

# AVIATION TURKEY

**EBACE**

23-25 MAY 2023 | GENEVA

TEXTRON AVIATION  
TO SHOWCASE ITS  
BUSINESS JETS AT  
**EBACE2023**

**FALCON 6X: THE  
NEW STANDARD  
IN BUSINESS JET  
TRAVEL ARRIVES  
IN 2023**



**FLYING IN STYLE:  
GULFSTREAM  
BRINGS LUXURY &  
PERFORMANCE**

**CAN JETZERO  
DETHRONE  
BOEING AND  
AIRBUS?**

**WHY DO  
BUSINESS JETS  
HAVE HIGH  
MAINTENANCE  
COSTS?**

conference and exhibition

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# AVIATION TURKEY

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# content



Flying in Style:  
GULFSTREAM  
Brings Luxury and  
Performance

FALCON 10X:  
A PRIVATE  
PENTHOUSE  
IN THE SKY



Can JETZERO  
Dethrone  
BOEING and  
AIRBUS?



# nts



## 20

FALCON  
6X: The New  
Standard  
in Business  
Jet Travel  
Arrives in  
2023



## 28

Textron  
Aviation to  
Showcase its  
Business Jets



## 42

Are We in  
the Right  
Direction to  
the  
NETZERO  
Goal?



## 46

Embraer  
Executive  
Jets at  
EBACE 2023



## 41

Pilatus  
PC-12  
Fleet  
Surpasses  
Ten Million  
Flight  
Hours



## 52

GLOBAL JET  
at EBACE  
2023

# The Business Jet Market Expected to Grow in 2023

The business and private jet market has shown steady growth in recent years, driven by increasing demand for more efficient and flexible travel options for high-net-worth individuals and corporate clients. The global business jet market size reached US\$ 18.4 Billion in 2022. Significant growth in the aviation industry is one of the key factors driving the growth of the market. Furthermore, the growing preference for long-range jets for travel and tourism activities is also providing a boost to the market growth.

According to EBAA, 2022 is marked by significant changes in the trends that had been observed until then: there have been more small jet and turboprop flights, more demand for charter, less long-haul, and less private aviation. There has been a recovery in North America and Africa, but almost no activity in the East (Russia and Asia). From an economic standpoint, the decline in long-haul flights leads to a significant loss of margins for Business aviation operators, which is not compensated by the increase in short-haul activity, even if that

increase is significant. Furthermore, more demand means more competition in an already very competitive industry, with operators being pulled down into a more aggressive pricing ecosystem than ever before, affecting their revenues even further. Last but not least, the increase in activity accentuates the industry's labour shortage even further.

One key trend in the market is the growing popularity of smaller, more affordable jets, as well as shared ownership and charter models in accordance with the report of Reportlinker. These options are making private jet travel more accessible to a wider range of customers. Another important factor in the market is the increasing focus on sustainability and environmental responsibility. As customers become more conscious of their carbon footprint, there is a growing demand for cleaner and more efficient aircraft.

According to ResearchAndMarkets Various advancements, including the integration of innovative connectivity

solutions, avionics, interiors and more efficient engines in the jets, are acting as another growth-inducing factor. Original equipment manufacturers (OEMs) are replacing mechanical flight systems with lightweight virtual windows, video calling systems and inflight entertainment systems that aid in enhancing the comfort and overall travel experience for the passengers.

In line with this, the introduction of Electric Vertical Take-off and Landing (eVTOL) aircraft that has superior urban air mobility is creating a positive impact on the market growth. Other factors, including the development of vertiports and the introduction of consumer-centric business models and membership programs, are projected to drive the market further.

Despite challenges such as economic downturns, changing regulations, taxes, the arrival of new players and new technologies, the market is expected to continue its upward trajectory in the coming years. Looking forward, the analysts expect the market to reach US\$ 23.7



Billion by 2028, exhibiting a CAGR of 4.31% during 2022-2028.

Airbus Corporate Jets (ACJ) conducted a survey among senior executives of U.S. businesses with an annual revenue of over \$500 million. The study shows that 89 percent expect their organizations to increase their use of business aviation in 2023. Twenty-five percent predict it will increase by over 50 percent, while just



two percent expect it to fall, and seven percent anticipate it will not change.

When asked why they expect it to increase, 81 percent said it is because they became increasingly reliant on business aviation during the COVID-19 crisis. Sixty-six percent said it has become easier to reduce the carbon footprint of flights, and 63 percent cited continued expected problems in

the commercial aviation sector, such as flight delays and cancellations.

EBACE 2023 is Shaping the Future of On-Demand Aviation

EBACE, Europe's on-demand aircraft and advanced air mobility event is taking off at Palexpo in Geneva, Switzerland, and the Geneva International Airport from Tuesday, 23 May through Thursday, 25 May 2023.

The exhibition brings together business leaders, government officials, manufacturers, flight department personnel, avionics firms, fractional providers, charter/lease companies and all manner of people involved in nearly every aspect of business aviation.

The Innovation Pavilion will highlight the ongoing investment and development in bringing electric vertical takeoff

and landing (eVTOL) and advanced air mobility (AAM) aircraft to market, featuring nearly a dozen models from game-changing companies, including Lilium, VoltAero, Aircar, Ampaire.

Enjoy our EBACE SPECIAL ISSUE issue... [e](#)

**Ayşe Akalin**  
Editor in Chief

A handwritten signature in black ink, appearing to read 'Ayşe Akalin'.



**Flying in Style:  
GULFSTREAM Brings  
Luxury and Performance**





EBACE (European Business Aviation Convention & Exhibition) is an annual event held in Geneva, Switzerland, that brings together business aviation professionals from around the world to showcase the latest products and services in the industry. GULFSTREAM Aerospace Corporation is one of the leading manufacturers of business jets, and the company is a regular participant at EBACE.

GULFSTREAM has been a prominent exhibitor at EBACE for many years,

showcasing their latest business jet models and technologies to potential customers and industry professionals. At the event, GULFSTREAM typically displays a range of their aircraft, including the GULFSTREAM G500, G600, G650, and G700 models. GULFSTREAM also uses the event to announce new products and services and to network with other companies in the business aviation industry.

In addition to participating in the exhibition, GULFSTREAM has also



by Saffet UYANIK

used EBACE as a platform to highlight their commitment to sustainable aviation. In 2019, the company announced that they would be using Sustainable Aviation Fuel (SAF) on all flights departing from EBACE in an effort to reduce their carbon footprint and promote more sustainable aviation practices.



## GULFSTREAM G500 Unites Performance and Comfort with Revolutionary Technology

Outfitted with high-thrust engines and an aerodynamic new wing, the G500 is built for effortless takeoffs and landings. Enjoy access to short runways and high-altitude airports, coupled with increases in efficiency and reductions in emissions. The long-range G500 offers a high cruise speed of Mach 0.90, allowing fewer flight hours with longer periods between scheduled maintenance visits, higher potential aircraft value, and fresher crews.

GULFSTREAM G500 received its European Aviation Safety Agency certification in 2019, clearing the way for European Union registrations and customer deliveries. Well before the G500 entered service in September 2018, the aircraft had already proven its maturity and capabilities with a score of city-pair speed records set across the world, including Seville, Spain, to Abu Dhabi in 5 hours and 45 minutes; Geneva to Chicago in 8 hours; Doha, Qatar, to Shannon, Ireland, in just over 7 hours and 30 minutes; and

Farnborough, England, to Las Vegas in 10 hours and 20 minutes. The G500 can travel 4,400 nautical miles/8,149 kilometers at Mach 0.90 and 5,300 nm/9,816 km at Mach 0.85.

## GULFSTREAM G500 Offers Great Flexibility with Award-Winning Interior

Designed to be the quietest in business aviation, the G500 cabin provides a peaceful environment. The award-winning tall and wide G500 cabin offers interior designers great flexibility, including the option of a forward or an aft galley and an aft stateroom lit by four panoramic oval windows. With fourteen windows, the largest in business aviation, G500 offers abundant natural light and sweeping views of the world. In addition to the bespoke interior, passengers flying aboard the G500 benefit from 100% fresh, never recirculated air, industry-leading low cabin altitudes, and whisper-quiet sound levels.

