

DAY 1

NOVEMBER 17, 2025

AINONLINE.COM

ADVERTISEMENT



When you fly close
to the speed of sound,
you can see a dawn
that never ends.



Bombardier

Introducing the Bombardier Global 8000 The world's fastest private jet



The Bombardier Global 8000 is the world's fastest civilian aircraft since Concorde with a top speed of Mach 0.95, a range of 8000 nautical miles and the industry's lowest cabin altitude.



Bombardier

bombardier.com

DAY 1

NOVEMBER 17, 2025

AINONLINE.COM



The Knights of the Emirates are now flying the Chinese Hongdu L-15 Falcon advanced trainer.

DAVID MCINTOSH

BOEING WIDEBODY 777X lands in Dubai

After delays, certification is expected in 2026 and entry into service in 2027 | 2

GE9X TURBOFAN Product support

MRO facility is coming to Dubai; GE announced its investment of \$50 million for the project | 6

ENGINES CFM Leap upgrades

Leap engines get tougher with reverse bleed system | 8

FIREFIGHTING High-rise fires

Dart Aerospace develops SkyCannon for helicopter use | 26

UAE KNIGHTS PARADE NEW STEEDS

By David Donald and Charlotte Bailey

Fursan al-Emarat (the Knights of the Emirates)—the UAE's national aerobatic team—is making its first public appearance with its new mounts in Dubai. Having flown the Leonardo MB-339NAT since the team's formation in 2008, Al Fursan (the Knights) have now switched to the Chinese Hongdu L-15 Falcon advanced trainer.

UAE interest in the L-15 dates back several years. During the 2022 UMEX/SIMTEX exhibition in Abu Dhabi, China's CATIC export organization announced an order from the UAE for 12, plus 36 options. Visitors to the Dubai Airshow in the previous year had been treated to a preview of the type when CATIC displayed the L-15A with a non-afterburning AI-222-25 engine.

The order was reaffirmed at the IDEX show in February 2023, and L-15s from CATIC returned to the Dubai Airshow that year to participate in both static and flying displays. Those demonstrator aircraft were painted black with aerobatic team-style markings. During the show, it was revealed that the initial 12 for the UAE were destined for Al Fursan. The UAE also has a requirement for an advanced jet and lead-in fighter trainer to replace its aging BAE Systems Hawks, for which the L-15 is a strong contender.

Characterized by a distinctive howl from the AI-222 engines, the Al Fursan L-15s cut quite a dash during the polished display. All of the team's seven aircraft—each representing one of the Emirates that combine to form the UAE—have been adapted for the aerobatic display role,

continues on page 30 >

AINalerts

**GET THE LATEST
BUSINESS
AVIATION &
CONVENTION
NEWS**



The 777X widebody is expected to enter service by 2027.



DAVID MCINTOSH

Boeing insists that its 777X is worth the wait

By Charlotte Bailey

Twelve years since Boeing launched the 777X program at the 2013 Dubai Airshow, the OEM is back with both its 777-9 test aircraft and a renewed confidence that delays to the protracted certification schedule are finally over.

With Boeing continuing to steadily work through FAA type inspection authorization (TIA) test phases, head of airline marketing for the 777X Justin Hale has a “high confidence” that the airplane will enter service by 2027, with certification forthcoming as soon as 2026, he told reporters during a briefing on the eve of the Dubai Airshow on Sunday.

Notably, the program’s five test aircraft have all been rectified with what Hale terms a “minor design change to the [engine-mounted] thrust links,” following cracks identified in August 2024 that necessitated rework. “It’s really behind us, so there’s no additional testing or considerations related to thrust links,” he confirmed.

Admittedly, Hale attributes some delays to issues “out of [Boeing’s] hands,” including the time taken for the airframer to perform its due diligence in meeting stringent regulatory conditions. However, following receipt of new FAA permissions earlier this month, the test fleet is shortly about to enter the third of five major phases of the certification process. With the requisite test aircraft reconfiguration complete, Boeing expects to be flying up to six days a week to progress through what CEO Kelly Ortberg

described as a “mountain of work.”

The launch of the 777X program represents the regeneration of a family of Triple Seven airliners that the U.S. aerospace giant first started delivering in 1995. More than 1,300 examples of the twinjet family are now in service worldwide, and Boeing’s aim for the X upgrade is to deliver 10% reductions in fuel burn and operating costs compared with its main rival, the Airbus A350.

The 777X family has three members: the 777-8, typically carrying 395 passengers in a two-class configuration (or up to 465 economy seats) with a range of 8,745 nm; the 777-9 (436 passengers/7,285 nm); and the 777-8F freighter (112-tonne payload/4,410 nm). It was the 777-9 version that also appeared at the last Dubai show in 2023.

Boeing’s engineers have been tasked with improving the passenger experience, drawing on innovations introduced with the 787 Dreamliner. The 777X passenger cabins will be 16 inches wider than comparable widebodies, with layouts that can be customized for each airline.

Emirates is the largest customer, with 170 examples of the 777-9 on order. A total of 565 firm orders have been placed to date across 14 airlines, with customers including Qatar Airways, Cathay Pacific, Singapore Airlines, Lufthansa, Etihad Airways, All Nippon Airways, and British Airways.

Multiple Delay Drivers

Almost six years have passed since the 2020 target that Boeing originally set for itself to

get the first 777X model in service. Multiple factors have contributed to program delays, including the Covid-19 pandemic and a pair of fatal accidents involving 737 Max narrowbodies in 2018 and 2019. Flight testing revealed problems with the 115,000-pound-thrust General Electric GE9X turbofans, prompting the engine maker to embark on a nine-month redesign process.

Further flight testing revealed some uncommanded nose-down anomalies, requiring software redesign. Cracks had developed in the engine-mounted thrust links, necessitating further rework.

Boeing is now confident that the GE9X engine will fulfill its potential by leveraging technology already proven with the CFM Leap engines developed by GE and its partner Safran for the 737 and A320 single-aisle airliner families. The new turbofan uses clean-burning combustion technology and ceramic matrix composites.

“It allows us to build a much higher internal pressure ratio and a higher bypass ratio,” Hale explained at the Paris Air Show. “The engine is 10% more efficient than the GE90 that’s on the 777-300ER. It’s 6% more efficient than the [Rolls-Royce] Trent XMV-97 that’s on the A350-1000.”

The 777-9 will be the first of the X models to enter service, with the 777-8F following in 2028 and then the 777-8 passenger model in 2030. As of the Paris Air Show in June, the 777-9 backlog stood at 449 units, with 59 orders for the 777-8F and 43 for the ultra-long-range 777-8, which could be deployed on routes such as Dubai to Los Angeles.

This report includes information first reported by **Leeham News and Analysis**, which is now part of AIN Media Group. ■

Dominate the skies



Our integrated strike solutions win the missions of today with the next-gen capabilities to deter the fight of tomorrow. Explore the future of air superiority with us at Dubai Airshow 2025.

boeing.com/dubai



Gulf flexes its buying power at Dubai Airshow

By Charles Alcock

The Gulf, where blockbuster commercial aviation demand converges with rising regional military spending, is arguably the prime location for a major aerospace and defense event. With the UAE consistently demonstrating its willingness to handle international relations in its own unique way, the Dubai Airshow this week is poised to make its mark as the industry closes 2025.

Spending by airlines, airports, and other civil aviation service providers in the Middle East is projected to exceed \$28 billion this year, on track to surpass \$35 billion by 2030. Last week, the IBA consultancy predicted that more than 300 new commercial aircraft orders and commitments would be announced during the show. Based on very approximate average pricing, this business could add around \$60 billion to the year-end tally.

According to IBA's chief economist and data officer, Stuart Hatcher, Emirates might confirm plans to switch its planned purchases for Boeing's delayed 777X widebody to the 787 Dreamliner and Airbus A350-1000 models instead. He expects Airbus to have a good show, with fresh interest in its A350F freighter, and foresees more narrowbody orders from local carriers Oman Air and Etihad.

However, behind these new aircraft orders lies complexity, according to Scott Hamilton, senior editor with **Leeham News and Analysis**, which is part of AIN Media Group. "The Middle East airlines can expect more delivery delays from Airbus and Boeing because of supply-chain delays primarily for engines and interiors," he commented on the eve of the Dubai Airshow. "Etihad and Qatar still have issues with the Rolls-Royce Trent XWB-97 engine on the Airbus A350-1000, and Tim Clark at Emirates remains skeptical of this engine on the A350-1000, hence his continued reticence in ordering the airplane."

Hamilton expects Boeing to have a positive show with a strong presence headlined by the appearance of its 777-9 aircraft. Overall, he sees geopolitics being favorable in the context of the U.S. presence at the Dubai event.

"[President] Trump's tariff war with everybody doesn't help Boeing, but Trump's relationship with Middle Eastern countries does," Hamilton commented. "Boeing

Alongside somewhat predictable appearances by aircraft such as the Airbus A400M transporter, Dassault's Rafale warplane, and Eurofighter's Typhoon, there are several items unlikely to be found elsewhere on the international air show circuit.

The Sukhoi S-57 fighter will certainly turn heads, given that Russia's industry remains persona non grata at the Paris and Farnborough shows as President Vladimir Putin's invasion of Ukraine heads for its fourth anniversary. A Russian presence in Dubai stands in marked contrast to the show organizers' decision to uninvite Israeli exhibitors in the wake of Israel's attack on Qatar's capital, Doha.



DAVID MCINTOSH

Surya Kiran (Rays of the Sun) aerobatic team of the Indian Air Force flies at the Dubai Airshow.

has received some important orders that Trump has announced, though I think they would have happened anyway. The 40-day U.S. government shutdown hurt the U.S. airlines, but this won't affect things in the Middle East."

Geopolitics Leave Their Mark

Geopolitics are also apparent in the profile of military aircraft on show in Dubai this week.

Less contentiously, the JF-17 Mushshak fighter, jointly developed by Pakistan and China, adds to the novelty at the show. Additionally, the UAE's Al Fursan display team is appearing with its new Chinese JL-10 jets.

