MRO BUSINESS TODAY

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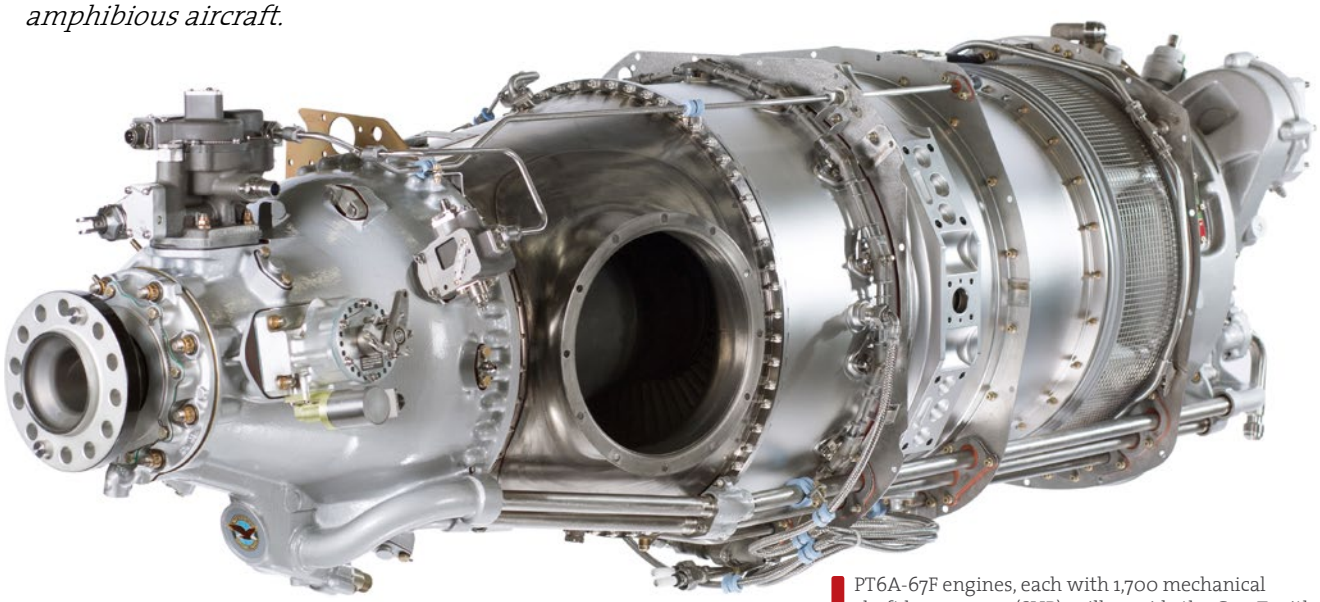
Pratt & Whitney Canada's PT6A-67F Engines to Power the G-111T Amphibious Aircraft

Amphibian Aerospace selects PT6A-67F turboprop engine to power its iconic twin-engine G-111T amphibious aircraft.



PT6A-67F engines, each with 1,700 mechanical shaft horsepower (SHP), will provide the G-111T with superior performance.

Pratt & Whitney Canada, a business unit of Pratt & Whitney, announced that Amphibian Aerospace Industries Pty Ltd. has selected the PT6A-67F turboprop engine to power its iconic twin-engine G-111T amphibious aircraft as a part of a Supplemental type certificate (STC) upgrade.

Nicholas Kanellias, Vice President, General Aviation, Pratt & Whitney Canada said "We are delighted to be playing a role in the modernization of the G-111T aircraft which has such an illustrious history. The PT6A-67F engines, each with 1,700 mechanical shaft horsepower (SHP), will provide the G-111T with superior performance, greater range and the benchmark reliability and dependability characteristics that are common to PT6A-powered aircraft." The original G-111 aircraft was powered by piston engines.

The G-111T is the only large transport category amphibious aircraft for passenger, cargo and utility in the marketplace," said Chairman of Amphibian Aerospace Industries, Khoa Hoang. "Because of its ability to land and take-off from both land and water, the G-111T is ideal for use in inland rivers, ocean rescue, mountainous terrain and tropic river basins."

Anthony Rossi, Vice President, Business Development, Pratt & Whitney Canada said "PT6A-67F engines have been identified as the engine of choice from within the PT6A family for the G-111T aircraft application. We have been working with Amphibian Aerospace for the past five years on this program and have developed an effective and productive relationship that bodes extremely well for the success of the program."

Pilots and operators fly the PT6A engine with confidence, even in the most challenging of conditions. The engine builds on the experience gained from more than 900 million hours of operation expertise across our portfolio and reliability of the PT6 family. With more than 50 years of experience in general aviation, the PT6A engine further benefits from 425 million flying hours, more flying hours than any other engine on the market, the PT6A is a proven engine and the most prolific in the segment.

ITA Airways selects 10 A330neo Aircraft powered by Rolls-Royce Trent 7000 engines

The Trent 7000 builds on the unsurpassed performance of the Trent 700 combined with the engine technology of the Trent XWB.

The Trent 7000 is the latest engine in the Trent family, which has clocked up more than 150 million engine flying hours across 26 years of operating.

Italian airline, Italia Trasporto Aereo (ITA) has selected 10 Airbus A330neo aircraft, powered by Rolls-Royce Trent 7000 engines. ITA Airways is the latest customer to take the Trent 7000.

The Trent 7000, which first entered service in November 2018, is the latest engine in the Trent family, which has clocked up more than 150 million engine flying hours across 26 years of operating.

Ewen McDonald, Rolls-Royce Civil Aerospace, Chief Customer Officer, said "We are delighted that ITA Airways has selected the Trent 7000 and this agreement represents the start of a great partnership. With an excellent fuel burn performance, the Trent 7000 is the perfect choice to support the airline's aspirations. We look forward to working with them in the future."

Francesco Presicce, ITA Airways, Chief Technology Officer, said "We are looking forward to welcoming the A330neo, powered by the Trent 7000, to our fleet. The engine forms an important part of our business plan and our goal of operating a new environmentally-friendly fleet."

ITA Airways mission is to become an efficient, innovative, and competitive carrier, the Trent 7000 is quieter and contributes to a 25 per cent lower fuel burn per seat at aircraft level compared to previous generation competitors.

It is also ready to operate on Sustainable Aviation Fuels as they become more available to airlines in the future. As well as offering improved efficiency, the Trent 7000 also provides 99.9% dispatch reliability.

AJW Group acquires A320 CFM56 Engine for Teardown

AJW Group, a world-leading independent aircraft component parts, repair and supply chain solutions provider recently announced the successful purchase of a CFM56-5B engine for teardown to support its expanding engine inventory and engine management programmes.