The seat collection on the G500 was chosen for an International Yacht & Aviation Award for its advanced ergonomics and aesthetics that can be tailored to customers' design preferences and mission requirements.





## Safety Synchronized with Superior Sightlines

The Symmetry Flight Deck of the G500 features active control sidesticks that increase visual and tactile feedback between pilots. Ten touch-screen displays and Phase-of-Flight intelligence enhance safety, operational efficiency, and

redundancy while providing intuitive access to essential information.

G500's Enhanced Flight Vision System (EFVS) allows authorized pilots to land without natural vision in low-visibility conditions, increasing access to airports and reducing go-arounds. A Synthetic Vision-Primary Flight Display featuring 3D graphics of terrain

and runways further boosts pilots' situational awareness.

- *Introduced in 2014*
- *Designed to carry up to 19 passengers and a crew of 3*
- *Maximum range of 5,300 nautical miles (9,816 km) at Mach 0.85 or 4,400 nautical miles (8,149 km) at Mach 0.90*

- *Maximum speed of Mach 0.925*

- *Equipped with two Pratt & Whitney Canada PW814GA engines*

- *Features an all-new Symmetry Flight Deck with touch-screen displays and active control sidesticks*





## The G700 Brings the Best in the Business Together

The G700 was introduced as the new industry flagship in October 2019 with a full-scale cabin mock-up and an aircraft taxiing under its own power. The G700 delivers the most spacious, innovative, and flexible cabin in the industry and can accommodate up to five living areas with 20 panoramic oval windows, ergonomic berthable seats, and the lowest cabin altitude in the industry at 2,916 ft/889 m when flying at 41,000ft/12,497 m.

G700 is touted as being the largest business jet in its class. The dimensions make it comfortable for 19 passengers. The baggage compartment can hold up to 28 bags. The aircraft introduces many all-new interior differentiators, including an ultragalley with more than 10 feet of counter space and a crew compartment or passenger lounge; the industry's only ultra-high-definition circadian lighting system; speakerless surround sound; and a master suite with shower.

The G700 is powered by Rolls-Royce Pearl 700 engines and refined with


GULFSTREAM-designed aerodynamics and an all-new winglet. The G700 also includes the GULFSTREAM Symmetry Flight Deck with the industry's only electronically linked active control sidesticks, the most extensive use of touchscreen technology in business aviation, and GULFSTREAM's award-winning Predictive Landing Performance System. The aircraft can fly at its high-speed cruise of Mach 0.90 for 6,400 nautical miles/11,853 kilometers or at its long-range cruise of Mach 0.85 for 7,500 nm/13,890 km (subject to headwinds, high altitude, hot temperatures, or higher capacity).

GULFSTREAM G700 Amasses 25 Speed Records During World Tour G700 achieved 25 speed records on the recently

completed G700 world tour. GULFSTREAM flew two fully outfitted G700 production test aircraft to more than 20 countries across six continents to demonstrate the aircraft's performance capabilities.

Notable record runs achieved by the G700 include Savannah to Riyadh, Saudi Arabia, in 12 hours and 36 minutes at an average speed of Mach 0.90 to begin the international portion of the tour; Istanbul, Turkey, to Van Don International Airport in Vietnam, in 9 hours and 2 minutes at an average speed of Mach 0.90; Riyadh to Melbourne, Australia, in 13 hours, 39 minutes at an average speed of Mach 0.87; Christchurch, New Zealand, to Los Angeles in 12 hours, 13 minutes at an average speed of Mach 0.87. In total, the two G700

outfitted aircraft traveled 53,882 nautical miles/99,789 kilometers over more than 180 hours of flying.

- *Introduced in 2019*
- *Designed to carry up to 19 passengers and a crew of 4*
- *Maximum range of 7,500 nautical miles (13,890 km) at Mach 0.85 or 6,400 nautical miles (11,853 km) at Mach 0.90*
- *Maximum speed of Mach 0.925*
- *Equipped with two Rolls-Royce Pearl 700 engines*
- *Features an all-new Symmetry Flight Deck with touch-screen displays and active control sidesticks, as well as a new Predictive Landing Performance System* 



Tim Wood, Regional Vice President - Africa, Turkey & South Asia met with Ayse Akalin, Editor in Chief of Aviation Turkey Magazine

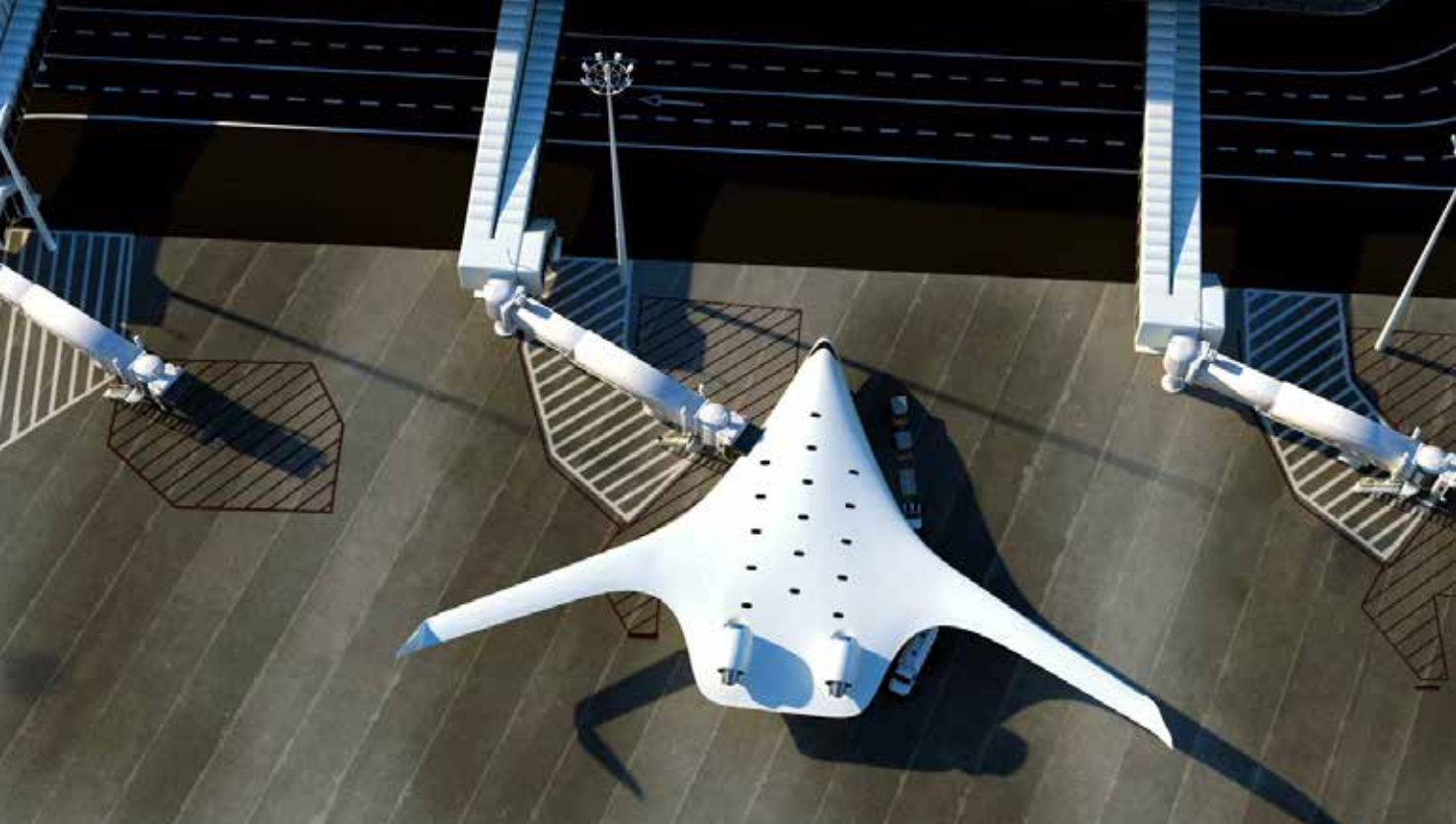
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# Can JETZERO Dethrone BOEING and AIRBUS?