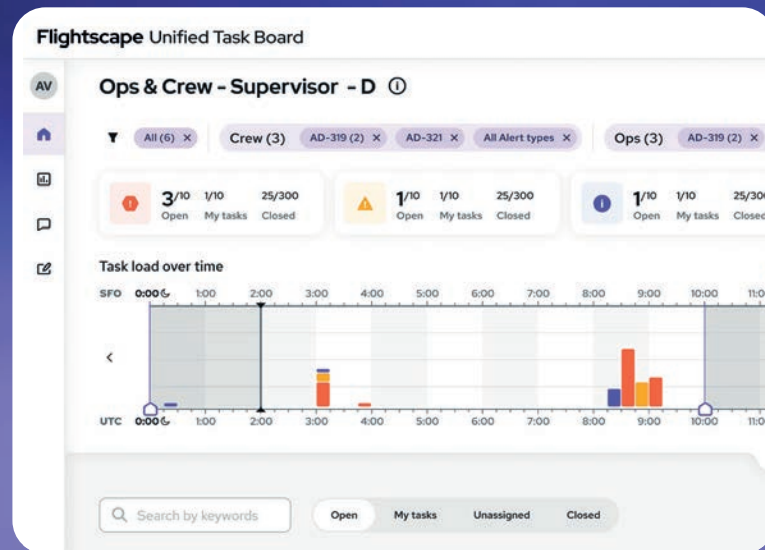
Also making the trip from China is state-backed airframer Comac with its C919 narrowbody airliner. Whether this proves to be the year that it starts to give Airbus and Boeing a run for their money remains to be seen. ■



Flightscape
Powered by CAE

Be Ready. Stay Ahead.

Redefining Disruption Management
to stay one step ahead.



Flightscape empowers airline operations teams to act faster and smarter when it matters most. By unifying data across every aspect of your operation, it turns disruption into opportunity, keeping you one step ahead of challenges and the competition.

Your control center is your greatest strategic asset when it drives efficiency and proactively.



Visit flightscape.com
to learn more.



GE's validated improvements to the design of the 9X's fan blades are expected to double reliability for this part of the propulsion system.

GE expands Middle East MRO footprint

By Charles Alcock

GE Aerospace is expanding its product support bandwidth in the Middle East with plans to build a maintenance, repair, and overhaul (MRO) facility in Dubai for the GE9X turbofan that will power Boeing's 777X family of widebody airliners, as well as existing CFM International Leap engines. The manufacturer announced the \$50 million investment yesterday and expects to have the On-Wing Support facility in Dubai South's Mohammed Bin Rashid Aerospace Hub operational by the first quarter of 2027.

The leased building will cover 120,000 sq ft, replacing GE's existing 29,000-sq-ft location in Dubai. It is part of the engine maker's global MRO network that also includes facilities in Qatar, the UK, the U.S., China, and Singapore.

With service entry for the new 777-9 aircraft still more than a year away in 2027, GE is taking full advantage of the extra time resulting from multiple delays at Boeing to maximize the 9X's reliability. In a briefing last week, Carlos Perez, GE's v-p for commercial engines and services engineering, said the turbofan was designed from the start to have a simple architecture with minimal components as part of a concerted effort to achieve the longest possible time on wing.

New technologies, including advanced

additives and ceramic matrix composites developed for both the 9X and Leap, are also key aspects of the reliability equation. Improvements to the design of the 9X's fan blades, with optimized cooling and geometric contours that GE validated through extensive testing, are expected to double reliability for this part of the propulsion system.

With around two-thirds of the 777X aircraft

on order destined for airlines in the Middle East, the environmental challenges posed by heat and sand are a point of particular attention for GE. Christina Seda-Hoelle, general manager for the 9X program, told reporters that with one set of dust ingestion testing already complete, the company is conducting a second round in the remainder of this year with a third series to come in 2026 as it seeks to fully understand the reliability impact of sand and how it can be mitigated.

GE fabricates dust samples to simulate the variations in sand characteristics found in locations as close as the UAE, Saudi Arabia, and Qatar. At its headquarters in Ohio, the manufacturer runs cycles with complete engines that simulate local conditions for different operators in processes that include spraying fine dust directly into the fans.

Now nearly five years since the 9X achieved FAA type certification, GE is working on securing extended twin-engine operations approval for oceanic flights even before the first of the new-generation 777s enter service. The first production engine shipped to Boeing in the third quarter of 2024.

The 9X has already completed more than 30,000 cycles of testing, including 9,000 endurance cycles. This work has involved 11 engines flown on five 777X prototypes, logging around 1,500 flights and 4,000 hours. By the time the 777-9 enters service, GE expects to have achieved 40,000 cycles and 19,000 flight hours. ■

Viasat adds LEO connectivity to JetXP service

Viasat is enhancing its JetXP broadband satcom service with the integration of Telesat's Lightspeed low-earth-orbit (LEO) satellite constellation network, the company announced today during the Dubai Airshow.

Telesat's LEO satellite constellation will work in tandem with Viasat's geostationary capabilities, which includes the as-yet-completed ViaSat-3 constellation of geostationary satellites. The second of three ViaSat-3 satellites just launched into space on Friday, and the third is expected to launch in 2026, completing the constellation.

The integration of LEO and geostationary options represents a key step in Viasat's

multi-orbit strategy, which aims to improve the performance and reliability of its in-flight connectivity services—especially for high-demand applications such as video conferencing or gaming on multiple devices.

"When we incorporate a multi-orbit component to our offering, we feel that we can bring a lot more consistency and a lot more reliability to operators in business aviation," Claudio D'Amico, v-p of business aviation at Viasat, told **AIN**.

Viasat will make its multi-orbit capabilities available as a single offering on JetXP plans, which the company said eliminates the need for multiple subscriptions. **H.W.**

www.amacaerospace.com



THE PERFECT PLACE FOR BUSINESS AIRCRAFT

AUCH • LONDON • BASEL • ZURICH • ISTANBUL • BODRUM • BEIRUT • RIYADH

AMAC AEROSPACE

Leap engines get tougher with CFM upgrades

By Charles Alcock

CFM International says it is achieving breakthroughs in ongoing efforts to reduce the maintenance burden for airliners powered by its Leap engines. Today, the manufacturer reported that it is increasing the availability of a reverse bleed system that is already on almost half of the Leap-1A turbofans.

The new system prevents carbon buildup on the fuel nozzles by circulating cooling air through the engine core after shutdown. CFM is awaiting imminent engine-level FAA certification of the technology for the Leap-1B model.

To boost what has been a disappointing time-on-wing performance for the engines, CFM has now shipped more than 1,200 durability kits for the Leap-1A's high-pressure turbine (HPT), both on new-build engines and for fitting during overhauls. The GE-Safran joint venture claims the new hardware helps to increase the time between shop visits, resulting in a two-fold improvement in time-on-wing in harsh environments and achieving comparable reliability rates to the widely used CFM56 engines.

According to Gaël Méheust, president and CEO of CFM International, these initiatives are especially important for operators in the Middle East, where fine desert dust suspended in the air builds up in the cooling passages of engines, shortening the life of components. "With more than 17,000 cycles of Leap dust testing to date, we're confident that the design we're delivering today is the hardware we'll need to meet our customers' expectations for time on wing," he told *AIN* in an interview



CFM's reverse bleed system for its Leap engines, which has been installed on almost half of Leap-1A turbofans, prevents carbon buildup on the fuel nozzles.

before the Dubai Airshow.

While acknowledging that there is more work to do in maturing the Leap program's reliability, Méheust insisted that his engineering team is making progress. He pointed to Cirium data showing that over the past 12 months, airliners powered by Leap engines have flown 25% more days than narrowbodies powered by the alternative Pratt & Whitney Geared Turbofans.

At the same time, CFM said it is increasing production rates for the Leap engines, which it said were up 40% year over year in the third quarter. Méheust said he expects Leap deliveries for the whole of 2025 to be 20% higher than the 2024 output.

More than 30 years after the first CFM56 turbofans entered service in the narrowbody market, the engine maker said it remains committed to increasing their value to operators by lowering ownership costs. In late 2023, it introduced a more durable HPT blade to extend time on wing and has already shipped more than 1,700 sets of the hardware.

"As with Leap engines, though, the more repairs we can do, the fewer spare parts we need, and the lower the maintenance cost," Méheust explained. "That's why we continue to industrialize new repairs. For example, by rolling out automated laser welding, we're increasing part throughput and decreasing repair turnaround time for the prior-generation HPT blade by about a third."

Meanwhile, CFM's next-generation Rise engine is continuing its path to market,

with more than 350 different types of tests completed to date, including assessments of its open-fan architecture, compact core, high-speed turbine and compressor, and hybrid-electric systems. The company is striving to deliver a 20% reduction in fuel burn and CO₂ emissions compared to today's engines.

In October, dust ingestion tests began on Rise's HPT airfoils, which CFM said is the earliest in any of its programs that it has conducted this level of real-world testing. Earlier this year, it completed more than 3,000 endurance cycles with the HPT airfoils. ■

Air Algérie receives first of 8 Airbuses

Airbus on Friday delivered the first of eight Airbus A330neos ordered by Air Algérie. The North African carrier is rebuilding its long-haul fleet around the A330-900 widebody, which will operate out of the capital city of Algiers on new transatlantic and Asian routes.

Air Algérie has selected a three-class cabin layout with 18 full-flat seats in business class, 24 in premium economy, and 266 in economy class. The A330neo family of airliners features Airbus' Airspace cabin with increased space for each passenger and larger overhead bins. **C.A.**

CONNECTING AND PROTECTING OUR WORLD

With three market-leading businesses, world-class operations and investments in research and development, we offer capabilities no one else can. Together, our global team pushes the boundaries of known science – and finds new ways to connect and protect our world.

Learn more at [rtx.com](https://www.rtx.com)



COLLINS AEROSPACE | PRATT & WHITNEY | RAYTHEON

Boeing 737 Max 8



Middle East airlines set to double fleet size

By Peter Shaw-Smith

With six of the 14 airlines based in the Gulf Cooperation Council (GCC) states boasting order books bigger than their existing fleets, some question whether the threat of overcapacity looms in the region's rapidly expanding commercial aviation sector.

At least 1,525 airplanes currently on order will more than double the existing fleet of nearly 1,200 airliners operating in the UAE, Saudi Arabia, Qatar, Oman, Kuwait, and Bahrain. Qatar Airways alone has orders for a total of 330 airplanes, with Emirates just behind at 305.

In terms of the region's installed fleet, Europe's Airbus is ahead of its rival Boeing with more than 660 units in service. But the U.S. airframer leads the order backlog with nearly 800 more.

Dubai-based Emirates—the only regional carrier with a widebody-only fleet—and Qatar Airways lead the GCC in terms of existing fleet size, with both operating 264 aircraft. Saudia has 163 and Etihad Airways 115; the rest of the region's airlines have fewer than 100 aircraft each.

Emirates, Qatar Airways, Saudia, and Etihad account for two-thirds of in-fleet airliners and just under 60% of current orders, according to data specialist Cirium.

Exceptional Profitability

Earlier this year, Cirium noted that three major markets—the UAE, Saudi Arabia, and Qatar—each maintain aircraft backlogs exceeding

100% of their current installed fleets. The total regional backlog, including Embraer and ATR models, comprises approximately 1,615 aircraft scheduled for delivery through 2035, worth \$200 billion at 2025 prices.

“Middle Eastern airlines have demonstrated exceptional profitability recovery,” the company said. “While representing 6% of global fleet capacity, the region contributes more than 12% of total global airline profits.”