Ian Malin, Chief Financial Officer, AJW Group, said "We are delighted to have completed the successful acquisition of this in-demand engine type and offer the high-quality parts to our customer base alongside a complete serviceable CFM56-5B Engine, ESN 575355, which is available for immediate lease."

The associated high-quality engine parts will be stored at AJW Groups global facilities to support the needs of worldwide A320 family operators.

Customers will benefit from access to AJW's pool of high-quality spare parts to support their ongoing operations.

Liebherr-Aerospace extends its MRO component capabilities in China

This milestone relies on a strong cooperation between the Liebherr-facility in Shanghai and the European-based OEM Liebherr-Aerospace Toulouse SAS (France), making use of remote assist technologies.

With the successful implementation of new test and repair capabilities for the COMAC ARJ21 air cycle machine, Liebherr takes a new step in enlarging its footprint in China. The latest tools, trainings and best practices have been shared between the teams in Shanghai and Toulouse in order to ensure best-in-class service level.

The air cycle machine is one of the major components of the air conditioning pack, as it is in charge of cooling the conditioned air that will supply the cabin, and of providing a ram air-cooling flow when the aircraft is on ground.

Liebherr has been already testing and repairing air cycle machines for airlines operating A320 family fleets and CRJ aircraft in China. The team successfully achieved the CAAC certification for the COMAC ARJ21 in July 2021 and is providing services for local customers since then.

From now on, Liebherr-Aerospace's Customer Service organization in Shanghai (certified by CAAC, EASA, FAA, JMM and according to AS9110, AS9120) can engage in high quality and reliable one-stop-shop MRO services on air management systems according to ATA Chapters 21 and 36 for airlines operating Airbus single aisle and long-range families as well as CRJ700/900 and ARJ21 aircraft in China.

The engine provides an unmatched experience with an exceptionally quiet and comfortable cabin, making it the quietest engine in its class.

PW812D Turbofan Engine receives Transport Canada Certification

The PW812D engine also sets the industry standard for maintenance, requiring 40% less scheduled maintenance and 20% fewer inspections than other engines in its class.

Pratt & Whitney Canada, a business unit of Pratt & Whitney, recently announced that Transport Canada Civil Aviation has type certified the PW812D turbofan engine that will power the Dassault Falcon 6X business jet.

Maria Della Posta, president of Pratt & Whitney Canada said "We are pleased with the announcement by Transport Canada that the PW812D engine has reached this key certification milestone. We successfully achieved the engine design and program schedule milestones by working closely with Dassault since the launch of this great program."

"We congratulate Pratt & Whitney Canada on receiving its type certification for the PW812D engine. It's a major step forward in fuel efficiency, maintainability and performance, helping make the 6X an outstanding new Falcon. With this milestone and the aircraft's test program progressing smoothly, we are on track for a successful and timely entry into service of the Falcon 6X" said Eric Trappier, Chairman and CEO of Dassault Aviation.

The PW812D engine has shown exceptional performance during testing with more than 4,900 hours of engine testing, including 1,150+ hours of flight testing and 20,000 hours on the engine core. With the total PW800 family, more than 130,000 hours of testing and field experience have been conducted, including close to 40,000+ hours of flight testing. The PW800 engine shares a common core with the Pratt & Whitney GTF engine which has flown 11+ million hours since its launch in 2016. The PW800, which is a clean sheet design, is the most modern, efficient and environmentally responsible engine in its class. Using the most sustainable and high-performance technologies, the engine offers double-digit improvements in fuel burn, emissions and noise as compared to the current generation of engines. The PW800 engine also incorporates the latest generation of technologies, from advanced design features to innovative maintenance functionality.

From the start of the development program Pratt & Whitney's service team has been at work building in functionality to ensure best-in-class availability and maximum peace of mind to owners, operators, pilots and passengers alike. All of this is backed by Pratt & Whitney Canada's ESP® program, one of the most comprehensive coverage packages in the industry. Customers can benefit from an exclusive personalized premium service for all their maintenance and support needs, any time of the day, anywhere in the world. The ESP® PW800 offers comprehensive coverage for scheduled & unscheduled events for all its customers.

GTF - Ruling the roost in Chinese markets...

The Pratt & Whitney GTF™ engine is the only geared propulsion system in commercial aviation today delivering industry-leading sustainability benefits and world-class operating costs. The industry forecasts a need for about 30,000 new planes over the next 20 years. With the global air traffic picking pace post pandemic Pratt and Whitney have a strong balanced order book of GTF engines. **Joe Sylvestro**, **vice president, Aftermarket Global Operations, Pratt & Whitney**, speaks in depth about the revolutionary engine in a candid chat with **Swati. k.**

Mechanics at Pratt & Whitney's Singapore engine center, Eagle Services Asia, inspect a GTF engine. Eagle Services Asia is a joint venture between SIA Engineering Company and Pratt & Whitney.

Q. Right since launch, the GTF engine has played an important role in transforming aviation by effective cost reduction and environmental performance. Can you tell us more about this revolutionary engine?

A 20 years ago, we bet on the GTF and the single-aisle market. Those were good decisions. We now power the fastest recovering and fastest growing segment in commercial aviation with the most efficient engines in their class. The industry forecasts a need for about 30,000 new planes over the next 20 years. Traffic and orders are picking up, especially in the U.S., Europe and China. We have a strong and balanced order book, with 10,000+ GTF engine orders and commitments from more than 80 customers. We've announced more than 1,200 GTF orders so far this year.

The Pratt & Whitney GTF™ engine is the only geared propulsion system in commercial aviation today delivering industry-leading sustainability benefits and world-class operating costs. GTF engines are helping open new and longer routes, like JetBlue A321LR from New York to London. GTF is the quietest and most efficient family for single-aisle aircraft: up to 20% less fuel and CO_2, 50% less NOx and a 75% smaller noise footprint. With 1,000+ aircraft in service, we've saved 0.5B+ gallons of fuel and avoided 5M+ metric tonnes of CO_2. Certified for 50% SAF, with plans for 100% SAF capability, these engines can achieve even lower emissions.

Q MTU Maintenance Zhuhai was formally added to your network in December 2020, and within a short span of less than a year you have already inducted your first engine for overhaul. What can you say about this achievement?

A MTU Maintenance Zhuhai is MTU's third facility to serve engines with full disassembly, assembly and test capability in Pratt & Whitney's GTF MRO network. The new China team benefited from lessons learned shared from the service technicians at the MTU Aero-Engines facility in Germany and the EME Aero location in Poland. (EME Aero is a joint venture between Lufthansa Technik AG and MTU Aero Engines AG.)

Q Opening of an active shop in China will definitely be beneficial to customers. How soon do you feel the induction pace will build up and GTF MRO network will grow in China?