California-based JetZero has unearthed its long-standing confidential work and is preparing to upset some balances in aviation. Sharing information for the first time about its blended wing aircraft, JetZero is determined that this project will not remain on paper. With its strong partnership with Northrop Grumman, JetZero says that the most important feature of its new aircraft is that it appeals to both the military and civilian markets. This multimission design can be used as a midsize commercial and military tanker-transport aircraft.

First introduced as a concept in the late 1980s and studied on and off since then, the Blended Wing Body (BWB) failed to capture the market

despite promising performance projections. However, according to JetZero, its BWB aircraft could fill a yawning gap in the midsize commercial aircraft market and could also be the answer to the U.S. Air Force's search for a similarly sized advanced tanker-transport aircraft.

Considering that Northrop Grumman is the only major manufacturer with experience in designing and producing aircraft similar to the BWB configuration, the partnership with JetZero brings even greater importance to the project.

JetZero is so ambitious that it claims it can break the duopoly effect created by Airbus and Boeing in aviation. Could this be possible?

## What are the Features of the BWB Concept?

The BWB concept is a unique design that blends the wings and airframe structure of the aircraft. The aerodynamic characteristics of the aircraft are strengthened by reducing the weight and drag while enabling the fuselage to contribute to lift. Also known as the Hybrid Wing-Body (HWB), the tailless configuration generally doesn't feature vertical stabilizers. When all these features are combined, the BWB concept becomes much more efficient than the current aircraft design, resembling a cylindrical pressurized tube with two wings added. BWBs are



by Muhammed Yilmaz  
Aeronautical Engineer

also much quieter than current aircraft because the airframe shields most of the noise from engines, which are mounted on top of the aircraft's body.

The Z-5 design, the first of the Z series aircraft family proposed by JetZero, is optimized for a range of at least 9000 km (5,000 nm) and to carry up to 250 passengers. The aircraft, which is planned to be produced entirely in composite, has a wide cabin and high aspect ratio wings. Although the wingspan of the plane is close to an Airbus A330, about 60 meters (200 ft), its overall



length is shorter than a Boeing 767. Despite its size, JetZero says the Z-5 will be nearly half the weight and require half the power of its competitor, the Boeing 767.

JetZero believes that the reduced weight and power requirements of the Z-5 family aircraft, which targets entry into service in the 2030s, will enable the Z-5 to use derivatives of existing single-aisle engines such as the CFM Leap 1 or Pratt & Whitney PW1100G. The company also aims to equip the aircraft with mostly conventional systems, thus simplifying the development and reducing cost and safety risks.

## BWB's Concept Has Disadvantages, Too!

BWB significantly increases aerodynamic efficiency as the aircraft's

body also generates lift. However, they need to make compromises to have these features.

BWBs offer limited internal volume for passengers or cargo compared to the current plane's tubular structure. This is why the aviation industry has consolidated today's aircraft design over the last 80 years. The wide interior spaces created by the blended wing design bring novel structural challenges. In other words, JetZero designers have to make this aircraft more potent than today's conventional tubular fuselage. While trying to achieve this, some of the advantages of the BWB concept are beginning to disappear.

Other technically challenging details include difficult cabin pressurization and increased unused internal space.

Of course, there is also the social dimension. Passengers may oppose traveling in an unfamiliar

aircraft from what they are used to and find it difficult to adapt. The plane probably won't have windows either. If JetZero responds to this challenge by having the entire aircraft roof equipped with windows, they will have to figure out how to manage this without structurally weakening the plane.

So, although it is a suitable concept from a military perspective, it has still doubts that it can be a preferred aircraft for the civilian market.

The Z-5 is aimed precisely at the market for the New Midsize Airplane (NMA) that was studied by Boeing until the project was shelved in 2020. Although Z-5 is expected to enter service in the mid-2030s, this possibility seems still years away, according to the available data.

A few years ago, European manufacturer Airbus announced three separate aircraft concepts that it plans to fly entirely on hydrogen by 2035 as part of the ZEROe

project and announced that one of them would be commercialized and put on the market. One of these concepts is a 200-seat BWB design. While Airbus continues its efforts to develop a completely new aircraft for the NMA category, the European manufacturer is also focusing on developing the A321XLR, a long-range variant of the A321neo designed to carry 220 passengers at a range of 8700 km (4,700 nm). The aircraft is due to enter service in 2024.

The reason for the expectation that the Z-5 will make a big leap in the near term is the U.S. Department of Defense's plan for a BWB demonstrator that is to be evaluated as a future tanker and strategic transport aircraft. The U.S. Air Force supports the project and wants to see the capabilities of the BWB, which can be converted into a tanker.

The initial goal is to develop the digital design of a prototype and





perform airworthiness and test planning with this prototype. Then continue the process by manufacturing a large-scale prototype for certification and testing.

The pivot landing gear added to the design of the aircraft is one of the most distinctive details of the concept. Enabling the entire body to be tilted up to six degrees, this detail can help address flight control and stability issues that many designers experienced in the past.

JetZero submitted its proposal for the US\$245 Million cost-sharing program at the end of March, with a goal of flight testing a NASA-supported small-scale demonstrator for this year.

JetZero says thanks to its fuel efficiency, the Z-5 can carry up to twice the fuel of the Boeing KC-46 tanker on a maximum-range mission. The aircraft was also designed to use existing airport infrastructures.

The Air Force released its first official request last year, stating that the BWB is one of the single most impactful technology opportunities for future U.S. Air Force aircraft, both in terms of capability improvement and greenhouse gas emissions reduction. Converting the cargo, tanker, and bomber fleets to a BWB design would reduce annual fuel costs by US\$1 Billion compared to kerosene at current prices.

With the U.S. Air Force and NASA behind it, the Z-5 promises much more than those set out to bring this aircraft concept to life before. Considering that Boeing and Airbus have yet to propose any concrete BWB projects, the Z-5 has become more ambitious.

The most prominent way to stay ahead in competition in the aviation industry is to evaluate efficiency and performance parameters separately and achieve success that will make a difference in both areas.

The timeline for this ambitious project seems a bit far from reality. Considering the project's financial, political, economic, and aviation regulations, it is not easy to achieve this task in such a short time. Nonetheless, it's worth getting excited about a plane that claims to be 30-50% better in every way than today's planes. Time will tell if the Z-5 will live up to expectations.

## CAN JETZERO COMPETE WITH AIRBUS AND BOEING?

Judging by the position of Airbus and Boeing in the aerospace industry, there were candidates who wanted to shake their thrones. The Brazilian Embraer stepped forward but could not resist. Bombardier experimented with C Series and developed a successful aircraft, but could not hold and had to sell it to Airbus and decided to exit the commercial aircraft

market altogether. Comac owes its existence only to the Chinese government and is still not a threat to the two giants.

It also seems complicated for JetZero to prove this claim. What makes JetZero different is that its concept also appeals to the military. Thus, JetZero believes that the possibility of developing the idea and learning from mistakes, having strong investors by your side, and finding someone to walk with when the project is commercialized will be utterly different from Bombardier, Embraer, and Comac.

We know that Lockheed has had many of these features in the past, too. However, it is also known that it could not find a place between the two giants.

The way JETZERO can break the duopoly of Airbus and Boeing in the industry may be achieved if these two giant companies do not take action during the transition to a new era. The deep crises Boeing has experienced recently and their inactive situation as a company seem to be preparing the ground for this. JetZero now has a strong partner like Northrop Grumman to seize this opportunity. But despite everything, the possibility of breaking the duopoly in the industry seems unlikely 🙄





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# **FALCON 10X: A PRIVATE PENTHOUSE IN THE SKY**



by Cem Akalin



Dassault Aviation introduced its ultra-long range, high-speed Falcon 10X Jet, which will enter service at the end of 2025, on May 6th, 2021.

The Falcon 10X is a large intercontinental business jet being developed by Dassault Aviation to compete with the Bombardier Global 7500 and the Gulfstream G700.

The Falcon 10X is expected to have a range of 7,500 NM (13,900km), a top speed of Mach 0.925, and a maximum altitude of 51,000 feet. Featuring a range of 7,500 nautical miles, the Falcon 10X will fly nonstop from New York to Shanghai, Los Angeles to Sydney, Hong Kong to New York, or Paris to Santiago. Its top speed will be Mach 0.925.