Meanwhile, the International Air Transport Association projects the Middle East will generate \$5 billion to \$6 billion of the estimated \$36 billion in global airline net profits for 2025.

Ominously for flag carriers, low-cost carrier (LCC) airlines have placed orders for the Airbus A330 widebody, signaling further competition. Flydubai has ordered 30 A330s, while Saudi Arabia's Flynas and Flyadeal have ordered 15 and 10, respectively. Flydubai has also ordered 30 Boeing 787s. The regional LCC market share of 29% last year is expected to grow, according to aviation analyst OAG.

Sovereign Infrastructure

“The region has effectively gone from having a handful of legacy flag carriers people didn't know about to building some of the most recognizable global aviation brands in the world,” said Zahra Knapper Al-Bahrani, partner at law firm Baker Botts in Dubai. “The transformation is genuinely extraordinary by any global benchmark.”

Regional aviation “is about sovereign infrastructure,” she added. “It's not just a commercial asset.” Its carriers are almost instruments of the GDP diversification of tourism, strategy, and soft power. “Just because they're state-owned doesn't mean flag carriers are protected at all costs,” she said. “I don't think that's the goal. It's more using aviation as a growth engine. State ownership...is less about subsidy and control and more about alignment with national economic plans and diversification, which they've achieved. Aviation capacity is not necessarily a reward for demand, per se. It's often a precondition for it.”

Not a Zero-sum Game

Independent analyst and consultant Brendan Sobie said the Gulf's network carriers are mainly competing in a bigger playing field for intercontinental connecting passengers.

“This is not a zero-sum game,” he said. “This is a market that continues to grow, and if there is overcapacity and yield pressure, it's not just about long-haul expansion from a few Gulf carriers but expansion from a much wider basket of airlines.”

Plans for the expansion of Dubai's Al Maktoum International Airport (OMDW) involve an ultimate capacity of 260 million passengers per annum by 2035. Zayed International Airport in Abu Dhabi (OMAA) is reportedly planning to

Boeing 787-8



1 MILLION FLYING HOURS

Congratulations to our **Air Forces**
for their incredible achievement!



eurofighter.com

 **Eurofighter
Typhoon**

nothing comes close



Boeing 787-9

expand capacity to 65 million passengers per annum by 2032. Hamad International (OTHH) in Qatar is said to be planning an “ultimate” capacity of 75 million passengers.

“It’s not a zero-sum game for the airports either,” Sobie said. “They are competing not only with each other but hub airports in other regions. Saudi Vision 2030 is also not just about Riyadh becoming a global hub with Riyadh Air but other segments of traffic that take into account the anticipated growth in Saudi Arabia’s outbound—big, growing, and young population hungry to travel—and inbound—opening up of tourism—segments.”

Mayur Patel, Singapore-based regional director for Asia-Pacific and the Middle East with airline data group OAG, said there is a material risk of overcapacity if all announced growth—fleet orders, network launches, new entrants—is delivered without matching demand growth.

However, evidence suggests demand is recovering, and Gulf governments’ tourism and visa policies and investments aim to stimulate demand. Outcomes depend on execution, route discipline, and how quickly demand follows capacity.

“In short, risk exists, but demand tailwinds and strategic state support reduce the probability of a systemic capacity glut in the short term,” Patel said.

Ambitious Goals

The signs indicate that competition in the region will continue to intensify. Saudi Arabia’s Riyadh Air became the region’s 14th active airline when it launched flights to London Heathrow on October 26.

Abdullah Aljawini, managing director of Riyadh-based consultancy Dawli Aerospace, said several factors would determine whether the airline could meet its ambitious goals and

position itself as a global premium carrier. Fleet readiness, timely aircraft order delivery schedules, certification of crew, and securing route approvals would all be decisive elements.

“In addition, the selection of Riyadh Air to operate four classes of service at inception—business elite, business class, premium economy, and standard economy—[would] pose a significant challenge for any start-up airline, as economies of scale will be harder to reach,” he said. “This usually translates to the extension of profitability targets.”

Patel said Riyadh Air’s large widebody orderbook and long-haul ambitions meant it would indeed grow into a significant premium long-haul connector over the next two to three years.

“It will likely pull some transfer traffic to Riyadh, particularly for Europe-Asia and South Asia flows, but fully displacing Dubai, Abu Dhabi, or Doha as the dominant transfer hubs will depend on slot infrastructure, airline partnerships, transit experience, and LCC versus legacy competition,” he said.

Material Competitor

Riyadh Air will be a material new competitor for transfer traffic and will reshape some flows—notably between Europe and Asia via the kingdom, Patel believes.

Construction of King Salman International Airport, Riyadh Air’s base, is expected to have six runways upon completion in 2030, and is seen as a major stepping stone allowing Saudi Arabia to target 330 million passengers a year by the end of the decade.

Gregory Newman, v-p at U.S. flight deck crew placement portal PilotsGlobal, said the airline’s 124 aircraft on order would require more than 700 pilots during the initial build-up phase.

“Given the exceptionally strong interest from the global pilot community—over 5,000 pilots [seeking involvement]—Riyadh Air has firmly positioned itself as a top-choice employer. We do not anticipate any significant challenges in meeting its pilot hiring requirements.”

Time to Plan

In 2022, management consultancy Oliver Wyman predicted the Middle East would be the region affected soonest by the flight crew shortage outside of North America, driven by a projected sharp increase in air travel demand in future years. It forecast the region could face a shortage of 3,000 pilots as early as 2023, and 18,000 by 2032.

Newman said that Gulf airlines are not experiencing pilot shortages, but recruitment is becoming more challenging. Increased competition among local carriers, European demand, and emerging demand in an Asia-Pacific region that’s expected to require more than 230,000 new pilots by 2042, all contribute to constraints on the flow of qualified candidates into the region.

Aircraft deliveries in 2025 are still facing significant delays, primarily due to persistent supply chain challenges, engine shortages, and certification backlogs, and are not expected to normalize until around 2034.



Boeing 777-300ER

Extending the Reach

AW189

Offshore missions demand exceptional capability: the AW189 sets the benchmark. In a rapidly evolving energy market comprising fossils and renewable energies, it enables operators to tackle challenging long-range, day/night, and deep water missions in all weather conditions.

With a class-leading cabin capable of carrying up to 16 passengers fully IOGP compliant, the AW189 meets or exceeds all current safety standards and is the first helicopter certified with HTAWS offshore mode, strengthening operational safety. CO2 emissions are minimised versus payload available and usage of Sustainable Aviation Fuels is approved ensuring maximum environmental benefits.

Visit us at Dubai Airshow, Chalet number A18-A19

“This provides Gulf airlines with time to plan and proactively execute their recruitment strategies,” Newman said. “We find Oliver Wyman’s report...to be reasonable, as this will put additional pressure on local carriers regarding pilot recruitment and marketing, especially for massively scaling players like Emirates and Etihad.”

Natural Targets

Maintenance, repair, and overhaul (MRO) is another area where Gulf airlines are eyeing the international stage. But Mike Stengel, an analyst with Michigan-based consulting firm Aerodynamic Advisory, said that the MRO arms of the four main regional airlines had yet to emerge as serious competitors to established providers in Europe, Asia, and the U.S.

“Operators in the Gulf and Middle East are likely the priority, and Africa is a natural target as well, [given] proximity and stronger cultural ties. India could also be an opportunity, although it’s rapidly growing means there’s a strengthening case for building domestic capabilities rather than continuing to send aircraft abroad.”

Stengel said incumbent MRO suppliers in Europe, Asia, and the U.S. remain the overall juggernauts, although Gulf-based MROs are incrementally growing their influence.

“Since MRO demand in the Middle East is far more concentrated compared to Europe to Asia, there is more limited opportunity within...to chase third-party MRO opportunities, so it would be unwise for MRO providers in the GCC to pursue a rapid build-up of capabilities.”

Voluntary SAF Target

Analysts and industry financiers expect the Middle East—and especially Saudi Arabia—to be a strong candidate for early and significant production of sustainable aviation fuel (SAF).

Carl Nyberg, senior v-p of commercial and renewable products at Finland-based Neste, said the company is working with supply chain partners to grow the global availability of Neste MY SAF, which is used by many global airlines, including Emirates. Neste claims to be the world’s leading producer of SAF with a current global production capability of 1.5 million tonnes per annum.



Airbus A320

Widebody Aircraft in Main Gulf Cooperation Council Airlines			
	In Service *	On Order	On Option
Emirates	Airbus A350 (10) Airbus A380 (107) Boeing 777 (140) Boeing 747 (6)	Airbus A350 (55) Boeing 777 (220) Boeing 787 (30)	-
Qatar Airways	Airbus A350 (59) Airbus A380 (8) Airbus A330 (16) Boeing 777 (140) Boeing 747 (6)	Airbus A350 (17) Boeing 777 (124) Boeing 787 (136)	Boeing 777 (91) Boeing 787 (25)
Saudia	Airbus A330 (33) Boeing 777 (43) Boeing 787 (20) Boeing 747 (4)	Boeing 787 (39)	-

* Aircraft in storage not included.

Source: Cirium Juliette Alpha. Data as of Sept. 10, 2025.

“Among the Middle East aviation players, we have announced, for instance, SAF deliveries to Emirates for flights from Singapore Changi Airport and from Amsterdam Schiphol Airport as well as our partnership with [the UAE’s] ENOC Group in 2023,” said Nyberg.

Neste has seen positive developments in aviation in Europe, with the recent ReFuel-EU and UK SAF mandates, as well as in the Asia-Pacific region, where Singapore and Japan have set SAF targets. Additionally, the U.S. has seen supportive policies at both the state and federal levels.

“Currently, there are no mandates in the Middle East, although the UAE has set a voluntary 1% SAF target for 2031, and other countries are exploring SAF policies,” he said.

Growing the Traffic Pie

Richard Aboulafia, managing director at AeroDynamic Advisory, said that aggressive policies, infrastructure creation, and fleet investments could stimulate traffic slightly, but not significantly. “At a certain

point, things turn cannibalistic,” he said.

“On the other hand, the shift is going from long-haul super-connector traffic to regional traffic, so at least there are new business models involved, which supports growth rather than simply pursuing other airlines’ traffic.”

Aboulafia said the Mideast super-connectors have achieved remarkable growth and created impressive businesses, even if much of the traffic has come from other places.

He argues they now face serious competition from others with the same idea in Turkey and Saudi Arabia, as well as new creations in their home markets, and, perhaps most of all, revitalized competition from the places they’ve been taking traffic from—India, but also Ethiopia, Egypt, Morocco, and elsewhere.

“None of this renewed competition, nor infrastructure investment, nor fleet growth plans, is going to meaningfully grow the traffic pie,” he explained. “Unless international traffic grows faster than expected, the big legacy super-connectors will either need to scale back growth plans or cut fares, reducing profits.” ■



Save time and money by **monitoring the value of your aircraft** in 'real-time'.