A Pratt & Whitney has a long history in China dating back more than 90 years. Today, China is central to our strategy as it's home to one of the largest GTF fleets, where 11 airlines will be operating more than 200 A320neo family aircraft by the end of 2021. While MTU Maintenance Zhuhai is the first active shop in China, starting in 2022 we will have several other facilities working toward their first induction in the Asia-Pacific region, including a facility in Beijing, another in Taiwan, and two additional locations in Japan. The market in China is growing along with our GTF fleet, and together we can address that growth. We are bringing the best of both worlds together with our engine technology, coupled with local operation and local maintenance.

Q What is your opinion of the progress in Chinese MRO market post pandemic?

A Utilization is still down overall, but affecting regions differently. Domestic travel powered by narrowbody aircraft has come back strong with international travel still lagging. The U.S. and China are recovering well.

Extending the fleet forecast into MRO, there is of course a direct correlation. Increasing utilization means higher MRO demand. Again, we are well positioned here with our single aisle, regionals, and freighter presence.

• One positive aspect of the market with regards to our engine MRO business, and our APAC MRO facilities in particular, is that our engine MRO facilities in Asia Pacific don't just serve this region, but also airline customers in other parts of the world – such as North America and Europe – and benefit from recovery elsewhere.

• What's more, a large portion of our portfolio is still very young. Our GTF engine is at the start of its lifecycle, and the majority of our IAE V2500 engines, if you look at fleet demographics, are also young since the A320ceo program really took off and deliveries boomed in the second half of the program. We also benefit from a strong position of the V2500 on the A321ceo and continued demand for the V2500 in freighter conversions.

• We are focused on fleet readiness and ensuring that our operators are in the best possible position for continued recovery. We used some of the pandemic utilization reduction to accelerate bringing improvements into the GTF fleet, and it's paid off with mature 99.97% dispatch reliability for the A320neo family.

• Pratt & Whitney is growing its MRO footprint in China, securing in-region maintenance support for its customers. For example, the Pratt & Whitney Shanghai Engine Center continues to expand its capabilities, recently celebrating the overhaul of its 100th IAE V2500 engine. Last year, despite the challenges of the COVID-19 pandemic, Pratt & Whitney welcomed MTU Maintenance Zhuhai and Ameco Beijing to its GTF MRO network. This network showcases Pratt & Whitney's customer centric philosophy, working with leading service providers to have a support system at the ready for customers whenever needed.

• Earlier this year Pratt & Whitney's China Customer Training Center (CCTC), which will celebrate its 20th anniversary next year, successfully passed a joint training capability assessment organized by the Flight Standards Department of Civil Aviation Administration of China (CAAC), making it the first CAAC Part-147 approved aircraft engine type maintenance and repair training organization in China. We continue to develop training offerings, including courses on EngineWise® data analytics, engine health monitoring and engine fleet management.

Q What can you tell us about MTU maintenance role in the GTF engine manufacture?

A Pratt & Whitney and MTU have a long-standing relationship as collaborators on the GTF engine. By being part of the GTF MRO network, MTU is building upon that relationship with their expertise on both the OEM and MRO sides. By adding locations across the globe, together we are helping to ensure expert service care is available for our worldwide customers.

Q What are the other facilities in Asia supporting GTF MRO network? Do you have any upcoming plans to expand this network in Asia-Pacific region?

A. Pratt & Whitney's GTF MRO network currently consists of seven overhaul facilities across the Asia-Pacific region. We have three active shops, including MTU Maintenance Zhuhai in China, Pratt & Whitney's Eagle Services Asia in Singapore and IHI in Japan. The other four facilities are industrializing to achieve their first induction. As volume grows, the network is expected to expand to include other strategic collaborators. We will announce new members of the network as agreements are finalized.

MTU Maintenance Zhuhai recently inducted their first Pratt & Whitney GTF engine. (Photo Credit: MTU Maintenance Zhuhai)

Air Lease Corporation to deliver First of Six New Airbus A321-200neo Aircraft to China Airlines

This aircraft is the first A321neo to deliver to China Airlines.

Air Lease Corporation recently announced the delivery of one new Airbus A321-200neo aircraft on long-term lease to China Airlines. Featuring Pratt & Whitney PW1133G-JM engines, this is the first of six new A321-200neos confirmed to deliver to the airline from ALC's orderbook with Airbus.

John L. Plueger, Chief Executive Officer and President of Air Lease Corporation said "ALC is honored to be the first to introduce the A321neo to our long-time customer China Airlines. The A321neo will become the backbone of China Airlines' single-aisle fleet, providing fleet expansion and modernization, and elevation of their passenger experience to new levels. The greater fuel efficiency and operating flexibility of the A321neo will also maximize profitability and further China Airlines environmental sustainability goals."

ALC is a leading aircraft leasing company based in Los Angeles, California that has airline customers throughout the world. ALC and its team of dedicated and experienced professionals are principally engaged in purchasing commercial aircraft and leasing them to its airline customers worldwide through customized aircraft leasing and financing solutions.

The A321neo will become the backbone of China Airlines.

oneworld members to purchase 350 million gallons of blended Sustainable Aviation Fuel from Aemetis

The agreement once finalized will cover the delivery of sustainable aviation fuel over a seven-year term beginning in 2024.

Members of the oneworld Alliance intend to purchase more than 350 million gallons of blended sustainable aviation fuel from renewable fuels company Aemetis for their operations at San Francisco International Airport, further signifying the alliance's commitment to environmental sustainability.

oneworld members including Alaska Airlines, American Airlines, British Airways, Cathay Pacific, Finnair, Iberia, Japan Airlines, Qantas and Qatar Airways will look to utilise the sustainable aviation fuel for their operations at San Francisco Airport, with the potential for additional oneworld members to participate in the coming months.

The blended sustainable aviation fuel is 40% sustainable aviation fuel and 60% petroleum jet fuel to meet international blended sustainable aviation fuel standards.

This announcement follows a joint request for proposals by oneworld member airlines to fuel suppliers marking the first such effort announced by a global airline alliance to purchase sustainable aviation fuel and furthering the alliance's commitment to the decarbonisation of aviation. It builds upon the alliance's target of 10% sustainable aviation fuel use across the alliance by 2030 and underlines the alliance's commitment to collectively source sustainable aviation fuel.

The sustainable aviation fuel will be produced at the Aemetis Carbon Zero plant currently under development in Riverbank, California. The facility will use waste wood to produce cellulosic hydrogen, which is then combined with wastes and non-edible sustainable oils and zero carbon intensity hydroelectric electricity to produce sustainable aviation fuel.