It will feature Dassault's next-generation digital flight control system, FalconEye combined vision system with dual HUDs, and a single "smart" throttle.

The Falcon 10X will be powered by the Rolls-Royce Pearl 10X engine, which is currently in development, and equipped with Honeywell's next-generation Primus Epic avionics. The Dassault Falcon 10X is powered by twin Rolls-Royce Pearl 10X engines, providing approximately 18,000 pounds of total thrust, a range of 7,500 nm (13,900 km), and a landing distance of less than 2,500 ft (762 meters).

The Falcon 10X also stands out with a different wing design. The new wing is designed for manufacturing in full carbon, capable of delivering higher efficiency

to the aircraft. At 33.6m, the wingspan is almost 8m more than on the Falcon 6X. The new wing has a sweep angle that delivers efficiency at the jet's higher cruise speeds of M0.85 and above.

The Falcon 10X has a maximum take-off weight of over 115,000 pounds, making it one of the heaviest business jets in its class. This feature permits it to carry more payload (a larger and more luxurious interior) and more fuel, enabling it to reach longer distances.

The Falcon 6X has a cabin cross-section that measures six-feet seven-inches (1.98 meters) in height and 102 inches (2.58 meters) in width, while the Falcon 10X will be six-feet, 8-inches (2.03 m) tall and nine-feet, one-inch wide (2.77 m). By comparison, the Gulfstream G700 cabin

measures 82 inches wide and six-feet three-inches (1.90 meters) tall, while the Bombardier Global 7500 is eight-feet (2.43 meters) wide and six-feet two inches (1.88 meters) high. The three jets' cabin volumes are similar, at around 2,700 cubic feet.

If we consider the maximum range of the FALCON 10X, its endurance is more than 15 hours. What does that mean? Passengers will require more interior space for the entire duration of the flight. The Falcon 10X's cabin is significantly wider and taller than that of the Falcon 6X, providing more space and comfort for passengers. The 10X is large enough to accommodate four cabin zones of equal length, but owners can configure their cabin to create a truly customized interior. This includes an expanded dining/conference area, a





dedicated entertainment area with a large-screen monitor, a private stateroom with a queen-size bed, and an enlarged master suite with a private stand-up shower. The shower is 6ft 2in with an electro chromatic window and a generous 30-minute supply of hot water.

"The 10X will feature an entirely new fuselage with extra-large windows—nearly 50 percent larger than those on the Falcon 8X. Thirty-eight windows on the fuselage will enable more-light and comfort for users in flight.

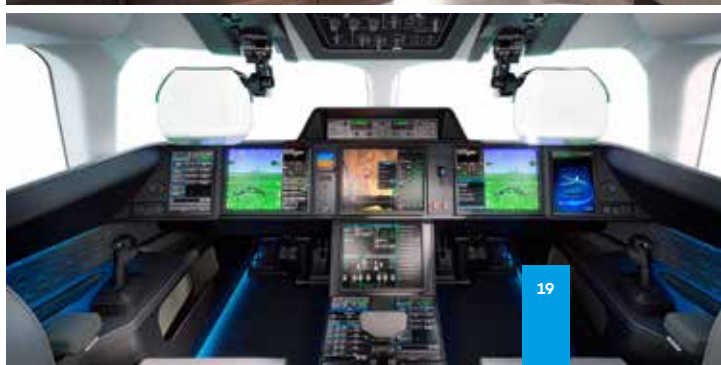
According to Dassault Aviation, pressurization will also be the best on the market, with passengers experiencing a 3,000-foot cabin pressure altitude while flying at 41,000 feet. A next-generation filtration system will provide 100 percent pure air. The aircraft will also be at least as quiet as the Falcon 8X.

In an e-bulletin released by Dassault Aviation in March, the company announced the latest information on the production process: "The production of Falcon 10X primary parts has been at full speed for many months. Fuselage structures will soon be coming together. Engineers are running test benches for electrical, hydraulic, flight control, and other systems, including

multi-system benches with all aircraft computers working together. This will achieve a high level of maturity before first flight. In Bordeaux-Mérignac, teams are gearing up to receive large structures in the final assembly hall."

Additionally, the Rolls-Royce Pearl 10X Engine test campaign is in full swing. The most powerful engine of the Pearl family has already run for more than 1,000 hours in test cells, including runs on 100 percent sustainable aviation fuel. In September 2022, Rolls-Royce announced the start of construction of a Pearl 10X production support center in Le Haillan, near Bordeaux, France. Rolls-Royce will utilize eight engines for the Pearl 10X test program, with four for ground-based evaluations and another four for flight testing. Airborne tests of the engine will begin on the company's Boeing 747-200 flying testbed in Arizona later this year. Flight testing over the testbed should take about six to nine months.

If all goes well, the final assembly of the Falcon 10X is expected to be launched in 2023, and the maiden flight is scheduled for 2024. Certification is planned for late 2025, and the Falcon 10X will enter service at the end of 2025" [↪](#)





# FALCON 6X: The New Standard in Business Jet Travel Arrives in 2023

by Cem Akalin

Dassault Aviation has officially launched the Falcon 6X in February 2018, the successor to the company's ill-fated 5X project, which was officially cancelled in December, 2017 due to persistent problems with the aircraft's Safran Silvercrest engines. The Falcon 6X will instead use Pratt & Whitney Canada PW812D series engines, each capable of producing between 13,000 – 14,000lb of thrust.

The extra-tall, extra-wide, 5,500-nautical-mile Falcon 6X successfully completed its maiden flight on March 10, 2021. Since the inaugural flight of the first prototype, several prototypes have completed over 400 flights (1,100 hours) up to March 2023.

In 2022, during the summer, one of the three flight

test aircraft underwent hot weather trials in the Tunisian desert, where temperatures reached up to 48°C. This was in contrast to the earlier cold soak trials in Canada, where temperatures dropped as low as -38°C. Within one month, the first production 6X completed a route-proving global tour covering more than 50,000 nm. It landed in more

than 50 cities across five continents, and technicians assessed over 250 reliability items. Sometimes, they even flew four or five flights in the same day. The longest leg of the tour was from Paris to Los Angeles, which took 11 hours and 25 minutes.

The Falcon 6X is powered by new-generation Pratt & Whitney PW812D engines, which in addition

to outstanding flight safety and performance will provide double digit improvements in fuel efficiency and carbon emissions. In August 2022, the aircraft's 13,500-pound-thrust Pratt & Whitney 812D engine received EASA certification and following, the FAA has certified the PW812D turbofan engine that will power Dassault's



Falcon 6X, Pratt & Whitney Canada (P&WC) on 2nd December 2022. The most advanced of the PW-800 series improves fuel efficiency and emissions by double digits versus comparable powerplants and reduces scheduled maintenance by 40 percent. The PW812D engine has shown exceptional performance during program development with more than 6,100 hours of engine testing, including 1,150+ hours of flight testing and 20,000 hours on the engine core during the test campaign. The engine is also SAF compatible up to 50 percent and has routinely flown on SAF mixtures during the Falcon 6X flight test program.

The engine delivers double-digit improvement in fuel efficiency, setting a new "green" engine standard for emissions with the advanced TALON™ X combustor, and its low-noise design and low-vibration levels will contribute to reducing cabin noise for a more comfortable passenger experience. The PW812D's advanced common core technology, employed in 16 different PurePower engine applications, has amassed more than 585,000 in-service hours. From a maintenance perspective, the PW800 engine family sets the industry standard, with 40% less scheduled maintenance than other engines in its class.



### Landing at Challenging Airports Made Possible with Non-Standard Steep Approaches up to 6 Degrees

It has the widest purpose-built business jet cabin at 2.58 m (102 in). Its 70.7 m<sup>2</sup> (761 sq ft) wing allows a 35,135 kg (77,459 lb) maximum weight with 13,460 lbf (599 kN) engines, for a 5,500 nmi (10,186 km) range at Mach 0.80 or 5,100 nm (9,445km) at Mach .85.

With an intercontinental range of 5,500 nm (10,186 km), the aircraft will fly nonstop in whisper-quiet comfort from London to Hong Kong or Los Angeles to Moscow.