Subscribers can also:

- Generate a comprehensive list of all aircraft transactions in the last 12 months
- View a detailed photo gallery for your specific aircraft
- Receive a weekly report summarizing market fluctuations

Visit aircraftpost.com/contact to learn more

Gulf states' airpower continues to evolve

By David Donald

Standing at the crossroads of cultures and a source of great natural wealth, the Gulf region has become a geopolitical hotbed with rising military presence from both global powers and, more recently, the smaller nations that fringe the waters of the Gulf. The last decade has seen a dramatic rise in both the numbers and capabilities of combat aircraft operated by Gulf Cooperation Council (GCC) members.

Alongside that has been a drive by some of the members—notably Saudi Arabia and the UAE—to develop their military industrial bases as part of a wider effort to shift their economies away from an over-reliance on natural resources.

In terms of requirements and new orders, the region has entered a period of relative calm following the major, Gulf-wide procurement drive to enlarge and enhance regional air arms of the late 2010s/early 2020s.

The fruits of those procurement efforts are now being harvested as large numbers of advanced warplanes are in the process of delivery. Now the nations are focusing on future capability developments, such as sixth-generation fighters and advanced network operations.

Bahrain

Nestled between Qatar and Saudi Arabia, the small island kingdom of Bahrain has a compact air arm with a primarily defensive force.

In 2017, the Royal Bahraini Air Force ordered 16 Lockheed Martin F-16C Block 70s with APG-83 AESA radar to supersede its Block 40 aircraft, while upgrading a number of them to the F-16V standard, equivalent to the Block 70.



DAVID MCINTOSH

BAE Systems Hawks provide training, while the existing Bell AH-1 Cobra gunship fleet has been bolstered by a batch of 12 AH-1Z Venoms. These also provide a useful maritime defensive capability.

Iran

Iran's inability to procure modern aircraft types leaves it reliant on pre-Islamic revolution U.S. types such as the F-4 Phantom, F-14 Tomcat, and Northrop F-5, as well as a few post-revolution imports from Russia (MiG-29 and Su-24) and Mirage F1s that escaped from Iraq at the end of the Gulf War in 1991.

These aircraft have been kept airworthy and combat-capable through a combination of reverse engineering, espionage, and ingenuity by the Islamic Republic of

Iran Air Force (IRIAF) and local industry. For instance, the dwindling Tomcat fleet—now down to fewer than 40 aircraft—has been armed with Russian air-to-air missiles and even the Hawk surface-to-air missile. Attempts to acquire Su-35s from Russia have been unsuccessful.

In addition to the aircraft operated by the IRIAF, a few Su-22s are operated by the Islamic Revolutionary Guard. A handful of Bell AH-1J SeaCobras remain in use with the army for gunship duties, while the IRIAF operates a few Boeing 707 and 747 tankers to support the fighter fleet.

Iraq

Iraq's rebuilt air force continues to evolve, but the principal combat force remains based on

36 F-16C/D Block 52s (also known as F-16IQs) delivered in two batches between 2014 and 2017.

Its other main type is the Sukhoi Su-25, of which around 20 remain active for attack duties. They are augmented by armed Aero L-159As and Cessna AC-208 Caravans.

The combat helicopter fleet centers on the Mil Mi-35 and Mi-8/171, with Bell 407s and Airbus H135s providing a light armed capability.

Kuwait

Kuwait is in the process of significantly increasing its combat capability with the orders for 28 each of the Eurofighter Typhoon and Boeing F/A-18E/F Super Hornet. They are superseding a force of around 35 F/A-18C/Ds that have been in service since the early 1990s.

Attack helicopter capability is provided by 16 Boeing AH-64D/E Apaches, and Lockheed Martin KC-130Js provide a tanker capability.

Oman

In the early 2000s, Oman ordered 12 Lockheed Martin F-16C/D Advanced Block 50s to bolster its air defense forces, followed by another 12 in 2010 to replace its squadron of Sepecat Jaguars. A majority of them remain in service. The Royal Air Force of Oman supplemented the fleet with 12 Eurofighter Typhoons in 2017.

Qatar

The most meteoric rise in capability of any Gulf air arm in recent years has been that of the Qatar Emiri Air Force (QEAF), which has gone from operating a small force of Dassault Mirage 2000s to a large air arm with no fewer than three major combat types.

Procured over a short time period, the QEAF ordered 36 each of the Dassault Rafale, Eurofighter Typhoon, and Boeing F-15QA Eagle, and added another 36 F-15QAs shortly after. These types are now all in delivery. Qatar has also invested heavily in new trainers and has a potent attack helicopter force, comprising 24 AH-64E Apaches.

Saudi Arabia

As the largest air arm in the region, the Royal Saudi Air Force operates a potent fleet of combat aircraft. Numerically, the most important is the Boeing F-15 Eagle, with more

than 200 in service. They include the original air defense-assigned F-15C/Ds and multi-role F-15Ss, but the most capable variant is the F-15SA Advanced Eagle, procured as both new-build airframes and by conversion of the F-15S.

The RSAF's other main combat types are the Panavia Tornado and the Eurofighter Typhoon. While the former is nearing the end of its combat career, around 80 are still in use. Typhoons are mainly used for air defense duties, and 72 have been delivered since 2009. Another 48 are being considered.

Airbus A330MRTT and Lockheed Martin KC-130 tankers support the combat fleet, while Boeing E-3A Sentries and Saab 2000s provide airborne early warning coverage. Boeing RE-3As are used on signals intelligence-gathering missions. Meanwhile, attack helicopter capability centers on the AH-64, operated by both the Royal Saudi Land Forces and the Saudi Arabian National Guard.

United Arab Emirates

Although its attempt to become the GCC's first F-35 operator has stalled, the UAE Air Force and Air Defence remains one of the world's most technologically advanced and capable air forces. The nation also pursues a non-aligned procurement policy, while striving to increase and improve its engineering and technology base.

Today's combat capability rests on the Dassault Mirage 2000-9 and the Lockheed Martin F-16E/F Block 60 Desert Falcon. The latter was among the world's first front-line fighters to feature an AESA radar and remains a potent weapon. While the deal to buy 50 F-35As remains on hold, the UAE has ordered 80 Dassault Rafales to recapitalize its fighter fleet.

Like Saudi Arabia, the UAE has also invested in combat support equipment, including five Airbus A330 MRTT tanker/ transports, five Saab GlobalEye airborne early warning and control aircraft, and a pair of Bombardier Global 6000s outfitted for signals intelligence. The AH-64 Apache is the primary attack helicopter, while armed Iomax Archangels and Cessna Caravans provide potent border patrol and counter-insurgency support capabilities. ■



Eve believes its 'lift and cruise' design minimizes dust and sand exposure.

Eve Air Mobility eyes Bahrain for eVTOL passenger operations

As multiple urban air mobility developers jostle to launch commercial services in the Middle East, Eve Air Mobility is preparing to evaluate passenger-carrying eVTOL routes within the region. A newly forged partnership with Bahrain could see these routes commence domestically as soon as 2028, the Embraer spinoff announced on November 3.

Eve said it is considering "premium shuttle and tourist routes in Dubai, Abu Dhabi, Riyadh, Jeddah, Doha, Istanbul, and Manama." This builds upon a new agreement signed with Bahrain's Ministry of Transportation and Telecommunications (MTT), which Eve says will "accelerate the readiness of Bahrain's regulatory, operational and infrastructure ecosystem for eVTOL operations".

The objectives of the MTT partnership include establishing a sandbox to test and refine urban air mobility systems, as well as developing vertiport infrastructure.

This is the first Middle Eastern venture announced by Eve, which aims to start commercial services with its four-passenger eVTOL aircraft in São Paulo, Brazil, with launch customer Revo. The first of these aircraft deliveries are scheduled for the fourth quarter of 2027, albeit the company has yet to start flying its technology demonstrator.

C.B.

Global Combat Air Program gaining momentum

By David Donald

A joint initiative between Italy, Japan, and the UK, the Global Combat Air Program (GCAP) is developing a sixth-generation fighter for the future airpower needs of the three partners and to attract export orders. GCAP has made significant progress over the last year, with consortia formed and technology demonstrators in build or modification.

Today's GCAP has its roots in the future fighter programs of Japan and the UK. Japan initiated the Mitsubishi F-X program to develop its own stealth fighter jet after it failed to acquire the Lockheed Martin F-22 due to U.S. trade restrictions. A desire to create an indigenous stealthy fighter led to Mitsubishi flying the X-2 Shinshin demonstrator, while IHI Corporation worked on advanced engines.

In the UK, the Tempest program launched in 2015 with BAE Systems, Leonardo UK, and Rolls-Royce as key industrial participants. Sweden joined the UK's wider Future Combat Air System (FCAS) effort in July 2019, while on September 10 that year, Italy announced it would become a full partner in the Tempest fighter itself.

A mutual desire for cost- and technology-sharing, as well as a common alignment of projected in-service dates and broad requirements, naturally brought the F-X and Tempest programs closer together. Bilateral engine testbed and advanced fighter radar demonstrator developments were agreed upon in December 2021 and February 2022, respectively. Consequently, it came as no surprise that the three



A rendering shows how the GCAP and the CAFD demonstrator are expected to look. However, the final design of the GCAP has yet to be defined.

nations announced a joint development and deployment program—GCAP—for a common fighter in December 2022.

GCAP launched in September 2023 under a trilateral collaboration agreement, which was formally ratified in December 2023. The GCAP International Government Organisation (GIGO), which would oversee development, was also established.

A year later, the three principal industrial partners—BAE Systems (UK), Leonardo (Italy), and Japan Aircraft Industrial Enhancement Co. (JAIEC)—formed a joint venture that would be responsible for program delivery throughout the aircraft's service life. Formally named Edgewing in June 2025, the joint venture is headquartered in Reading, England.

Two further consortia have been formed and were officially announced in September, covering engine development by Rolls-Royce (UK), Avio Aero (Italy), and IHI (Japan), as well as electronics/sensor development by Mitsubishi Electric, Leonardo UK, Leonardo Italy, and ELT Group. The latter is known as GCAP Electronics Evolution (G2E).

Technology Demonstrators Take Shape

In the meantime, several technology demonstrator programs are underway, notably those in the UK that were initially funded under the Tempest program and are now working toward GCAP solutions. The most high-profile is the Combat Air Flying Demonstrator (CAFD), which incorporates many of the features expected to figure into the final GCAP design.

These include a low-observable airframe with a wide fuselage to accommodate internal

weapon bays, large cropped-delta wings, and twin outward-canted fins. To reduce costs, the CAFD will also use adapted components from existing aircraft—such as the Typhoon's Martin-Baker Mk 16A ejection seat and Eurojet EJ200 engines—while aircrew will wear standard Typhoon flying equipment. The landing gear is adapted from that of the Panavia Tornado multirole combat aircraft.