Sustainable aviation fuel has a significant environmental advantage over traditional jet fuel, with an up to 100% reduction in greenhouse gas emissions on a lifecycle basis. It is a vital solution in the decarbonisation of aviation in the near and medium-term, particularly for longer-haul flights. While the technology exists now, sustainable aviation fuel is not yet available at scale. Offtake agreements like oneworld's commitment as well as targeted investments, regulations and government support mechanisms will help enable the industry's transition towards sustainable aviation fuel.

oneworld was the first global airline alliance to commit to net zero emissions by 2050.

oneworld Chairman and Qatar Airways Group Chief Executive His Excellency Mr Akbar Al Baker said "Our alliance is standing together with the industry in supporting the transition to net-zero. As sustainable aviation fuel (SAF) will play an important role in meeting aviation's decarbonisation targets, we are proud to establish another milestone and drive the SAF use at commercial scale. We encourage all stakeholders to support our industry efforts to ensure the affordability and availability of SAF that meets the sustainability criteria as recognised by ICAO."

oneworld CEO Rob Gurney said "This announcement for the purchase of sustainable aviation fuel continues to demonstrate what we can achieve together as an alliance and underlines the importance of collaboration in the important work to advance environmental sustainability. This latest milestone signals our commitment in driving forward momentum for the development of sustainable aviation fuel, which is crucial in reducing carbon emissions in the aviation sector."

"The Aemetis Carbon Zero plant under development in the Central Valley of California is designed to utilise zero carbon intensity electricity, negative carbon intensity hydrogen from waste wood, and renewable oils along with CO2 sequestration to produce low carbon intensity sustainable aviation fuel. The plant is designed to reduce air pollution in local disadvantaged communities by reducing orchard wood burning in fields, while creating more than 2,000 direct and indirect jobs in a lower income agricultural area." said Eric McAfee, the Founder, Chairman and CEO of Aemetis.

This announcement is among the many partnerships in environmental sustainability at oneworld, overseen by the oneworld Environment and Sustainability Board chaired by IAG Head of Sustainability Jonathon Counsell and with representation from all 14 member airlines.

SAFs have a critical role to play towards decarbonizing air travel, by reducing dependence on fossil-based fuels.

Embraer signs MoU with Pratt & Whitney for 100% Sustainable Aviation Fuel Flight Demonstration Program

The initiative reflects Embraer and Pratt & Whitney's shared commitment to supporting the aviation industry's ambitious environmental goals.

Embraer has signed a Memorandum of Understanding with Pratt & Whitney to collaborate on studies of 100% Sustainable Aviation Fuel (SAF). Technical teams from the two companies will engage to define an integrated ground and flight test plan for 100% SAF in a GTF-powered Embraer E195-E2 aircraft.

It also includes the goal of reaching net zero CO_2 emissions for air travel by 2050. Alongside efforts to continually improve aircraft and engine efficiency, SAFs have a critical role to play towards decarbonizing air travel, by reducing dependence on fossil-based fuels.

SAFs are manufactured from renewable feedstocks, such as used cooking oil or municipal solid waste, and may reduce lifecyle CO_2 emissions by up to 80% relative to fossil-based jet fuel. Currently, technical standards devised by ASTM International allow aircraft to operate with SAF at blends of up to 50% with kerosene. Collaboration among OEMs, fuel providers, and regulators, will enable new standards to certify operation with 100% SAF.

Arjan Meijer, President and CEO, Embraer Commercial Aviation said "We are committed to continually enhancing the efficiency and performance of our products, and by further extending their compatibility with SAF, we will enable our customers to operate as sustainably as possible. Embraer has a recognized track record of innovation in sustainable fuels, which includes the industry's first certified ethanol-powered aircraft in 2004, and collaboration is an essential pre-requisite for our industry to achieve our environmental goals. We are delighted to partner with Pratt & Whitney towards this critical task of enabling aircraft operation with 100% SAF."

"Pratt & Whitney has been active in SAF testing and certification for almost two decades. We will strategically continue to support 100% SAF flight tests for key customers that expand SAF uptake, including partnering with Embraer to test the E-Jets E2 aircraft on 100% SAF as part of their 2050 net zero emissions target. Through our constant pursuit of more efficient aircraft propulsion technologies, we are determined to support our customers in achieving their goal of net zero CO_2 emissions by 2050, and will ensure that our engines will be ready for operation with 100% SAF" Graham Webb, Chief Sustainability Officer at Pratt & Whitney said. with 100% SAF" Graham Webb, Chief Sustainability Officer at Pratt & Whitney said.

The Embraer E195-E2, powered by Pratt & Whitney GTF™ engines, offers more than 24% better fuel efficiency and lower CO_2 emissions per seat than the previous generation E195. Pratt & Whitney powers a range of other Embraer aircraft, including the Phenom 300 and 100 series executive jets, and the C-390 Millennium military transport aircraft, which uses IAE V2500 engines.

Cebu Pacific Receives First Airbus 330neo

The Airbus 330neo brings a step change in efficiency, consuming 25% less fuel than previous generation aircraft and a similar reduction in CO2 emissions.

The outstanding efficiency of the A330neo also ensures compliance with current and future sustainability requirements in terms of noise and emissions.

Cebu Pacific has taken delivery of its first Airbus 330neo as it begins its widebody fleet modernisation programme.

The aircraft is configured with 459 seats in single-class layout and will be operated by the airline on trunk routes within the Philippines and the rest of Asia, as well as on longer range services to Australia and the Middle East. The A330neo offers versatility for a wide range of routes from shorter regional services to medium and long haul operations.

Altogether Cebu Pacific has ordered 16 A330neo, and also has 16 A320neo and 22 A321neo outstanding to be delivered. The low-cost carrier currently operates 50 Airbus aircraft, comprising 43 A320 Family and 7 A330ceo.

The aircraft is powered by Rolls-Royce's latest-generation Trent 7000 engines and features a new composite wing with increased span for enhanced aerodynamics.

The outstanding efficiency of the A330neo also ensures compliance with current and future sustainability requirements in terms of noise and emissions.

With an order book of more than 1,800 aircraft at the end of October 2021, the A330 remains the most popular widebody family aircraft of all time.

UPCOMING FACILITY

ExecuJet MRO Services Malaysia To Develop New MRO Facility at Subang Airport, Kuala Lumpur

Construction of the new purpose-built MRO facility will take approximately 18 to 24 months.