With extendable leading-edge slats and trailing-edge flaps on the wings, approach speed can be as low as 109 KIAS (202 km/h) with 8 passengers, 3 crew, SL, NBAA IFR reserves, even on non-standard steep approaches up to 6 degrees. Land at London City, Lugano, Saint-Tropez, Aspen and other challenging airports.

Thanks to much more fuel capacity, The Falcon 6X is able to make a short hop to an interim airport, pick up passenger and then continue on to an overseas destination without having to refuel. This feature provides more flexibility with economic efficiency to the operators.

### Revolutionary Situational Awareness

The FalconEye combined vision system (CVS) – which most Falcon 8X customers selected – will be standard





on the 6X. FalconEye is the first Head-Up Display (HUD) to blend synthetic, database-driven terrain imaging and actual thermal and lowlight camera images into a single view, providing an unprecedented level of situational awareness to flight crews in challenging weather conditions and all phases of flight. The EFVS (Enhanced Flight Vision System) function provides operational credits for bad weather approaches with 100 ft minimums, with plans to achieve full EFVS-to-land capability in near zero/zero conditions. Dual HUD is optional on the 6X.

The 30x40 degree field of view is one of the widest angles on any HUD, ensuring full viewing coverage with 1280x1024-pixel resolution. FalconEye features a fourth-generation multi-sensor camera whose six sensors present top quality images in both the visible and infrared spectrums. Dassault's revolutionary FalconEye combined vision system will be standard on the 6X, providing enhanced safety

and situational awareness on approaches in darkness or poor weather. These images are combined with three dedicated worldwide synthetic vision databases that map terrain, obstacles, navigation, and airport and runway data. FalconEye was developed in partnership with Elbit Systems.

The Falcon 6X will also be the first Falcon equipped with the FalconScan advanced diagnostics system, which monitors and reports on 100,000 maintenance parameters.

The improved cockpit avionics package includes

the latest generation of the EASy system--EASy IV, powered by Honeywell's Primus Epic platform. EASy IV has more processing power, improving the graphics, color and crispness of displays. It includes new capabilities such as RNP instrument approaches, the ability to display traffic in the air and on the ground, airport moving maps for easier taxiing, optional SiriusXM weather and a Runway Overrun Awareness and Alerting System (ROAAS). EASy IV includes an improved controller/pilot data link communication (CPDLC) system and RDR

7000 IntuVue 3D color weather radar that provides predictive lightning and hail detection as well as 60 nm range Doppler turbulence detection. Hazardous weather and the vertical definition of thunderstorms can be seen at distances up to 320 nm.

## Cabin Space & Amenities

The Falcon 6X will set a new standard for widebody comfort, with the tallest and widest cabin in business aviation. Measuring six feet, six inches in height and eight feet, six inches in width, the 6X will be the first ultra-







widebody purpose-built business jet in the industry.

**Up to 16 Passengers;** Take a large team – there’s room enough to accommodate 12-16 passengers – with individual seating in three separate lounge areas. The extra width also means a 5-inch wider aisle compared to previous Falcons, for more elbow room and easier movement between cabin sections.

**Multiple Configurations;** Options include an extended entryway and galley, a crew rest area, and a spacious rear stateroom, affording greater privacy when desired, especially on long overnight flights. A new option since 2022 is the Falcon Privacy Suite with an electrically controlled lie-flat seat. One or more can be installed in the 6X cabin.

**Large Windows... and a Skylight;** The Falcon 6X’s extra-large windows (30 of them) both brighten the cabin naturally and provide unprecedented views, with a total of nearly 5,000 square


inches and the highest percentage of window area in its class. Plus, it features an industry-first skylight that provides additional natural light in the normally dim galley area.

**Quiet and Refreshing;** Like the Falcon 8X, the 6X will be the quietest cabin in the sky with interior sound levels below 50 dB. Cabin air is refreshed continuously and processed through hospital-grade HEPA filters to provide added protection against airborne pathogens. “Cabin altitude” pressurization is maintained at a very comfortable 3,900 feet

(1,189 m), when cruising at 41,000 feet (12,497 m). Passengers not only travel in the most comfortable conditions they arrive at their destination refreshed and ready for the day.

**Connectivity with Style;** The 6X cabin comes with high-speed connectivity system solution ensuring seamless in-flight communications and high-speed access to Internet. Connectivity service options include Ka-Band network that allows even faster and more consistent data speed. The cabin also comes equipped with new

in-flight entertainment and communications network technology designed to distribute crisp, high-definition audio and video content throughout the cabin. Dassault’s Innovative Cabin System (ICS) provides easy fingertip control of cabin environment (temperature, shades, light) plus entertainment on touch panels and personal devices. Passengers can stream audio by Bluetooth from their personal devices to earbuds or cabin speakers.

FALCON 6X is slated to enter service in mid-2023 



# Why Do Business Jets Have High Maintenance Costs?



by Muhammed Yilmaz

All aircraft, regardless of how often you use them, must undergo periodic Maintenance, Repair, and Overhaul (MRO). MRO is not only an essential aspect of the aviation industry but also a fundamental requirement for business jets.

Periodic maintenance is essential to ensure the continued airworthiness of business jets. The aircraft builders and engine manufacturers play a crucial role in this process by offering guidance to owners on periodic and preventive maintenance throughout the aircraft's operational lifespan. When business jets are handed over to their owners, they come with comprehensive maintenance instructions provided by the manufacturer, along with a prescribed timetable for performing these maintenance tasks.

Ensuring comprehensive maintenance is the

primary requirement to ensure aircraft operate at the utmost safety standards. This not only enhances passenger comfort and flight safety but also elevates the market value of the aircraft compared to similar ones. Failure to adhere to maintenance regulations renders an aircraft unairworthy and may result in legal grounding. The responsibility falls on the owner or operator of the private jet to diligently comply with maintenance requirements and ensure complete execution of the necessary maintenance procedures.

## Opting for Cheap Maintenance Is a Gamble!

Undoubtedly, the maintenance of business jets is a complex and expensive process. The costs associated with maintaining private jets can indeed be daunting for

some prospective buyers. In such cases, opting to charter a private jet can be an alternative that outweighs the decision to purchase.

Based on a general estimate, the annual maintenance cost of a private jet is typically projected to range from \$500,000 to \$1,000,000. However, it is important to note that this figure can vary depending on several factors. The age of the aircraft, the frequency of its use, and the operating conditions within destinations and routes can all impact the overall maintenance expenses.

In addition to the scheduled/routine maintenance of aircraft, there are instances where malfunctions and unforeseen maintenance expenses arise during aircraft operation. For example, repairing a flat tire alone can incur a minimum cost of \$2,500. This clearly shows us

that the maintenance and repair processes of business jets are very expensive. Yet, focusing solely on this is not meaningful. Undoubtedly, the idea of owning a business jet comes with significant maintenance and operational costs. However, it's critical to note that the maintenance bills being higher than expected can also be attributed to mistakes made by the business jet owners or operators themselves.

Private jet owners or operators may indeed seek economical maintenance solutions to minimize costs. However, it's important to recognize that there is often a trade-off between cost and safety. So, why is it expensive to have quality maintenance on airplanes? What factors should be considered when aiming to reduce maintenance expenses?

To put it straightforwardly, compromising flight



safety to save money on maintenance is an irrational decision. Aircraft owners or operators need to realize that neglecting insignificant details unrelated to airworthiness can escalate into serious problems that will incur much higher costs in the future. Some issues that are overlooked during maintenance, in an attempt to reduce expenses, may impact unexpected parts/systems and hinder the proper functioning of other systems. To summarize, pushing boundaries or disregarding important aspects to cut costs in aircraft maintenance is undeniably a gamble in terms of flight safety. While aiming to make maintenance more affordable, one may ultimately end up with a significantly higher maintenance bill.

Solving the issues during the times when the aircraft is grounded for scheduled and extensive

maintenance will provide much greater benefits in the long run rather than taking the aircraft out of flight due to minor malfunctions and issues and frequently interrupting operations for unscheduled maintenance and repairs.