BAE Systems said in mid-2025 that two-thirds of the aircraft by weight was under construction and is on course to be ready to fly by the end of 2027.

There are other flying demonstrators and testbeds planned for the GCAP. The primary avionics trials platform is the Excalibur Flight Test Aircraft, a former Boeing 757 airliner modified and operated by Leonardo UK and 2Excel. Excalibur has side and fuselage pods to house elements of the aircraft's communications, defensive, and sensor systems, and it is expected to gain a fighter-style radome for radar trials.

Italy and Japan will also produce testbeds, primarily for electronics testing. Italy is modifying a Gulfstream business jet, while Japan's Mitsubishi is likely to convert a Kawasaki C-2 transport for GCAP testing.

Although additional partners have been courted, the main development pathways have been established and agreed upon between the three partner nations, although there may still be room for others to join in lesser roles. Former Tempest partner Sweden is monitoring the program, although it has yet to define any clear strategy for its future airpower. Australia is also a keen observer, as is Saudi Arabia. ■

SINGAPORE AIRSHOW

3-8 FEBRUARY 2026

**WHERE
AVIATION'S
FINEST MEET**

STAY CONNECTED WITH US!



@Officialssingaporeairshow



@Singapore Airshow

Scan the QR code to
visit us!





1. Airbus A220-500. 2. Boeing TTBW. 3. Boom SST. 4. Blended Wing Body. 5. Boeing Hybrid. 6. Airbus H2. 7. Boeing NMA. 8. New Lite Twin. 9. COMAC C929. 10. Eco-Designed New Lite Twin. 11. CFM Open Fan single-aisle aircraft. 12. Boeing 787 Re-Engine. 13. Airbus A350 Re-Engine. Sources: Companies, Leeham Co.

LEEHAM
COMPANY LLC
Copyright © 2025. All rights reserved.

Evaluating next-generation airliner contenders: Part 1

By Scott Hamilton

Some urge Boeing to take the plunge “now” to launch a new airplane program. Institutional knowledge is slipping away, they say. Boeing hasn’t launched a new airplane since December 2003 (the 787). The 737 Max is selling at a poor second to the Airbus A320neo family. Boeing continues to lose market share. On the other hand, Airbus is in no hurry to launch a new airplane program—or so it says. It can’t keep up with current demand.

Against this backdrop, **Leeham News and Analysis (LNA)**, which is now part of the AIN Media Group, has evaluated 13 next-generation airliner contenders. This is our take on prospects for these possibilities, starting with concepts 1-5 from the list at right. Concepts 6-13

will be assessed in the Wednesday edition of AIN’s Dubai Airshow News.

1. Airbus A220-500
2. Boeing’s transonic truss-braced wing
3. Boom Overture supersonic transport aircraft
4. Blended wing bodies
5. Boeing’s concept for a hybrid aircraft
6. Airbus ZeroE hydrogen-powered mainline jet
7. Boeing’s New Midsize Airplane
8. Boeing’s New Light Twin
9. Comac C929
10. Leeham’s light twin concept
11. CFM-powered Open Fan single-aisle airplane
12. Re-engined Boeing 787
13. Re-engined Airbus A350
14. Airbus A220-500

Don’t expect an A220-500 this decade. Proceeding with a stretched model 500 is largely dependent on Airbus turning this into a profitable program. Bombardier was losing money on its CSeries before it sold the program to Airbus, which renamed it the A220. Airbus is still losing money on it. At one point, Bombardier estimated it would break even with 1,200 deliveries. So far, Airbus has sold 904 A220s and delivered 418.

Achieving a production rate of 14 airplanes per month is also key to achieving profitability. The Covid-19 pandemic, Pratt & Whitney’s GTF engine problems, and supply chain issues combined to delay achieving this rate. Currently, Airbus produces an estimated six units per month and aims to hit 14 per month next year. This requires a major increase that seems unlikely. Any move to launch a stretched A220-500 before hitting this rate and turning

a profit is off the table, according to people with direct knowledge of the program.

Bombardier had its conceptual CS500 design on the shelf when Airbus bought the program in 2017. Now unofficially called the A220-500, this is a stretched CS300/A220-300. The debate within Airbus is whether the -500 is a “simple stretch,” trading range for more passengers, or a stretch with a new wing and more powerful engines.

The sensible change is to retain the existing wing, increase engine thrust by approximately 5%, which is feasible, and modify the wing with larger winglets. This would reduce the range from an honest (airliner rules) 3,200 nm to 2,900 nm. This is still enough for east-to-west transcontinental U.S. flights, but not enough for a diagonal transcontinental flight from Miami to Seattle.

Airbus now appears to be leaning toward this simple stretch. Airlines with the A220-300 in their fleets that want the stretch model appear to be more interested in the added capacity than a model that retains the current range of more than 3,200 nm. Keeping this range requires more powerful engines and a new wing. Both are costly.

2. Boeing Transonic Truss-braced Wing

The transonic truss-braced wing (TTBW)—at least at Boeing—is already dead. Former Boeing CEO David Calhoun was enamored with the TTBW, which features a super-thin wing with a span so great that it requires supporting trusses to reduce induced drag (lift-related drag) on the aircraft. With advanced engines, Calhoun touted up to 30% better efficiency.

Calhoun’s successor, Kelly Ortberg, killed further expenditures on this aircraft. Instead, Boeing will focus on a slender conventional wing that was at the heart of the TTBW’s design, this time without the complication of trusses.

The reason for the changes is that Boeing has to focus on getting the projects it’s working on out the door. Boeing focused on completing the long-overdue certification of the 737 Max 7, 737 Max 10, and 777X this year.

The 737-7 and 777X seem on track. It’s unclear how far along the Max 10 certification requirements are and whether it will be certified this year.

That doesn’t mean Boeing’s Product Development (PD) department isn’t working on other ideas. Design of a new-build 787 freighter has paused and now appears to be a 2030 project rather than in 2028. But LNA understands that PD is studying other new aircraft. This is hardly earthshaking. Studies routinely take years to evolve.

Boeing studied the New Midsize Airplane (NMA) from 2012 to 2019, when the second Max fatal accident caused all work on this to be suspended. This was superseded by the TTBW program, which has now been killed.

Boeing recently issued a request for information for a 30,000-pound-thrust category engine for a new single-aisle airplane. But this doesn’t mean Boeing is planning for one; it just wants to update its understanding of the new technologies in this field.

The 737 Max remains unprofitable at the current production rate, and Boeing needs its

cash flow, profits, and return on investment before proceeding with a replacement aircraft.

3. Boom Overture

Despite all the hype, the market LNA talks to remains highly skeptical of the aircraft and of Boom.

So far, U.S. law still prohibits supersonic flying over land. President Donald Trump, via an executive order, directed the FAA to rescind this restriction. But Congressional action is needed to do so, and there are contingencies in the executive order that also must be met. There are mission-related challenges, as well as airframe and engine-related ones.

The company was founded in 2014, and it still doesn’t have a demonstrator airplane that resembles the final design. CEO Blake Scholl now expects the first Overture flight in 2027 and service entry in 2030, both of which are unrealistic, as there are no engines for such



prototypes or for serial-production aircraft.

While a supersonic airframe is a major development and production undertaking that does not support the optimistic timing predictions by Boom, the real problem lies with the engines.

GE Aerospace, Pratt & Whitney, and Rolls-Royce passed on developing an engine for Overture, and for good reasons. Supersonic engines are designed with a different technology tradeoff than the present high-bypass turbofans used in our jet airliners.

If you want to fly faster than the typical airliner—Mach 0.85—you need a lower-bypass-ratio engine. This is why the fast business jets that fly up to Mach 0.92 have bypass ratios that are half of the airliner engines.

If you want to fly really fast—Concorde speed, Mach 2.2—you need a bypass ratio of zero to be efficient. It's why the Concorde engines were straight jets. Choose your speed in between, like Boom Overture's Mach 1.7, and your bypass ratio should be in between. But a turbofan with a bypass ratio of around three is noisy. The engines covered by the 2027 ICAO noise and emissions regulations have bypass ratios exceeding three.

Therefore, an engine for the Overture must be a clean-sheet, variable-bypass-ratio design with low noise at takeoff and landing that's efficient at Mach 1.7. Such engines are at the research stage for military fighter applications. The airliner engine manufacturers have done no work on such engines.

Boom cobbled together three companies to design and build its own engine of this type. The experienced engine makers GE and

Safran announced a new technology engine, CFM Revolutionary Innovation for Sustainable Engines (RISE), in 2021, after a 14-year development. Boom says its engine work will be available for test flights in two years.

Billions of dollars are needed for the airframe and engine developments that Boom doesn't have; hence, LNA doesn't give Boom a chance of success.

4. Blended-wing Bodies

Several companies propose a blended-wing-body (BWB) airliner, a concept that has been around for decades. JetZero appears to be the leading contender to bring a BWB to market first. Another start-up, Natilus, also touts a BWB design.

JetZero appears much better funded than Natilus. However, even the former's funding is now under threat. A key element was a \$235 million contract from the U.S. Air Force for a concurrent BWB refueling tanker study. Funding was contingent on JetZero obtaining private funding, which would release federal money.

Natilus' funding is unknown. What is known is that they, or any new entrant, need billions of dollars to design, produce, and bring to market a new airplane.

JetZero publicly acknowledged it needs \$7 billion to \$10 billion. The company says it can keep costs down by using "off the shelf" systems and components, modifying them for its 250- to 300-passenger Z4 aircraft. For example, it's using a flight control system originally designed for Gulfstream's corporate jets; landing gear from the out-of-production

McDonnell Douglas MD-11 and Boeing 757; and the out-of-production Pratt & Whitney PW2040 engine. While this might be acceptable for a functional demonstrator, it will not be acceptable for a certifiable prototype or a serial production aircraft.

The engine may be especially problematic. In 2017, the global agency International Civil Aviation Organization (ICAO) adopted emission and noise standards that have been validated by governments across the globe. Anything that doesn't meet these standards can't be produced after 2027.

The PW2040 requires major upgrading to comply. Pratt & Whitney dodged a question by LNA about whether the 1970s technology engine can be upgraded to comply with emission standards. "We continue to be engaged with JetZero as the future of the technology and platform evolve," a spokesman said.

So, LNA asked engine experts and an OEM at the Paris Air Show in June if the required upgrade is feasible.

Broadly speaking the responses could be characterized as follows: "In theory, yes, it can be done. In practice, it would be hard and costly. The limiting factors, which, if change were necessary, would push the costs sky high, are the dimensions, proportions, and features of the casings and discs. In other words, if you don't change these, then you are limited in what you can do with the aero features of the compressors, combustion, and turbine in order to achieve your design goals," was a representative response. "It is not simply a case of putting 3D aero, new materials, latest technology combustor design, etc., into the existing envelope of the engine."