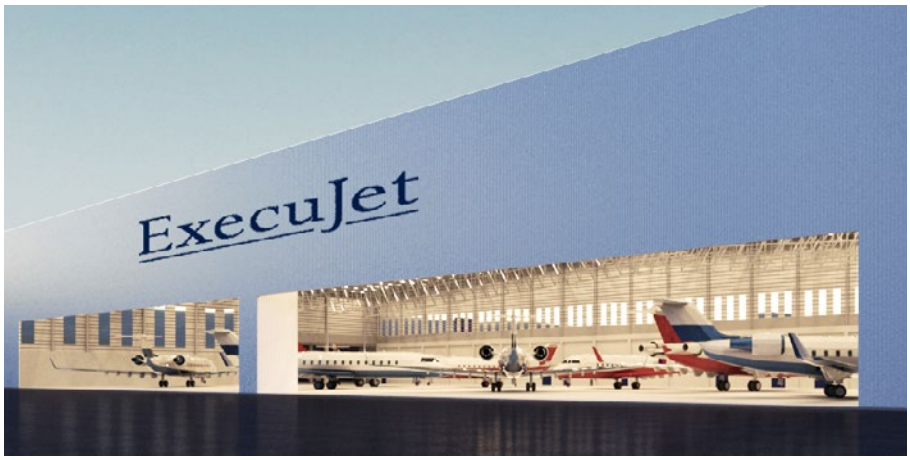
ExecuJet MRO Services Malaysia, a Dassault Aviation owned company, is developing a purpose-built MRO facility at Sultan Abdul Aziz Shah Airport in Subang, Kuala Lumpur.

ExecuJet has signed a land lease with state-owned Malaysia Airport Holdings Berhad, the operator of Subang Airport, and is now moving ahead with development of the site.

The new purpose-built MRO facility gross floor area will be 144,000 square feet including back shops that further expand ExecuJet's capabilities, as well as offices and customer areas.

Regional VP Asia for ExecuJet MRO Services, Ivan Lim, said "The new purpose-built MRO facility allows us to continue to develop and expand to meet growing demand from our customers in Malaysia and from across the Asia region. We are steadily growing our highly skilled workforce here in Malaysia and our strong presence at Subang further reinforces Malaysia's status as a leading centre for business aviation and general aviation in the Asia region."

ExecuJet is currently located at another area of the airport and is already the largest business aviation MRO in Malaysia. It serves Dassault, Bombardier and Gulfstream operators from across the Asia region and is certified by the US FAA, EASA and many other international regulators.The company will relocate to the new, larger MRO facility at Subang Airport to cater for growth.



The new purpose-built MRO facility gross floor area will be 144,000 square feet.

THC expands fleet with the purchase of 26 aircraft from Airbus Helicopters

The partnership will contribute to the ongoing expansion of THC regional fleet ahead of announcing an exciting new journey as a General Aviation champion, with twenty orders of the newly launched five bladed H145 and six ACH160 models.

The Helicopter Company (THC), established by the Public Investment Fund (PIF) as the first and only helicopter services provider licensed to operate commercial flights in the Kingdom of Saudi Arabia, has announced that it has signed a second purchase agreement with Airbus Helicopters.

The agreement was signed by Raid Ismail, Chairman of the Board of THC and Bruno Even, CEO of Airbus Helicopters, in the presence of His Excellency Khalid Al Falih, Minister of Investment and His Excellency Franck Riester, Minister Delegate for Foreign Trade and Economic Attractiveness.

All aircraft feature cutting-edge technologies and biofuel-compatible engines, marking a significant milestone in developing alternatives to conventional aviation fuels and achieving decarbonization of helicopter flights.

"Our mission is to create a world-class National Aviation Champion and by signing this agreement with our trusted partner Airbus, we mark an important milestone in our journey to grow together with the nation in focus to fulfil Saudi Vision 2030. This deal comes as part of THC's commitment to introduce new services with advanced technology that fulfill market demand and support the development of the Kingdom's wider aviation sector," said Raid Ismail, Chairman of the Board of THC.

Bruno Even, CEO of Airbus Helicopters said "We are honored by the trust that THC is placing once again in our products and our teams and I am personally thrilled with this expansion of our partnership. THC will be taking full benefit of Airbus' latest innovations with the five-bladed H145 and the ACH160, which we are certain will be valuable assets in their portfolio, enabling them to develop operations in the country ."

Commenting on the partnership, Captain Arnaud Martinez, CEO of THC said, "We are extremely proud to sign this deal with a world-leading aircraft manufacturer like Airbus. This important milestone is indicative of our growth as a business since our inception and of our positive contribution to the delivery of Saudi Arabia's 2030 Vision in terms of stimulating new sectors. Moreover, it is a commitment to the recently announced goals of the Saudi Green Initiative to not only grow our business and industry, but to do so in a sustainable manner."

Twenty orders of the newly launched five bladed H145 and six ACH160 models.

The purchase agreement forms part of THC's ongoing strategic regional alliances with industry leaders, including a recent partnership with The Red Sea Development Company (TRSDC), the developer behind the world's most ambitious regenerative tourism project. The contract for the provision and operation of a twin engine helicopter, crew and maintenance technicians, facilitates TRSDC emergency medical services (EMS) with alternate configuration change capability for passenger utility transport at TRSDC's site on the west coast of Saudi Arabia.

John Pagano, CEO of TRSDC said, "As we strive to lead the way in creating a smart and sustainable mobility network for our destinations, we are thrilled to witness the growth and expansion of our partner, The Helicopter Company, who are paving the way to a sustainable future for aerospace in Saudi Arabia. It is imperative that the full aviation ecosystem continues to come together to build a resilient, stronger and greener future."

Launching its services in 2019, THC was established by PIF as part of its strategy to activate new sectors in Saudi Arabia that support the realisation of Vision 2030 and generate long-term commercial returns, while meeting the growing demand for luxury tourism and air travel services. THC previously signed an agreement to buy 10 Airbus H125 helicopters to increase access to domestic tourism destinations and provide services such as filming and aerial surveying – and is now further expanding its services with the addition of the H145 and H160 to its fleet.

777 Partners Orders 30 Additional 737 MAX Airplanes

Investment firm has ordered a total of 68 737 MAX in 2021, including 737-8 and 737-8-200 models.

777 Partners leveraging the 737 to expand cost-effective, fuel-efficient operations for its affiliated low-cost carriers.

Boeing and 777 Partners has announced that the Miami-based investment firm will nearly double its 737 MAX order book with the purchase of 30 additional jets. The new order expands 777 Partners' commercial aircraft portfolio to a total of 68 737 MAXs, in its fourth order this year for the fuel-efficient, single-aisle jets. Valued at $3.7 billion at list prices, the order will enable 777 Partners to expand 737 MAX operations across the fleet of its affiliated global low-cost carriers.

"We're delighted to be able to announce the almost doubling in size of our order with Boeing. We have long been confident in the economics of the 737 MAX family but we are especially excited about the 737-8-200 variant which represents the bulk of our additional orders. We're confident that this aircraft will be the hallmark ULCC/LCC asset, particularly in the sub-200 seat market. As travel demand returns, 777 has accelerated our quest for efficiencies in both operating cost and carbon footprint at our operating carriers. In these areas the 737-8 is compelling and the 737-8-200 is simply unrivalled" said Josh Wander, Managing Partner of 777 Partners.