At this point, it becomes extremely important for MRO service providers to find reasonable and balanced solutions for their customers' needs. For an aircraft owner or operator, having all scheduled/unscheduled maintenance services of their aircraft performed by the same provider under a comprehensive agreement can bring various advantages. This win-win relationship helps to reduce costs over time.

Flight control surfaces, control mechanisms, landing gear wheel wells, and wing trailing edges, which are extremely sensitive, can be affected very quickly

by environmental and ambient conditions, and daily weather changes. Quickly inspecting such sensitive areas, which are not required to be inspected as part of the maintenance program, can provide long-term financial peace of mind.

### **Beware of MRO Service Providers Offering Very Low Prices!**

Clear and effective communication, transparency, and clarity play critical roles in the business jet maintenance process. The teams responsible for collecting bids from different providers and preparing maintenance agreements need to pay special attention to clearly defining the maintenance tasks that should be performed on the aircraft. A lack of clarity and understanding between the aircraft owner and the MRO service provider

representatives regarding the requested work and the scope of services promised can lead to complications and result in higher maintenance bills.

The verbal discussions that are not documented between operators and MRO service providers can lead to unexpected outcomes once the aircraft enters the hangar. Issues that were not clearly defined or included in the written agreement can cause frustration for both parties and result in increased maintenance costs.

Exercising caution when evaluating man-hours rates or discounts that appear unusually low in offers from MRO service providers is crucial. It is equally important to ensure that the duration of maintenance and contingency plans for schedule deviations are clearly stated in the written agreement. Failure



to document these details can result in unforeseen expenses and higher maintenance costs.

Certainly, not all discounted offers by MRO service providers imply poor maintenance standards or hidden costs that will be incurred later. The analysis should take into account the timing and demand fluctuations in the MRO industry. During periods of low maintenance demand, it is common for MRO service providers to offer discounts when their capacity is underutilized. These discounts, offered outside of peak periods, can help reduce costs related to materials and labor in the maintenance invoice.

## Which Problems Most Commonly Cause Business Jets to Undergo Repairs?

**Bird strikes:** Aircraft sometimes do not get along well with the birds with which they have to share the sky. One of the most frequent causes for business jets to enter the hangar is bird strikes during the landing and takeoff.

Bird strikes primarily result in damage to several key areas of business jets, including the cockpit windows, trailing edges of the wings and horizontal stabilizer, as well as the propeller blades of the engines.

**Foreign Object Debris (FOD):** Since aircraft engines are very powerful, stones, bolts, or any other foreign objects on the ground can be sucked into the aircraft, causing significant or minor malfunctions. The costs associated with these incidents can vary depending on factors such as the size of the foreign object and the extent of its impact on the engine or fuselage.

**Flat Tires:** Locked brake discs can cause tires to overheat and blow out. In such cases, it is crucial to replace the tires immediately before the next flight. Tire blowouts can also occur due to brake problems, frozen discs, under- or

over-inflated tires, or deformation of the tire by a foreign object debris (FOD).

**Cabin Pressurization System Failure:** To maximize speed and fuel economy, most aircraft fly at very high altitudes. This creates the need for a pressurization system to ensure that passengers and crew can breathe comfortably in the cabin without the need for supplemental oxygen. The valve that regulates the in-cabin pressure can malfunction for various factors. In such cases, the aircraft needs to be towed to the hangar and the valve needs to be repaired to restore its functionality ➔

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# Textron Aviation to Showcase its Business Jets

**Bringing together business leaders, government officials, manufacturers, flight department personnel and all manner of people involved in nearly every aspect of business aviation the 2023 European Business Aviation Convention & Exhibition (EBACE2023) is the annual meeting place for the European business aviation community, and a premier event showcasing on-demand aircraft, advanced air mobility (AAM) vehicles and the multitude of services available to operators.**

Approximately 50 of the world's most cutting-edge business aircraft on the market, ranging from large intercontinental business jets, to smaller turbine-powered aircraft, as well as several piston engine aircraft, will be on display at the EBACE Aircraft Display at Geneva International Airport, adjacent to EBACE host facility Palexpo, will include the latest offerings from renowned

European manufacturers such as Airbus, Dassault Falcon Jet and Pilatus, as well as global aircraft manufacturers including Boeing Business Jets, Bombardier, Embraer, Gulfstream and Textron Aviation. Visitors can expect to see aircraft with longer ranges, greater fuel efficiency, and advanced avionics systems designed to improve safety, comfort, and productivity.

Innovating in the aerospace industry for more than 95 years, Textron Aviation Inc., a Textron Inc. company, has empowered its collective talent across the Beechcraft, Cessna and Hawker brands to design and deliver the best aviation experience for its customers worldwide. With a range that includes everything from business jets, turboprops, and high-performance pistons, to special mission, military trainer and defense products, Textron Aviation has the most versatile and comprehensive aviation product portfolio in the world and a workforce



by İbrahim Sünnetçi

that has produced more than half of all general aviation aircraft worldwide. Customers in more than 170 countries rely on Textron Aviation's legendary performance, reliability and versatility, along with its trusted global customer service network, for affordable and flexible flight.

## Textron Aviation 2022 & 2023 Q1 Figures

A leader in general aviation, Textron Aviation manufactures, sells and services Beechcraft and Cessna aircraft, and services the Hawker brand of business jets. The segment has two principal product lines: aircraft and aftermarket parts and services. Aircraft includes sales of business jets, turboprop aircraft, military trainer and defense aircraft and piston engine aircraft. Aftermarket parts

## ARTICLE

and services includes commercial parts sales and maintenance, inspection and repair services. Textron Aviation markets its products worldwide through its own sales force, as well as through a network of authorized independent sales representatives.

The family of jets currently offered by Textron Aviation includes the Citation M2 Gen2, Citation CJ3+, Citation CJ4 Gen2, Citation XLS Gen2, Citation Latitude and the Citation Longitude. Textron Aviation's turboprop aircraft include the Beechcraft King Air 260, King Air 360ER and King Air 360, and the Cessna Caravan, Grand Caravan EX and SkyCourier, which was certified in March 2022. In addition, Textron Aviation's military trainer and defense aircraft include the T-6 trainer, which has been used to train pilots from more than 20 countries, and the AT-6 light attack military aircraft, which achieved military type certification from the U.S. Air Force in July 2022, enabling international sales of the aircraft. Textron Aviation also offers piston engine aircraft including the Beechcraft Garon G58 and Bonanza G36, and the Cessna Skyhawk, Skylane, Turbo Skylane, and Turbo Stationair HD.

In support of its family of aircraft, Textron Aviation operates a global network of more than 20 service

centers, two of which are co-located with Bell, along with more than 300 authorized independent service centers located throughout the world. Textron Aviation-owned service centers provide customers with 24-hour service and maintenance. Textron Aviation also provides its customers with around-the-clock parts support and offers a mobile support program with over 70 mobile service units. In addition, Able Aerospace Services, Inc., a subsidiary of Textron Aviation, provides component and maintenance, repair and overhaul services in support of commercial and military fixed- and rotor-wing aircraft.

Textron Aviation have delivered more than 250,000 aircraft so far and has exceeded 150 million (more than 41 million flight hours across the globe have been accumulated by Cessna Citation jets) turbine flight hours in over 170 countries. With more than 12,000 employees building new products and supporting its customers every step of the way, the company continues to provide the industry's widest-ranging offerings and most capable service.

Textron's annual revenue for 2022 was \$12.869 Billion (%4 increase year over year) and 39.4% of this figure was realized by Textron Aviation. Textron



predicts \$14 Billion revenue for 2023. Textron Aviation is continuing to work on raising production rates as demand remains robust, despite war in Ukraine. The company saw broad-based demand across its portfolio of products, including Cessna Citation Jets, Beechcraft King Airs, Cessna Caravans and the new Cessna SkyCourier. As a result of this strong demand Textron Aviation finished the year 2022 with a backlog of \$6.4 Billion, up \$2.3 Billion from year-end 2021, as a result of orders in excess of deliveries. According to Textron Aviation CEO Ron DRAPER, this large backlog allowing them for "stability in production, stability in pricing, opportunities for customers to plan replacements and a chance to pace the

supply chain hiring needs according to the market." Textron Aviation's revenues increased \$507 Million, 11%, in 2022, compared with 2021, reflecting higher volume and mix of \$302 Million and higher pricing of \$205 Million. According to Textron 2022 Annual Report, the increase in volume and mix was largely due to higher Citation jet and aftermarket volume, partially offset by lower pre-owned volume. The higher aftermarket volume reflected increased aircraft utilization. Textron Aviation delivered 178 Citation jets (54 of which were delivered during the fourth quarter [Q4] of 2022) and 146 commercial turboprops (47 of which were delivered during Q4 of 2022) in 2022, compared with 167 Citation jets and 125 commercial turboprops in 2021.