The cost might be prohibitive. The true market potential is also a question.

JetZero wants to have a full-size demonstrator BWB flying in 2027 and entry into service of the Z4 in the early 2030s. LNA believes these dates are highly ambitious, given the lack of money, certification hurdles, technical challenges, and other issues.

5. The GE, NASA, and Boeing Hybrid-electrics

The project began as a GE project to develop a hybrid-electric powertrain. In 2021, NASA joined, and a year later, Aurora Flight Sciences,



Boeing's alternative propulsion subsidiary, was chosen to integrate the hybrid powerplant into a Saab 340 twin turboprop.

The GE project aimed to develop a megawatt-class hybrid-electric system for use in airliners. The large electric motor was a major development, but it requires a range of equally challenging peripherals to function most effectively.

When an electric motor in the megawatt class (1,340 shp) is used in an aircraft, you need to run the motor and its systems at the highest possible voltage to reduce the currents flowing around the system.

The practical upper limit, where arcing and other issues can be avoided, is around 1,000 volts. If the hybrid system is designed to operate at 1,000 volts, the current flowing through the system at full electric-motor power remains 1,000 amps per side of the aircraft, which is very high.

The challenge is not only designing the motor for such voltages and currents, but also the surrounding electronics, including electric contactors, cabling, a solid-state motor inverter (which converts the battery power into alternating current for the motor), and the battery management system.

GE's long-term development of an airplane hybrid system received development support from NASA in 2021. Boeing joined the project when its Aurora Flight Sciences subsidiary was chosen as the system integrator for the GE-owned Saab 340.

While a megawatt electrical motor with systems is high power in the electric motor world, it's not high power in the airliner engine space. The Saab 340 GE CT7-9 engines develop 1.3



megawatts, and the Swedish aircraft is a 30-seater. By comparison, the 170-seat Airbus A320neo or Boeing 737 Max has two engines that develop 15 megawatts each.

In car hybrids, the electric motor drives the car up to a speed at which the thermal engine kicks in. It's not the case for aircraft. You can taxi on the ground using the electric motor in a parallel hybrid, such as the GE one, but for takeoff and climb, the thermal engine needs to bear the brunt of the required power.

The problem for aircraft hybrids is not the hybrid system and its motor; it's the energy source needed to feed the motor, the battery. If we use the megawatt motors of the Saab 340 for takeoff and climb in a typical mission, we will need a battery that lasts at least 20 minutes. Based on technology available this side of 2030, the battery systems would weigh around 3 tonnes, and potentially around 2.5 tonnes in the next decade.

The three tonnes of batteries and probably a further one tonne of motors, gearboxes, and electronics for the hybrid system indicate why the hybrids being considered today are mild hybrids, where the electric motor, its system, and battery load the aircraft with less additional weight. The mild hybrid will boost the airplane's thermal engines rather than complement or replace them.

Aircraft engines have a generator on their auxiliary gearboxes, together with hydraulic and fuel pumps. It's easy and convenient to turn this generator into a motor/generator and to use it for engine boost during takeoff. It will reduce the extra weight of the motor, especially the battery, which is the component that is the primary culprit in hybrid-electric systems for aircraft.

The system components developed by GE shall be seen in this context, where these can be used in a mild hybrid in the next-generation engine, such as the CFM RISE. ■

Since July, **Leeham News and Analysis (LNA)**—the premier source for in-depth aerospace and airline industry insights—has been owned by the **AIN Media Group**. Its team of highly experienced journalists and analysts continue to provide coverage of topics including airframe and engine manufacturers, the aerospace supply chain, airline fleet planning, future technology, and maintenance, repair, and overhaul.

LNA is led by Scott Hamilton, founder and managing director of the Leeham company, and aeronautical and economics analyst Bjorn Fehrm. Subscribers, who include C-suite industry leaders, have exclusive access to its expert coverage. Our news teams are increasingly collaborating on this content, making some of it available across **AIN** platforms including our FutureFlight channel and weekly newsletter and show daily publications.

The Leeham Co. LLC and Leeham Consulting businesses remain independently owned and operated.



Through an agreement with Shell Aviation, Jetex now offers sustainable aviation fuel at Al Maktoum.

Jetex is exclusive SAF supplier at Dubai show

By Hanneke Weitering

Dubai-based business aviation services group Jetex will be the exclusive ground handler and sustainable aviation fuel (SAF) supplier at the 2025 Dubai Airshow. In addition to providing SAF for aircraft exhibiting on the show's static display, Jetex is servicing aircraft with electric and propane-powered ground support equipment to further curb emissions.

Sustainability and innovation are at the top of the agenda for this year's edition of the biennial Dubai Airshow, with a conference lineup "built to spark ideas, tackle industry shifts, and accelerate progress," according to event organizer Informa.

"Dubai Airshow serves as a platform to inspire a new chapter in sustainable aerospace, uniting the global industry to deliver real-world solutions for a net-zero future," said Timothy Hawes, managing director at Informa Markets.

"Our collaboration with Jetex...sets a new benchmark for major aerospace events by significantly reducing emissions across the show," he added. "This partnership demonstrates the impact that can be achieved when industry leaders join forces to drive meaningful action and shape the future of responsible event operations."

The Dubai Airshow exhibition center, chalets, and conference stages are entirely powered by renewable energy, and the show is using recycled and environmentally friendly materials for event merchandise such as lanyards, badge holders, and bags, according to Informa.

A two-day sustainability track at the Aerospace 2050 stage will bring together industry global experts to discuss SAF mandates, costs, and scalability, along with other sustainability topics such as non-CO₂ emissions, hydrogen power, and "green" airport infrastructure.

"Our environment strategy focuses on reducing carbon emissions, recycling, and adapting the latest green technologies across the global network, and we are pleased to be able to supply it at the Dubai Airshow," said Jetex founder and CEO Adel Mardini.

Jetex opened its FBO terminal at Dubai's Al Maktoum International Airport (OMDW) in 2016, and it became the first company to offer SAF for private aviation customers in the UAE in 2023 after partnering with Shell Aviation. Shortly thereafter, Jetex opened a new FBO at Al Bateen Executive Airport (OMAD) in Abu Dhabi, the UAE's capital.

Last December, Jetex announced plans to open an FBO at Red Sea International Airport (OERS) in Saudi Arabia, marking its first FBO in the country. In January, it signed an agreement with Uzbekistan's Ministry of Transport to establish the country's first FBO.

Jetex has also signed a deal with California-based eVTOL developer Joby Aviation to install the latter's electric aircraft chargers at its FBOs. At the MEBAA show last December, the companies announced initial plans to install Joby's Global Electric Aviation Charging System next to Jetex's private terminals at OMDW and OMAD. Joby, which is exhibiting at the Dubai Airshow, intends to launch electric air taxi services in the UAE next year, pending regulatory approval. ■

Gama readies new Sharjah FBO for early 2026 debut

Gama Aviation is near completion of its new \$65 million business aviation center at the UAE's Sharjah International Airport (OMSJ)—a facility it believes will establish a benchmark for private aviation services in the Middle East and beyond.

Sharjah is the birthplace of aviation in the UAE, home to the country's first established airfield in 1932. While Gama has been providing business aviation ground handling services in the emirate for more than a decade, its new facility—scheduled to open early next year—will include a 21,500-sq-ft, two-story terminal.

Among its slated amenities: onsite immigration and customs services; a luxurious main lounge; private lounges with dedicated entertainment systems, business facilities, and staff attendants; a relaxation area with recliners and ambient lighting; and a cigar bar. Upstairs, an observation bar overlooks the ramp. For crews, it will offer a lounge facing the ramp for preflight briefings and planning, sleep rooms, shower facilities, 24-hour on-demand catering and refreshments for aircrew, and priority parking adjacent to the terminal.

The complex will also offer a 130,000-sq-ft hangar for Gama's line maintenance operations and secure aircraft shelter.

With no slot restrictions, uncongested airspace, and a half-hour drive to downtown Dubai, Gama's services at OMSJ have experienced sustained growth.

"We are not building this facility to meet expectations, we are designing it to exceed them," said Tom Murphy, the company's managing director of FBO services. "Every detail, from terminal flow to hangar layout, has been created around the client experience: faster transitions, greater privacy, and service excellence that defines the next chapter of Gama Aviation's story."

C.E.

AMAC broadens its Saudi MRO credentials

By Charles Alcock

Saudi Arabia's General Authority of Civil Aviation (GACA) has extended AMAC Aerospace's approval to work on aircraft registered in that country. The updated maintenance, repair, and overhaul (MRO) certification announced today includes new ratings for the Bombardier Challenger CL-600-2B16 aircraft and General Electric's CF34-3B engine.

AMAC's GACA approval already covers multiple aircraft types, including Bombardier's Global Express and the Gulfstream models GII, GIV, GV, G450, and G350. Its portfolio also spans the Boeing 737s, plus the Airbus A320 family, the A330, A310, and A340.

The group recently inaugurated a purpose-built engineering center as part of its headquarters in Basel, Switzerland. The new three-floor structure covers 44,130 sq ft, providing dedicated space for multiple disciplines, including mechanical design for stress and structures, systems, cabinets, production engineering, avionics and electrical engineering, technical documentation, and airworthiness.

With more than 160 engineers based onsite, AMAC lays claim to being one of the largest aviation engineering departments in Europe, supporting both airliners and business aircraft, up to the size of a Boeing 747. So far this year, the team has delivered more than 160 approved modifications and has more than 50 projects underway. The scope of work spans supplement type certificate changes, including installations of satellite communications antennas and cabin interior outfitting.

Earlier this year, AMAC Aerospace expanded its capabilities with the acquisition of Kreative Engineering Services. The French company, which operates as a stand-alone entity, joined the group in May, bringing expertise in aircraft cabin components.

Just over a year ago, AMAC's other French

subsidiary, JCB Aero, launched its MRO operations and has since completed 24 projects with various Airbus aircraft. The facility at Auch near Toulouse is now preparing to add the Boeing 737 to its capabilities.

JCB's core speciality is design, engineering, and production for luxury aircraft cabins, with particular expertise in composite and carbon fiber materials. Much of its work in this area over the past 12 months has involved first- and business-class interiors.

In Turkey, AMAC's facility in Istanbul has reported record levels of activity in 2025, with more than 400 projects completed. There has been a strong emphasis on supporting Dassault Falcon business jets, with 15 of the new 6X supported, as well as multiple 7X and 8X models. The team has also conducted eight C-checks and a full repainting with a new livery for a Falcon 2000.