The 737 MAX family reduces fuel use and carbon emissions by at least 14% compared to the airplanes it replaces, reducing operating costs as well as the environmental footprint for 777 Partners' affiliated airlines. Every 737 MAX features a passenger-pleasing Boeing Sky Interior, highlighted by modern sculpted sidewalls and window reveals, LED lighting that enhances the sense of spaciousness and larger pivoting overhead storage bins.

Ihssane Mounir, Boeing, Senior Vice President of Commercial Sales and Marketing said "We greatly appreciate 777 Partners for their trust in our products, including repeat orders for the 737 MAX and expanding their fleet to include the high-capacity 737-8-200 model. 777 Partners is enabling growth for its affiliated low-cost carriers by leveraging the 737 family's flexibility, reliability and efficiency to serve passengers for years to come."

As a leading global aerospace company, Boeing develops, manufactures and services commercial airplanes, defense products and space systems for customers in more than 150 countries. As a top U.S. exporter, the company leverages the talents of a global supplier base to advance economic opportunity, sustainability and community impact. Boeing's diverse team is committed to innovating for the future and living the company's core values of safety, quality and integrity.

777 Partners is a Miami-based private alternative investment firm that invests across a number of high growth attractive verticals. Founded in 2015, 777 Partners initially applied its expertise in underwriting and financing of esoteric assets to diversify across a broad spectrum of financial services businesses, asset originators, and financial technology/service providers. In recent years, the firm has broadened its mandate and now invests across six different industries insurance, consumer and commercial finance, litigation finance, direct lending, media and entertainment, and aviation.

Saudia Group and CFM Signs Leap -1-A Engine Purchase Agreement

LEAP-1A engine will power carrier's new fleet of 35 Airbus A321neo and 30 A320neo aircraft.

Saudi Arabian Airlines Corporation has ordered CFM International LEAP-1A engine to power its new fleet of 35 Airbus A321neo and 30 A320neo aircraft. This agreement, also includes a Rate-Per-Flight-Hour (RPFH) services contract to cover engines from this new order as well as an additional 20 leased A320neo aircraft, valued at approximately $8.5 billion.

His Excellency Mr. Ibrahim Al-Omar, Director General of Saudi Arabian Airlines Group said "We have been delighted with the reliability and the best-in-class support provided by CFM over the years. We look forward to introducing further LEAP engines into our fleet and we believe that this engine will be a real asset in terms of efficiency and cost-effectiveness."

CFM will also assist the SAUDIA Group subsidiary Saudia Aerospace Engineering Industries (SAEI) in developing its own engine overhaul services, including disassembly, inspection, assembly, testing, and qualification/certification for the LEAP-1A engines, under this agreement.

149 LEAP-1A engines purchased, including spares.

"We are honored by the trust placed by Saudi Arabian Airlines in selecting our products and support capabilities. CFM is committed to supporting Saudi Arabian Airlines and flyadeal and to add value into their operations" said Philippe Couteaux, Executive Vice President of Sales and Marketing, CFM International.

CFM International's advanced LEAP-1A engine continues to set a new industry standard for fuel efficiency and asset utilization, logging more than twelve million engine flight hours in commercial operations. Based in Jeddah, Saudi Arabian Airlines operates 61 CFM56-5B-powered Airbus A320ceo aircraft, and SAUDIA Group's its low-cost subsidiary, flyadeal, operates 11 CFM56-5B-powered Airbus A320ceo aircraft and 5 A320neo with LEAP-1A engines.

SIA Engineering Signs 10 year Engine Test Agreement with Safran Aircraft Engines

SIA Engineering will provide the engine test services at its engine test facility.

SIA Engineering Company Limited ("SIAEC") is pleased to announce that it has signed a 10-year agreement with Safran Aircraft Engines ("SAE") to provide engine test services for the CFM LEAP-1A and -1B engines.

SIAEC will provide the engine test services at its engine test facility, which will be upgraded with the latest data acquisition and control system from Safran Test Cells, a leading supplier in the CFM LEAP engine testing market.

The addition of CFM LEAP-1A and -1B engine test capabilities and services will strengthen SIAEC's comprehensive scope of maintenance, repair and overhaul ("MRO") services that it provides to its original equipment manufacturer (OEM) partners and airline customers. It will enhance support for the engine MRO value chain and increase SIAEC's engine services value-add within the engine MRO eco-system in Singapore.

Mr. Ng Chin Hwee, SIAEC Chief Executive Officer said, "We are pleased to deepen our partnership with SAE through this new agreement, which is a strong testament to our good working relationship over the years. The addition of the engine test capabilities for CFM LEAP1A and -1B engines is a step forward in the growth of our engine MRO services under our Engine Services Division (ESD), which was established earlier this year. Through ESD, SIAEC is well-poised to increase value to our OEM partners and airline customers, as well as enhance our integration across the engine MRO value chain."

Mr Jean-Paul Alary, Safran Aircraft Engines Chief Executive Officer said, "We are delighted to support SIAEC in the development of its capabilities for the LEAP engine. It will enhance the expertise that SIAEC is bringing since the LEAP's entry into service in 2016 to better optimise our customer operations while reducing the environmental footprint."

SIAEC currently has an existing engine maintenance services agreement with SAE to provide engine On-Site Support, Quick Turn and Boroscope Inspection services for the CFM LEAP-1A and -1B engines.

SR Technics and Vietjet Air Sign a MoU Worth US$150 Million

As a joint venture between Vietjet and SR Technics, the MoU also includes providing engine maintenance, technical and training services, component requirements and repair, and setting up a new Aviation training center.

SR Technics, a world leading MRO service provider and Vietnam's leading airline Vietjet Air are pleased to announce the signing of a Memorandum of Understanding (MoU) worth US$150 million involving providing MRO services on Vietjet's CFM56-5B engine fleet, installed on their Airbus A320 and A321 aircraft.

The work on the engines will be carried out at SR Technics' world-renowned facilities at Zurich Airport in Switzerland.

The signing ceremony was witnessed by the President of Vietnam Nguyen Xuan Phuc, the President of the Swiss Confederation Guy Parmelin, high-ranking dignitaries, and business representatives of both countries during the official visit of Vietnam president to Switzerland.

Jean-Marc Lenz, CEO, SR Technics said "We are very proud that Vietjet is committing to a long-term partnership with SR Technics. This confirms their confidence in SR Technics' ability and expertise to provide best-in-class MRO services including engine maintenance and technical and training support in line with the highest benchmarks in the industry in terms of safety and quality. Therefore, entrusting us to deliver top-quality performance on their engines, proves how strong the foundation of our future collaboration is. I look forward to visiting the new Aviation training center which will be built in Ho Chi Minh City in collaboration with our renowned Vietnamese partner."

The work on the engines will be carried out at SR Technics' world-renowned facilities at Zurich Airport in Switzerland.