## Textron Aviation at EBACE2023

Textron Aviation portfolio features; Cessna Citation CJ Family, with over 2,400 aircraft in service it is the most delivered business jet family in the world; Citation Latitude, the world's best-selling midsize business jet designed to feature the longest maintenance intervals in its class; Citation Longitude super midsize business jet; KING AIR Series (over 7,700 built) and CARAVAN Family (more than 2,900 delivered) aircraft, both class-leading turboprops; and the Skyhawk and Bonanza (with 200,000 deliveries) advanced piston aircraft for transport and efficient pilot training.

At EBACE2023 in Geneva Textron Aviation will display five Cessna

business jets and Beechcraft King Air 260 aircraft along with Bell 429 Helicopter (has proved popular for the corporate VIP mission in many of the most prestigious locations throughout Europe and as of March 2023 Bell has delivered more than 90 429 Helicopters in Europe) and the world's only fully certified electric powered aircraft Pipistrel Velis Electro. Based in Slovenia and acquired by Textron in March 2023, Pipistrel remains a separate brand under the Textron umbrella and continue to hire locally in Slovenia. Company manufactures a range of smaller aircraft, including ultralights and gliders to the electric-powered Velis Electro and four-seat Panthera. Pipistrel delivered first Velis Electro electric aircraft to Canada in November 2022.

According to 2023 Q1 financial results Textron Aviation's revenue rose by 10.5% to \$1.1 Billion in the first quarter (Q1) of the year, up from \$1 Billion in Q1 2022. According to Textron Aviation the increase was largely due to favourable pricing of \$58 Million and higher volume of \$51 Million, which included higher defense and aftermarket volume. Profit also increased

in the same period from \$100 Million to \$125 Million, largely due to favourable pricing, inflation and higher volume. Textron Aviation contributed \$125 Million to the \$259 Million in corporate-wide profits. Meanwhile, business jet deliveries in the quarter were down from Q1 2022, to 35 jets delivered from 39 last year, while turboprop deliveries increased from 31 to 34.



Citation Longitude



## Textron Aviation Cessna Citation Business Jets at EBACE2023

The Citation series of business jets has evolved to offer an unmatched range of capabilities, systems and options that allows customers to expand their business reach. More than 30 Citation models have been certified over the 50-year history of the Citation line. There are currently six Citation models in production: Citation M2 Gen2, Citation CJ3+, Citation CJ4 Gen2, Citation XLS Gen2, Citation Latitude and Citation Longitude. Textron Aviation delivered its 8,000th Cessna Citation business jet, a Cessna Citation Longitude, in February 2022 to Scotts Miracle-Gro, one of the world's largest marketers of branded consumer products for lawn and garden care and a long-

time Citation owner. With this delivery, the claimed that the Cessna Citation Family is the world's most popular line of business jets is once again reinforced.

According to Textron Chairman and CEO Scott DONNELLY as of April 2023 there are 7,000 Textron aircraft in service today. Europe is an important region for the company. In 2021 38% of turbine aircraft delivered on the continent—Citations, Cessna Caravans, and King Airs—came from Textron Aviation. Nowadays, Textron Aviation has more than 1,000 jets and 700 turboprops based in Europe.

The Textron Aviation business jets planned for display at EBACE2023 include; Citation Longitude, Citation Latitude, Citation CJ4 Gen2, Citation CJ3+ and Citation M2 Gen 2.

## Citation Longitude

The Cessna Citation Longitude is the flagship aircraft of the Cessna Citation Family. Announced in 2012, the Longitude made its first flight in 2016 and obtained certification in 2018. Deliveries of the Longitude began in early 2019.

Designed, produced and delivered by Textron Aviation Inc., the Cessna Citation Longitude super-midsize business jet achieved certification from the European Aviation Safety Agency (EASA) in July 2021. The EASA certification cleared the way for customer deliveries to begin in the Europe. Textron Aviation has showcased its super-midsize Citation Longitude business jet for the first time at EBACE in May 2018 before starting Federal Aviation Administration (FAA) type certification.

The largest jet in the Cessna Citation lineup, the Longitude was designed with business and return on investment at the forefront, with the lowest direct operating cost of any super-midsize jet. Capable of flying from Geneva to Dubai or Rome to New Delhi, the Longitude offers class-leading comfort, the quietest cabin in class, and advanced connectivity for those focused on staying

productive in the air. As a clean-sheet aircraft, the Longitude was designed with innovation front of mind, and a cabin experience shaped around customer input and a broad range of mission capabilities.

With a range of 3,500 nautical miles (6,482 kilometers) and full fuel payload of 1,600 pounds (726 kilograms), the Citation Longitude is designed to elevate passenger expectations in the super-midsize class by delivering a quiet cabin, a low cabin altitude (5,950 feet/1,814 meters), more standard features and a comfortable, bespoke interior. With seating for up to 12 passengers, including an optional crew jump seat, the Longitude features a stand-up, 6-foot tall flat-floor cabin. A standard double-club configuration delivers the most legroom in the super-midsize class. Fully berthable seats are designed and manufactured in-house and a class-leading walk-in baggage compartment is accessible throughout the entire flight. State-of-the-art cabin technology enables passengers to manage their environment and entertainment from any mobile device, while high-speed internet maximizes in-flight productivity.

The clean-sheet design of the Longitude integrates

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Cessna Citation Longitude

the latest technology throughout the aircraft, delivering what is anticipated to be the lowest ownership cost in its class. It features the next evolution of the Garmin G5000 flight deck and is powered by FADEC-equipped Honeywell HTF7700L turbofan engines featuring fully integrated autothrottles with envelope protection. With Garmin's new Head-up Display (GHD 2100)

and enhanced vision capability, the Longitude facilitates eyes-up flying. The spacious cockpit incorporates easier access and an ergonomic design that fully focuses on crew comfort and efficiency. No super-midsize business jet offers more range, greater payload or higher cruise speed at a lower direct operating/total ownership cost. The Longitude is designed to offer best in class

maintenance intervals of 800 hours or 18 months (expected to make it the most cost-effective aircraft to operate in its category) and Textron Aviation maintenance and diagnostic systems (AReS).

The Cessna Citation Longitude competes alongside the Gulfstream G280, Challenger 350, Dassault Falcon 2000S and Embraer Legacy 6000.

## Citation Latitude

Textron Aviation had displayed the Cessna Citation Latitude for the first time in Europe at EBACE 2015 and showcased its air ambulance configuration, that purchased by Babcock Scandinavian Air Ambulance for aeromedical operations in Norway, at its static display during the EBACE 2019.

Citation products have been successful in Europe since the very beginning. The name stands explicitly for a proven and reliable product. Being known in Europe for reliability and performance the Latitude business jet is the "market leader in the midsize aircraft market." For up to eight passengers, it provides the best performance, a full-size and spacious cabin and on top the best price-performance ratio in the market.



The Longitude's flight deck features Garmin's G5000 avionics suite with four touchscreen controllers.



Cessna Citation Latitude

Designed for comfort, the Citation Latitude hosts a spacious cabin with 10 large windows, 30 inches of legroom and offers a wide, flat-floor with a 6-foot stand-up cabin. The technical performance allows the Citation Latitude to operate on short runways, allowing the use of secondary airports, considerably closer to your final destination. With this aircraft, you can fly nonstop from Los Angeles to New York or Geneva to Dubai.