AMAC also supports owners of Bombardier's Global and Challenger business jets, mainly in the 52,204-sq-ft hangar in Basel that it has dedicated to midsized business jets. It recently performed a 120-month inspection on an aircraft, taking the opportunity to also implement a full cabin refurbishment with new wood, seats, and soft materials.

The group has been active in installing

connectivity solutions, including the Gogo Galileo and Starlink systems, with the new Gogo FDX platform to be available soon. It has handled more than 40 Ka-band installations on multiple Airbus and Boeing aircraft and plans to add further types to its service offering in 2026.

Another growth activity at AMAC is its role in pre-purchase inspections for customers buying aircraft. So far this year, the company's technical specialists have inspected 11 Bombardier models, a trio of Gulfstreams, and an Airbus jet.

AMAC's IT subsidiary Gamit has announced a new version of its Records Online Asset Management (ROAM) system, which is widely used by airlines including SAS, Transavia France, Portugalia, and Condor. According to the UK-based company, ROAM V2 includes multiple new features, including an enhanced artificial intelligence search engine, binder automation, new dashboards, handwriting recognition, mobile upload support, and dynamic component tracking.

Gamit, which supports MRO providers and aircraft owners, reported a 32% increase in the volume of its business this year. Much of the growth came from increasing its logistics and material supplies capabilities for multiple Airbus and Boeing jets.

This year, AMAC has boosted the role of its Parts & Services team to ensure it is responsive to operators worldwide. In the first 10 months of 2025, it shipped parts for more than 150 AOG situations, in addition to handling routine requests. ■



AMAC's expanded GACA approval covers the Challenger CL-600-2B16 and CF34-3B engine.

Black Hawk tackles high-rise blazes

By David Donald

The proliferation of high-rise buildings throughout the UAE has increased the challenges faced by emergency services in tackling blazes that could occur far above street level. One system that has considerable potential in this situation is the SkyCannon, a system developed by aerial firefighting experts Dart Aerospace.

SkyCannon was developed specifically for use in high-rise fire situations and has been adapted for use on the Airbus Helicopters H225, Avicopter AC313, and Sikorsky S-70/H-60. The latter is being tested by the UAE Joint Aviation Command aboard a UH-60L Black Hawk for potential use throughout the Emirates.

In the H-60 application, the system comprises

an 850-gallon water tank and a 50-gallon foam tank. The water can be rapidly replenished from any body of water by a drop-down refill hose that pumps water into the tank, or it can be replenished from a fire truck. The whole standalone system can be installed or removed in around 30 minutes. However, it does require a “clean” helicopter with any weapon carriage systems removed.

While it has a traditional gravity water drop system, the SkyCannon’s main feature is a 25-foot cannon on the starboard side, with the nozzle outside of the main rotor disk to avoid rotor downwash. Deployed when in the hover, the cannon produces a directed

low-pressure, high-volume jet of water out to 130 feet. Carried facing forward in transit for minimum drag, the cannon can be aimed across a 110-degree arc on the starboard side and can traverse downwards through 30 degrees of elevation.

First revealed at the IDEX show in Abu Dhabi last February, the UH-60L system has been under evaluation by the JAC for three years, and it has demonstrated its ability to cool down an area in preparation for the arrival of ground crews, in addition to directly attacking fires. The UAE plans to have a number of “clean” UH-60s stationed throughout the country, ready to be fitted with the SkyCannon. ■



DAVID DONALD

The SkyCannon is a standalone system that incorporates tank, pumps, refill hose, and water cannon in a single roll-on, roll-off installation that can be fitted in a Black Hawk cabin in around 30 minutes.

Colombia signs \$3.6B contract for Saab aircraft

Having stated in April that it planned to acquire an unspecified number of Saab Gripen E/Fs, the Colombian government signed a contract for 17 aircraft on November 14. The deal, valued at €3.1 billion (\$3.6 billion), covers 15 Gripen E single-seaters and two Gripen F two-seaters, plus associated equipment, training, weapons, and services. Deliveries are scheduled to begin next year and run to 2032.

Colombia’s President Gustavo Petro announced the deal during a visit to a military base. A contract signing ceremony took place in Cali and was attended by Benjamin Dousa, Sweden’s minister for international development cooperation and foreign trade. The two governments also signed a pair of offset agreements covering various military and so-

cial projects, such as sustainable energy, water purification, cybersecurity, and aeronautics.

Colombia’s Gripen contract marks the end of a long-running effort to find a modern replacement for the IAI Kfir, which has been in service with the Fuerza Aérea Colombiana since 1989. In 2022, Colombia announced that it was contemplating the Dassault Rafale, while refurbished Lockheed Martin F-16s have also been on the table.

For Saab and its Brazilian development/industrial partner Embraer, the Colombian deal represents a second customer for the two-seat Gripen F. The first test aircraft is in final assembly at Saab’s Linköping facility, alongside two other aircraft on the production line. Delivery to the flight test depart-

ment in Sweden is scheduled for 2026.

Brazil is the lead customer, with Embraer and partners playing major roles in the two-seater’s development program. The air force has just completed in-flight refueling certification flights for the Gripen E single-seater with the Embraer KC-390 tanker. Sweden’s military aviation authority will review verification evidence as part of the Gripen E’s certification, which will be followed by approval from the Brazilian air force’s certification authority. **D.D.**



September 4, 2025
Thursday

AINalerts



WingX: August Bizjet Activity in Record Territory

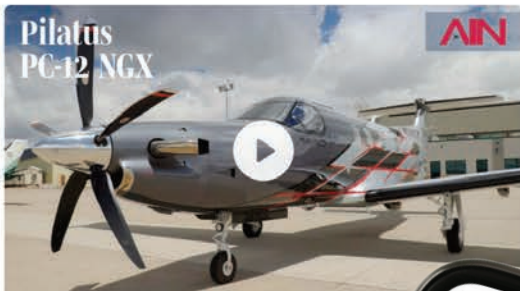
Global business jet activity last month marked the busiest August in nearly two decades, according to the latest statistics from industry data provider WingX, which began compiling such utilization data in 2006. The 327,745 flights worldwide in August represented 5%, 3%, and 30% increases from the same months in 2024, 2022, and 2019, respectively.

[Read more](#)

GE Aero Invests \$300M in Beta's Hybrid-electric Plans

GE Aerospace and Beta Technologies have begun work to jointly develop a hybrid-electric turbogenerator to power various military and civil aircraft. Under the terms of a strategic partnership announced today, GE is making a \$300 million equity investment in Beta, which is developing the CX300 and Alia 250 electric aircraft.

[Read more](#)



Flying the Pilatus PC-12 NGX over the Mountains of Colorado

AIN editor-in-chief Matt Thurber visited Pilatus U.S. headquarters in Broomfield, Colorado, where he had the opportunity to fly the PC-12 NGX. Pilot Gerard Lambe planned a flight from the airport to the Metropolitan Airport (KBJG) to show the relatively short flight for the PC-12 NGX.

[Watch video](#)

UPCOMING EVENTS
AIRPORT
GUAN
MIT 20

AINalerts

THE DAILY INFORMATION THAT AVIATION LEADERS RELY ON

AINalerts delivers the news and intelligence that directors of aviation, chief pilots, flight department leaders, OEMs, MROs, and industry executives need to stay ahead. Trusted reporting, exclusive analysis—delivered straight to your inbox Monday through Friday.

SUBSCRIBE TODAY FOR FREE

To subscribe, please scan the QR code, visit ainonline.com/subscribe, or email subscriptions@ainonline.com.



ainonline.com

AIN Media Group



Two Falcon bizjets shine on display in Dubai

By Matt Thurber

Dassault brought two of its latest-model business jets to the Dubai Airshow: the 6X with the largest cabin cross-section of any purpose-built business jet, and the 8X, the longest-range Falcon until the 10X enters service. The twin-engine 6X's cabin measures 6.5 feet high and 8.5 feet wide, and cabin volume is 1,843 cu ft.

Taking advantage of its in-house flight control design and manufacturing capabilities, Dassault incorporated flaperon functionality, enabling the jet's fly-by-wire lift-over-drag augmentation, which improves steep approach visibility, control, and comfort. While the 6X is a large airplane, it carries on the trademark Falcon handling characteristics that pilots have come to appreciate.

Dual FalconEye head-up display (HUD) systems are now available in the 6X as well as the 8X and feature Dassault's combined vision system, which places synthetic and enhanced vision imagery on the HUD simultaneously. This helps pilots see ground and airport features through inclement weather with multi-spectral enhanced vision, while terrain and other obstacles around and behind the airport are shown with synthetic vision. With FalconEye, pilots can descend to 100 feet before switching to natural vision to acquire the airport environment and complete the landing.

The latest Honeywell EASy IV avionics suite in the 6X and 8X series includes 2D and 3D airport moving maps to enhance pilots'

situational awareness on the ground, particularly at complex airports.

Since the 6X entered service nearly two years ago, more than 20 have been delivered, and they have logged more than 5,000 flight hours and 2,500 flights. Maximum range is 5,500 nm, and some flights have been more than 12 hours in duration. The 6X is powered by two Pratt & Whitney PW812D turbofans.

Other recent approvals for the 6X include steep approach certification for London City and other airports with non-standard approach angles, and approval of a Class 1 crew rest area. High-altitude airport capabilities have also been certified to 14,000 feet following summer testing at La Paz, Bolivia, where the airport elevation is 13,325 feet.

The three-engine Falcon 8X can fly 6,450 nm and has demonstrated its short-field capability with a coast-to-coast flight from Santa Monica, California's 3,500-foot runway to Teterboro near New York City.

SpaceX's Starlink low-earth-orbit, high-speed satellite communications system is now available on the 8X, along with geostationary orbit airborne connectivity systems.

To support the growing Falcon fleet, Dassault has added more mobile service teams in North America. It also opened a 250,000-sq-ft service center in Melbourne, Florida, in October and has prepared its Dubai-based ExecuJet MRO service center to accommodate the 10X when it enters service in 2027.

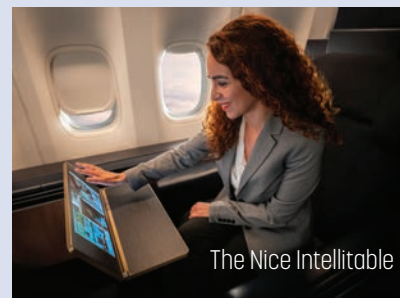
Lufthansa unveils 'smart' tray table

Lufthansa Technik is demonstrating a miniaturized version of its Hidden Touch Display incorporated into a folding tray table at its Dubai Airshow exhibit. The Nice Intellitable is a high-definition touch-screen blended into the haptic surface of cabin fixtures such as tray tables.

The Hidden Touch Display can be incorporated into various surface materials, such as wood, carbon fiber, and metal, allowing haptic controls to be used when needed while remaining unobtrusive. When switched off, it is resistant to spills and physical contact. "The [haptic surface's] smart and intuitive display functions only appear on the passenger's request and just as seamlessly vanish into the tray table's thin foldable surface when no longer needed," according to Lufthansa Technik.