Dinh Viet Phuong, Managing Director, Vietjet said "The MoU signing of SR Technics and Vietjet today paves the way to further develop both sides' cooperation, which has been nourished by a long-standing relationship between Vietnam and Switzerland and on the occasion of Vietnam President's official visit to Switzerland especially."

As Vietnam's largest airline in terms of the total number of passengers transported domestically, Vietjet has operated a comprehensive flight network within the country and across the Asia Pacific. It has resumed a series of international flights to and from Vietnam and looks to further expand its operation across continents in the near future. Vietjet is proud to be one of the airlines having the newest and most modern fleets in the region and the world.

TECHNOLOGY

Rolls-Royce hybrid-electric propulsion system marks megawatt milestone

Power Generation System 1 (PGS1) reached the milestone at the newly-renovated Testbed 108 in Bristol, UK.

For the first time, Rolls-Royce's hybrid-electric aero power and propulsion system has delivered more than a megawatt of power in just few weeks after going on test. The testing is continuing with the aim of reaching up to 2.5 megawatts.

PGS1 is a demonstrator aimed at proving technology for future hybrid-electric regional aircraft opportunities, and in addition the generator could be used within a "more-electric" system for larger aircraft or within future ground applications.

PGS1 forms an important element of our sustainability strategy, which includes developing innovative electrical power and propulsion systems.

"We've made a tremendous start to testing – reaching a megawatt is a great achievement. Now we want to go further and see what we can ultimately achieve. Our generator is about the size of a beer keg, yet it has already produced enough electricity to continuously power around 1,000 homes – that is really taking technology to new levels. When future hybrid-electric aircraft opportunities emerge in the megawatt and above class we want to be as prepared as we can be to offer a ready-made solution", said Adam Newman, Chief Project Engineer, Aviation Futures, Rolls-Royce.

As well as the generator, the PGS1 system incorporates an AE2100 engine, specialist controls and a thermal management system. Both Testbed 108 and PGS1 have been supported by the UK Aerospace Technology Institute's MegaFlight project, while the electrical generator, motor and power electronics design, make and testing, which has taken place in Trondheim, Norway, has been supported by the EU Clean Sky 2 programme.

Safran and Albany International extended Partnership to 2046

Albany International and Safran signed the original framework agreement in 2006 resulting in the creation of their joint venture for the development of high technology composite parts designed for aircraft engines, landing gears and nacelles.

Bill Higgins, Albany International President and CEO, and Jean-Paul Alary, CEO of Safran Aircraft Engines.

Safran Aircraft Engines, a world leading engine manufacturer and Albany International Corp., a leading developer and manufacturer of engineered composite components, has announced an agreement extending their partnership to the year 2046. Through this new agreement, the two companies declare their intent to work together on the next generation engines and thus contribute to the 2050 net-zero CO_2 emissions commitment of the aviation industry.

The 3D-woven composite technology designed and developed by Safran in partnership with Albany Engineered Composites, is a major innovation that plays a key role in improving the performance of the new generation LEAP engine of CFM International, which powers the Airbus A320neo, Boeing 737 MAX and Comac C919 aircraft families. This advanced material is used to manufacture the fan blades, fan case and spacers of the LEAP engine, leading to significant weight savings and contributing to reduced fuel consumption and CO_2 emissions of 15 percent. Safran and Albany have also teamed-up to work on the development and production of the GE9X 3D composite fan case for the Boeing 777X.

In order to address unprecedented LEAP production ramp-up, the partners have built three state-of-the-art production plants in Rochester (New Hampshire, United States), in Commercy (France) and in Querétaro (Mexico). These three sites are dedicated to 3D composite parts and delivered to date more than 130 000 parts of the LEAP engine.

Bill Higgins, Albany International President and CEO said "We are pleased to extend our partnership with Safran, building on the success of Albany's proprietary 3D weaving technology and our joint efforts on critical components of the LEAP and GE9X engine programs. The goals set for the next-generation of aircraft engines are multi-faceted and technically demanding. Our AEC team is looking forward to further collaboration with our Safran partners to apply our advanced composite technologies to the next generation of aircraft engines that meaningfully raise the bar for fuel-efficiency and contribute to a more sustainable future."

"Based on the successful partnership we have developed with Albany on the LEAP program, we are looking forward to starting a new chapter of our strategic cooperation. Combining Albany's recognized expertise in weaving with our innovative composites represents a fantastic asset to address our ambitious sustainable goals through next-generation engine programs," said Jean-Paul Alary, Chief Executive Officer of Safran Aircraft Engines.

CFM will keep exploring composite applications through the RISE (Revolutionary Innovation for Sustainable Engines) technology and demonstration program launched in 2021 as a manifestation of its deep commitment for achieving aggressive goals for a sustainable future, including reducing fuel consumption and CO_2 emissions by more than 20 percent.

TAP Air Portugal selects AVIATAR for digital fleet support

The agreement includes the entire fleet of current (73) and future Airbus aircraft.

The airline becomes development partner for future solutions on the digital platform.

TAP Air Portugal and Lufthansa Technik AG has signed a five-year agreement for digital support by AVIATAR for its entire Airbus fleet. To digitally optimize its aircraft operations and benefit from cost savings, TAP Air Portugal will use AVIATAR's solutions including Condition Monitoring, Event Analytics and Fleet Map. In addition, the airline becomes development partner for future solutions on the digital platform.

AVIATAR's aircraft health monitoring solutions were tested by the TAP Air Portugal project team in parallel and in place of their current solution, including a detailed quality assessment. Within the AVIATAR community, the project team and AVIATAR team worked together to improve and adapt some of the solutions already. This enabled a collaborative development of the overall solution for TAP Air Portugal and also improved the user experience for the entire community.

Mário Lobato de Faria, Chief Technical Officer of TAP Air Portugal said "TAP Air Portugal follows a stringent selection process for service providers. Following an experimental period, AVIATAR has met and confirmed our expectations concerning functionality, teamwork and continuous improvement efforts to strengthen and digitalize our technical fleet support. Therefore, we are looking forward to benefitting from increased aircraft availability, paving the way for predictive maintenance and further cost savings as well as a close, future-oriented relationship with our partner Lufthansa Technik."

"TAP Air Portugal is Portugal's leading airline and we are very proud that AVIATAR has been selected as long-term preferred partner. Our experience in digital fleet services and tech-ops support will help us to further improve TAP Air Portugal's fleet operations. We look forward to continuing our trustful partnership and further expanding our collaboration also as innovative development partners" said Kai-Stefan Roepke, Vice President Corporate Sales EMEA at Lufthansa Technik.

Launched in 2017, AVIATAR is the independent platform for digital products and services developed by Lufthansa Technik. The platform offers its users modular digital products ranging from predictive maintenance to fulfillment and automated solutions. AVIATAR combines fleet management solutions, data science and engineering expertise to provide a comprehensive range of integrated digital services and products for airlines, MRO companies, OEMs and lessors that seamlessly integrate with physical fulfillment in TechOps and beyond.

