Engine Services (GATES) recently announced that aviation industry veteran, Bradley Carucci, has joined GATES as Managing Director of the US-based Specialized Procedures Aeroengine Hospital (SPAH) in Wilmington, Ohio. This newly built 72,000 sq. ft. facility is a joint venture with GA Telesis, LLC and Air Transport Services Group, Inc. (ATSG).

Bradley Carucci, Managing Director, US SPAH said, "There were several reasons for joining GATES, but the one that stood out was the solid team of professionals. GA Telesis has always held the highest standards for customer service, and I am proud to be part of the team. This new ca-

pability enhances our support to airlines and lessors with quality engine maintenance while supporting their fleets."

Carucci brings a broad range of aviation experience with growth over time in the responsibilities assigned in the commercial aircraft maintenance industry. Bradley Carucci began his career as a Jet Engine Specialist with the United States Air Force. Carucci received his bachelor's degree in Applied Arts and Aviation Sciences from Eastern New Mexico University.

"We are excited to have Brad on the team. His prior experience in MRO Quality and Training Management will be of great value in establishing the operation. His

knowledge of the industry brings us an extremely valuable competitive edge as we move forward into the future" said Russ Shelton, President, Engine Strategy Group.

GA Telesis Engine Services (GATES) is a fully owned subsidiary of GA Telesis, offering customers engine solution that combines repair and overhaul services as well as supply chain services. GATES has an integrated test cell capable of up to 100,000 pounds of thrust and can overhaul up to 200 engines per year. GATES Go-Team is also one of the few companies authorized by EASA to perform remote repairs on engines that are installed on aircraft.

ATR announces Antonio Di Gennaro as new Senior VP Finance & CFO

Antonio Di Gennaro completed his MSc in Industrial & Management Science Engineering, Engineering & Management from the Politecnico di Torino University in Italy.

The Board members at ATR appointed Antonio Di Gennaro as Senior Vice President Finance and Chief Financial Officer. His term commenced from 1 July 2022. Antonio Di Gennaro brings with him over fifteen years' experience as a Finance and Operations business leader and joined ATR after relinquishing his duties at PZL Widnik, a Leonardo Helicopters company, where he was Chief Financial Officer and Member of the Management Board since 2018.

Prior to joining ATR, Antonio has been given responsibilities of many international positions in the Aerospace and Defense Industry in both military and civil sectors. Antonio Di Gennaro has vast experience in Operations, Manufacturing, Customer Service and Sales, and business joining between multifaceted companies. Antonio began his career in aviation at Alenia Aermacchi (converged in 2016 into Leonardo).

ATR (Aerei da Trasporto Regionale or Avions de transport régional; Regional



Transport Airplanes in English) is a Franco-Italian aircraft manufacturing company with its head office located on the grounds of Toulouse Blagnac International Airport in Blagnac, France.

ATR was formed during 1981 and was a joint venture between Aérospatiale of France now known as Airbus, the world leader in aircraft manufacturing

and Aeritalia which is now Leonardo, an Italian multinational company specializing in Aerospace. The company's principal products are the ATR 42 and ATR 72 aircraft, of which it has developed multiple variants of both types. ATR has sold more than 1,600 aircraft and has over 200 operators in more than 100 countries.

International CALENDAR 2022

2022

Date	Event	Venue
07- Sept	Asia Connect Aviation Strategy	Istanbul, Turkey
07-08 Sept	Aero-Engines Europe	Dublin, Ireland
07-08 Sept	Helitech Expo	ExCeL London
15-17 Sept	Vietnam International Aviation Expo 2022	National Convention Center, Hanoi
20-22 Sept	MRO ASIA-PACIFIC	Singapore
27-29 Sept	IATA World Congress Symposium	London, England
4-6 Oct	World Aviation Festival	Amsterdam
06-08 Oct	Istanbul Airshow	Istanbul Atatürk Airport, Istanbul
18-20 Oct	MRO EUROPE	London, UK
18-20 Oct	NBAA-BACE	Orlando, FL
25-27 Oct	IATA Safety Conference	Dubai, UAE
01-03 Nov	Abu Dhabi Air Expo	Abu Dhabi
06-09 Nov	ATCA	Washington, D.C.
9-10 Nov	Asia Connect MRO	Istanbul, Turkey
15-16 Nov	Predictive Aircraft Maintenance 2022	London, UK
05-06 Dec	Aviation Forum 2022	Munich
06-08 Dec	MEBAA	DWC, Dubai

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