At the Dubai Airshow, visitors will have the opportunity to explore the Nice Intellitable's various functions, including flight information with a moving map, seat adjustment controls, food and beverage options with a built-in ordering system, music and video players, and a digital magazine flipbook. The smart surface can be switched off or minimized.

"Sometimes, there seems to be a disconnect between how airlines and VIP operators design their control solutions, and how their passengers actually interact with the cabin environment," said Andrew Muirhead, Lufthansa Technik v-p of original equipment and special aircraft services. "To get rid of traditional control interfaces, which sometimes can feel bulky and outdated, we are permanently rethinking how technology integrates with interior design, creating more cohesive and natural interactions." **M.T.**



The Nice Intellitable

Junkers' corrugated classics are reborn for a new era

By Charles Alcock

The century-old Junkers aviation brand is back in vogue with new versions of the German company's iconic light aircraft now in production. Junkers Aircraft has come to the Dubai Airshow from its home in the Black Forest region to display an eye-catching A60 two-seater featuring a modern rework of its corrugated metal airframe.

While the A60 on display features side-by-side seating, Junkers also offers an A50 model in which the pilot sits in front of a passenger in tandem mode. The company offers a "Heritage" version of the A50 that is even closer



Junkers Aircraft shows off an A60 two-seater with a reworked airframe.

DAVID MCINTOSH

to the oval fuselage cross-section of the 1929 model, featuring a distinctive 124-hp Verner Scarlett 7U radial engine.

According to Junkers, aviation enthusiasts can now benefit from the modern technology incorporated into the new versions, while retaining the old-school look. Safety features include a Garmin avionics suite with G3X touchscreen displays in the cockpit, Beringer brakes, and a Galaxy whole-aircraft parachute rescue system.

Apart from the A50 Heritage model, the A60 and the other reborn Junkers aircraft are

powered by Rotax 912 engines with power ratings of 100 or 130 horsepower. The A60 has a maximum speed of 112 knots and a cruise speed of 86 knots.

The Junkers team crafts each aircraft by hand, a task that requires 2,500 person-hours. The process involves milling, pressing, and assembling more than 1,000 pieces and more than 10,000 rivets.

Hugo Junkers founded the original company in 1895 to make thermal and heating equipment before designing his first aircraft, the Junkers J1, in 1915. He was a pioneer in switching aircraft production to metal, conceiving the corrugated shape to make the thin airframe panels more rigid.

In the 1920s, what was then the Junkers Flugzeugwerke company developed early airliners. In 1933, its founder was forced to hand over the company, without compensation, to the Reich Aviation Ministry and was banned from his own factories. In 2015, Dieter Morszeck founded the new Junkers Aircraft company in Switzerland. It flew the first A50 model in 2021.

Customers have several choices to make when specifying their aircraft, such as whether to retain the original open-air Cabriolet cockpit or have a canopy. They can also specify the color of the fuselage and opt for accessories such as a baggage compartment.

According to Junkers, its customer base includes retired commercial airline pilots seeking a more authentic flying experience. ■



DAVID DONALD

A golden touch transforms UAE's military airlifter

On show as part of the combined UAE Air Force and Joint Air Command static display is this eye-catching "gold" Boeing C-17A, one of eight originally acquired by the Air Force. Whereas most wear the standard all-over gray scheme applied to U.S. Air Force C-17s and the majority of export aircraft, this example sports an eye-catching new scheme with gold titling. The scheme is redolent of early Etihad airline colors. The aircraft has been spotted at a number of international locations since late spring.



Italian designer Mirco Pecorari is the master-mind behind the striking new color scheme for the L-15s.

UAE Knights

► continued from page 1

including a smoke dye system with a ventral tank for colorful displays.

They are resplendent in a new scheme devised by renowned Italian designer Mirco Pecorari, who previously worked with teams including the Royal Jordanian Falcons and the Italian Frecce Tricolori. He also devised the scheme worn by Al Fursan's earlier MB-339NATs.

Pecorari describes the L-15 itself as a "very beautiful airplane with nice proportions" and an ideal starting canvas for the scheme. An initial scheme focusing on the concept of horses, representing the team's "Knights" association, evolved into the fully developed linear version. Undulating lines encompassing the L-15's fuselage follow the aircraft's natural contours, with the seven interwoven bands

of gold representing the seven Emirates. The addition of a national flag on the underside of the aircraft provides a contrast while reflecting the team's national pride and mission. A paint scheme is "a purposeful tool to explain a concept you cannot describe in another way," Pecorari added.

From conception to completion, the project took around two years. After an initial design proposal was submitted, team representatives traveled to Italy, where 3D renderings helped convey the concept to the team commander. Augmented-reality goggles were also employed to project the proposed scheme onto a real aircraft in Al Ain. Alongside collaboration with the military, the team itself worked closely with Pecorari to refine operational considerations. This included the need for various visual reference points when flying in formation, meaning that certain lines could not be too narrow. ■

Dnata rolls in support vehicles for airshow

Ground handling and services provider Dnata is helping keep the Dubai Airshow moving with on-ground support at the Dubai World Central (DWC) event. This includes supplying a fleet of 111 motorized assets, including pushback tractors, ground power units, and passenger steps.

Supporting the event involves extensive cooperation behind the scenes, with Dnata required to move equipment between DWC and Dubai's main airport, DXB. "There's an entire choreography behind every aircraft movement," explained Dnata UAE airport operations divisional senior v-p Jaffar Dawood.

"It's about precise coordination between our ground handling, logistics, and technical teams," he added.

Alongside conventionally-powered equipment, 14 Dnata assets are dedicated to the show's sustainability display. These include a TLD TPX-100-E electric towbarless aircraft tractor, Oshkosh AeroTech Commander 15i electric loader, and TLD ABS-580-E passenger step, alongside an Aviramp Continental solar-powered passenger boarding ramp. Further examples undergoing live trials are represented, including an aircraft docking system being tailored specifically for the Airbus A380. **C.A.**

AIN DUBAI AIRSHOW NEWS

JAMES HOLAHAN (1921-2015), FOUNDING EDITOR
WILSON S. LEACH, FOUNDER & CHAIR EMERITUS

EDITOR-IN-CHIEF – Matt Thurber

MANAGING EDITOR – Charles Alcock

PRESS ROOM MANAGING EDITOR – Hanneke Weitering

PRESS ROOM EDITOR – Jessica Reed

THE EDITORIAL TEAM - Charlotte Bailey, David Donald, Curt Epstein, Kerry Lynch, Peter Shaw-Smith, Amy Wilder

PRODUCTION MANAGER – Martha Jercinovich

GRAPHIC DESIGNERS – Grzegorz Rzekos

PHOTOGRAPHERS – David McIntosh

DIRECTOR OF VIDEO – Ian Whelan

EXECUTIVE CHAIR – Dave Leach

PRESIDENT – Ruben Kempeneer

HEAD OF PEOPLE & BRAND – Jennifer Leach English

SENIOR DIRECTOR EVENTS – Nancy O'Brien

ADVERTISING SALES

DIRECTOR OF SALES - Henry Specht

Victoria Tod – Northeastern U.S./Eastern Canada/United Kingdom, +1 (203) 733-4184

Michelle James – Western U.S./Western Canada, +1 (520) 343-0236

Joe Rosone – Midwestern U.S., Southeastern U.S./Caribbean/Brazil, +1 (301) 693-4687

Diana Scogna – Europe/Middle East, +33 6 62 52 25 47

DIRECTOR MARKETING AND CLIENT SERVICES – Lisa Valladares

AUDIENCE DEVELOPMENT DIRECTOR – Eileen Silberfeld

SOCIAL MEDIA MARKETING – Zach O'Brien

SALES ADMINISTRATOR – Cindy Nesline

MANAGER OF FINANCE & HUMAN RESOURCES – Tracy Britton

ACCOUNTS PAYABLE – Mary Avella

ACCOUNTS RECEIVABLE – Bobbie Bing

U.S. HEADQUARTERS:

214 Franklin Ave., Midland Park, NJ 07432,
+1 (201) 444-5075

Advertising Inquiries: +1 (201) 345-0085,
adsales@ainonline.com

Circulation Inquiries: +1 (201) 345-0085,
subscriptions@ainonline.com

WASHINGTON, D.C. EDITORIAL OFFICE:

Kerry Lynch (business aviation) – klynch@ainonline.com
+1 (703) 969-9195

EUROPEAN EDITORIAL OFFICE:

Charles Alcock – calcock@ainonline.com,
Tel: +44 7799 907595

Dubai Airshow News is a publication of the AIN Media Group, Inc., 214 Franklin Ave., Midland Park, NJ 07432; Tel.: +1 (201) 444-5075. Copyright ©2025 All rights reserved. Reproduction in whole or in part without permission of AIN Media Group, Inc. is strictly prohibited. AIN Media Group, Inc. publishes **Aviation International News**, **AINonline.com**, **AINalerts**, **AircraftPost.com**, **BJTonline.com**, **BJTwaypoints**, **EBACE Convention News**, **Farnborough Airshow News**, **FutureFlight** newsletter, **HAI Convention News**, **Leeham News and Analysis**, **MEBAA Convention News**, **NBAA Convention News**, **Paris Airshow News**, **Singapore Airshow News**.

CONFIDENT FLEET CHOICES START WITH LEEHAM



Leeham's Aircraft Performance & Cost Model (APCM) delivers the unbiased insights you need to make smarter decisions across every major expense — from aircraft purchase to fuel and maintenance

LEEHAM
COMPANY LLC
Data-Driven Insights

**Plan Your
Fleet Strategy:**



YOUR WORLD IS ABOUT TO EXPAND.



Work productively and relax peacefully in today's tallest, widest business cabin. It's ultra-bright and whisper-quiet. Travel long-range with state-of-the-art technology and Sustainable Aviation Fuel. **Falcon 6X. Your world expanded.**

Falcon 6X

WWW.DASSAULTFALCON.COM | FRANCE: +33 1 47 11 88 68 | DUBAI: +971 4 299 3950

**DASSAULT
AVIATION**

THE GLOBAL LEADER

IN BUSINESS AND CIVIL AVIATION,
NEWS, ANALYSIS & DATA.



YOUR WORLD IS ABOUT TO EXPAND.



Work productively and relax peacefully in today's tallest, widest business cabin. It's ultra-bright and whisper-quiet. Travel long-range with state-of-the-art technology and Sustainable Aviation Fuel. **Falcon 6X. Your world expanded.**

Falcon 6X

WWW.DASSAULTFALCON.COM | FRANCE: +33 1 47 11 88 68 | DUBAI: +971 4 299 3950

**DASSAULT
AVIATION**