PZL Mielec To Manufacture Major Assemblies For Global F-16 Program

From 2022, PZL Mielec will build components and assemblies for the latest generation F-16 Block 70/72.

This development marks a significant new milestone for PZL Mielec.

PZL Mielec, a Lockheed Martin company and one of Poland's longest established aircraft manufacturers, is to be a manufacturing partner for one of the world's most successful fighter aircraft programs. This development marks a significant new milestone for PZL Mielec, which was last involved in the production of fighter aircraft in the 1960s.

Beginning next year, PZL Mielec will manufacture the rear fuselage, center fuselage, cockpit structure, cockpit side panel and forward equipment bay for new production F-16s, exporting the aerostructures to Lockheed Martin's final assembly line in Greenville, South Carolina.

Robert Orzylowski, Lockheed Martin director for Poland, Central and East Europe, said "This announcement underlines our commitment to PZL Mielec and to growing Lockheed Martin's industrial footprint in Poland, where we currently employ around 1,600 people directly and sustain work for more than 5,000 others in the Polish supply chain."

"During our 20+ year strategic partnership with Poland, we've delivered technology transfer, research and development opportunities, long-term sustainable high technology jobs, growth and exports," Orzylowski adds. "Poland's acquisition of the F-35 opened the door for a further expansion of this relationship and helped enable today's exciting announcement."

With orders already secured for the F-16 Block 70/72 from five customers, global interest remains high for new-build production aircraft and for F-16V upgrades.

Poland has operated F-16s in its own fleet for the past 15 years, and this summer marked a 100,000 flight-hour milestone.

"The F-16 remains a critical part of the Polish Air Force. This new production work at PZL Mielec will further ensure Poland is part of the F-16 global enterprise for many years to come." said Danya Trent, Lockheed Martin vice president, F-16 program.

Beyond the F-16, Poland is also procuring 32 F-35s, the first of which will be delivered in 2024. The complementary capabilities and interoperability between both fighter aircraft types serves to strengthen Poland's airpower capabilities and enables partnerships across missions, training, equipment and tactics with other NATO members.

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GE Awarded Two Contracts Supporting T700 Engine Fleets Across U.S. Military

These contracts will expand GE responsibility from depot only to fleet-level support.

The Defense Logistics Agency (DLA) awarded GE two contracts in September totaling more than $1 billion to support T700 turboshaft engine fleets across the U.S. military.

GE will provide field-level consumables and services through a five-year, $284 million contract with DLA Aviation in Richmond, Virginia., and depot-level repairables and module section components through a five-year, $722 million contract with DLA Aviation in Huntsville, Alabama. GE facilities in Lynn, Massachusetts, and Evendale, Ohio, will produce the majority of parts associated with these contracts.

These T700 contracts are replacing the current Technical, Engineering, Logistics Supplies and Services (TELSS) contract which supports the Corpus Christi Army Depot (CCAD) located in Corpus Christi, Texas.

Harry Nahatis, Vice President and General Manager of GE Turboshaft Engine programs said "The T700 engine is the heart of medium lift helicopter fleets across the U.S. military, and we're proud to continue supporting multiple U.S. service branches through this contract. Readiness and cost are two major focuses for GE and the Department of Defense, and this contract allows us to continue improving on both fronts."

The T700 entered service in 1978 powering the Sikorsky UH-60 Black Hawk. Currently, the T700/CT7 family of turboshaft and turboprop engines power 15 types of helicopters and fixed-wing aircraft. The T700/CT7 family has surpassed 24,000 units delivered and more than 100 million total engine flight hours.

Continuing technical improvements have enabled the T700/CT7 engine line to become increasingly more powerful and reliable throughout its history. Current models retain all the proven features and operating characteristics of earlier versions while delivering enhanced performance for the warfighter.

EXECUTIVES IN FOCUS

APOC appoints Pete Allwood as VP, Business Development – EMEA

Pete Allwood will be responsible for development and execution of sales and programme initiatives in narrowbody aircraft and engine support.

APOC announces the appointment of Pete Allwood, to guide and focus its expansion programme throughout the EMEA region. His primary responsibilities will be the development and execution of sales and programme initiatives designed to maximise APOC's growing specialism in narrowbody aircraft and engine support.

Allwood has prior experience as regional head for Europe, Middle-East, Africa (EMEA) region at Killick Aerospace. He will build upon his business development experience gained in the sale, purchase and lease of commercial B737G/A320F narrowbody aircraft, CFM56-5B/-7B and V2500-A5 engines to airlines, operators and MROs.

Max Lutje Wooldrik, CEO said "We're seeing solid potential for significant growth in the region. The new role of VP Business Development – EMEA is crucial to sustaining the growth trajectory that we have initiated. Pete will build upon the success we have generated in a few short years. His focus on end-of-life aircraft/asset solutions and commercial development, has given him an in-depth knowledge of our airline customer's needs, the services they require and their high expectations."

Allwood is under no illusion about the significant challenges that lay ahead for the aviation industry, but he sees APOC as a catalyst for innovation. "We are seeing signs of recovery however the airline sector is still cautious. Customers are extremely cost-sensitive with all expenditure heavily scrutinised before being justified. My new remit is to work with the APOC team of asset specialists, software engineers and technicians, all of whom are accustomed to doing things a bit differently, to develop cost-effective, flexible and creative servicing and provisioning programme solutions."

As aviation faces its new frontier, APOC is building its senior management team to strengthen and invigorate the business. Allwood joins Kevin Wall, the newly appointed Senior VP Business Development – Americas, to bring established expertise and safe hands as the Company gears up to springboard growth.

International CALENDAR 2022

2022

Date	Event	Venue
27-28 Jan	Aero-Engines Americas	Miami, FL
09-10 Feb	MRO Latin America	Cancun, Mexico
15-18 Feb	Singapore Airshow	Singapore
22-23 Feb	AIME 2022	Dubai, UAE
22-23 Feb	MRO Middle East	Dubai, UAE
03-04 Mar	PBExpo	Miami, FL
06-09 Mar	World Defense show	Riyadh, Saudi Arabia
07-10 Mar	HAI Heli Expo	Dallas, TX
28-31 Mar	AEA International Convention & Trade Show	New Orleans, USA
26-28 Apr	MRO America	Dallas, TX, USA
03-05 May	NBAA Maintenance Conference	San Antonia, TX
23-25 May	EBACE	Geneva, Switzerland
07-08 Jun	Engine Leasing, Trading & Finance	London, UK
09-11 June	France Air Expo	France
22 Jul	AERO South Africa	South Africa
06-08 Oct	Istanbul Airshow	Istanbul Atatürk Airport, Istanbul
25-27 Oct	Abu Dhabi Air Expo	Abu Dhabi

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