With a four-passenger range of 2,700 nautical miles (5,000 km) at high-speed cruise, the Cessna Citation Latitude can fly nonstop from Los Angeles to New York, Los Angeles to New York City, Las Vegas to Honolulu or Geneva to Dubai and to Europe from various locations in the U.S., with one-stop. The aircraft's class-leading take-off

field length of 3,580 feet provides operators with greater range out of short fields. Inside, the Latitude offers an unrivaled cabin experience featuring the most open, spacious, bright and refined cabin environment in its category. With a flat floor and six feet of cabin height, innovation abounds with exceptional features designed

throughout the aircraft. Textron Aviation's wireless cabin management system provides productive connectivity and entertainment to each passenger through their personal electronic devices. Improving cabin comfort for passengers and crew alike, the Latitude features a new cabin cooling system and a new pressurization

system which provides a 5,950-foot cabin altitude at the aircraft's maximum operating altitude of 45,000 feet. With standard seating configurations, the Latitude can comfortably accommodate up to nine passengers. Extended maintenance intervals provide owners with the lowest direct operating costs in the midsize





segment. The Citation Latitude flight deck features fully integrated auto-throttles and the LinxUs on-board diagnostic system, setting a new standard to efficient operation. Pilots enjoy a view of the world through the Garmin G5000 avionics with four full-color touch-screen displays and primary flights displays (PFD) featuring Garmin's Synthetic Vision Technology system (SVT). Pilots type-rated for the Citation Sovereign+ aircraft are already type-rated for the Citation Latitude.

## Cessna Citation CJ4 Gen2 Jet

In February 2021 Textron Aviation announced the newest addition to the Cessna Citation business jet family, the Citation CJ4 Gen2. The

Cessna Citation CJ4, which achieved Federal Aviation Administration (FAA) type certification in 2010 and achieved European Aviation Safety Agency (EASA) type certification in 2011, remains a 525C type aircraft and has already received EASA interior certification current interior certification for the CJ4 Gen2.

Reporting revenue growth and stable deliveries, Textron Aviation celebrated the handing over of the 400th Cessna Citation CJ4 business jet to Koch Holdings in April 2023. "This milestone delivery for the Cessna Citation CJ4 series reinforces the Citation family as the world's most popular line of business jets and demonstrates the company's commitment to continued innovation for customers

as exemplified in the latest Citation CJ4 Gen2 aircraft," Textron said.

Geneva-based private jet charter company DALaviation Switzerland is the first Cessna Citation CJ4 Gen2 customer in Europe. Due to the aircraft's light jet segment's leading range-to-payload ratio and a best-in-class IFR range of 1,926 nautical miles (3,567 km) the CJ4 Gen2 is the ideal aircraft for charter operators like DALaviation Switzerland.

The Citation CJ4 business jet series, which entered service in 2010, continues to stand out due to its combination of high performance, low operating costs and class-leading cabin amenities. It's recognized as one of the premier single-pilot business aircraft in the world.



The CJ4 Gen2 is the largest Citation aircraft in the light jet segment, combining superior speed, range and operating economics compared to larger aircraft, making it the ideal platform for owner operators or corporate missions.

With a maximum cruise speed of 451 knots (835 kph) the single-pilot certified CJ4 Gen2 combines superior speed, range and operating economics when compared with larger



Cessna Citation CJ4 Gen2 Jet

aircraft, making it the ideal platform for owner operators or corporate missions. The CJ4 Gen2 has seating for up to ten passengers and offers a 1,040-pound baggage capacity. Valued by customers around the world for luxury and productivity, the CJ4 Gen2 is also used for a wide range of missions including air ambulance, maritime patrol, search and rescue and aerial survey. The cabin has been designed to optimize comfort and productivity, with an upgraded wireless cabin management system that enables passengers to stream entertainment and wirelessly control cabin lighting, temperature and window shades from

their mobile device. The pilot-friendly flight deck features technology and ergonomic enhancements centered on the state-of-the-art Collins Aerospace Pro Line 21 avionics suite. Added navigation technology includes weather tracking with the Collins Aerospace MultiScan system and a standard Enhanced Ground Proximity warning system. The Citation CJ4 Gen2 jet interior is highly customizable. From custom carpets and enhanced cabin lighting, to seats specially engineered for the contours of your body, your aircraft can be made to order—right down to the last stitch.

Cessna Citation jets continue to lead the

light jet segment, with more than 5,000 aircraft delivered worldwide, offering customers the broadest range of options on the market. From the popular Cessna Citation M2, to the upgraded efficiency and comfort of the CJ3+ and the leading CJ4 Gen2, the Citation family of light business jets has evolved to offer a range of capabilities, systems and options unmatched in the industry.

### Cessna Citation CJ3+

The Citation CJ3+ delivers exceptional performance, Garmin G3000 avionics and in-flight WiFi capability. Best-in-class acquisition and operating costs, seating for nine passengers, and

up to 1,000 lbs of baggage capacity make the CJ3+ the ultimate utility player. With a range of up to 2,040 nautical miles, the Citation CJ3+ is perfectly suited for the light jet market segment and can fly single-pilot and up to four passengers nonstop from Washington DC to Monterrey, Mexico, Sao Paulo to Santiago, London to Athens, or Shanghai to Tokyo.

According to Textron Aviation, designed to provide the most efficient flight profile by minimizing fuel costs and environmental impact, the Citation CJ3+ burns, on average, 10 percent less fuel and costs 5 percent less in maintenance per flight hour versus other aircraft in the light jet segment.



Cessna Citation M2 Gen2

## Cessna Citation M2 Gen2

Following the completion of Federal Aviation Administration (FAA) type certification, Textron Aviation started delivery of Cessna Citation M2 Gen2 business jets in April 2022. Elite Team Offices, headquartered in Clovis, California, took delivery of the first production Citation M2 Gen2 in April 2022. The milestone realized less than six months after Textron Aviation announced the latest model during the 2021 National Business Aviation Association - Business Aviation Convention & Exhibition.

Textron Aviation has redefined the entry-level light jet segment when they brought the Citation

M2 to market in 2013, and with the integration of next generation interior technology and design, M2 Gen2 is believed to continue to be among the most popular light jet models.

The latest updates to the Citation M2 platform strengthen the model's focus on pilot and passenger comfort as well as productivity. Textron Aviation's investment in reimagining the interior of the Citation M2 platform strengthens the model's focus on pilot and passenger comfort as well as productivity. With a thoughtfully designed interior from front to back, the M2 Gen2 brings an enhanced cabin experience that includes premium interior styling, ambient accent lighting,

remastered illuminated cupholders and a newly designed optional folding side-facing seat that converts into additional cargo storage. Productivity has been bolstered with the latest technology in the cabin such as wireless charging capabilities and USB-A and USB-C ports at each cabin seat. In the cockpit, three inches of legroom has been added to the co-pilot position for enhanced comfort. Additionally, cabin entry threshold materials have been improved for durability and maintainability.

The Citation M2 Gen2 has a maximum cruise speed of 404 knots true airspeed (464 miles per hour) and a range of 1,550 nautical miles. The

aircraft can operate at airports with runways as short as 3,210 feet and will climb to 41,000 feet in 24 minutes. The Citation M2 Gen2 is designed for single-pilot operation and features two Williams FJ44 engines, updated touch-controlled Garmin G3000 avionics and seating for seven passengers.

## King Air 260

More than 7,700 Beechcraft King Air turboprops have been delivered to customers around the world since 1964, making it the best-selling business turboprop family in the world. The worldwide fleet has surpassed 62 million flight hours in its 58 years, serving roles in all branches of the U.S.



military and flying both commercial and special mission roles around the world. The new King Air 260 turboprop aircraft was introduced in 2020 and achieved U.S. Federal Aviation Administration (FAA) certification in March 2021. Textron Aviation achieved European Aviation Safety Agency (EASA) type certification for the King Air 260 in September 2021. This major milestone paves the way for King Air 260 aircraft deliveries to end users in Europe. Renowned for their versatility and reliability, King Air turboprops have been a popular choice across Europe with more than 460 aircraft throughout the region. Nearly half of all King Airs in Europe are owned and operated in France, Germany and the United Kingdom. The King Air 260 has a maximum range of 3,185 km (1,720 nautical miles), allowing four passengers and a single pilot to take complete flights such as Rome to Madrid or Paris to Stockholm without refueling.

The King Air 260 brings state-of-the-art technology to the cockpit and offers greater ease of flight. The cockpit features the Innovative Solutions & Support (IS&S) ThrustSense Autothrottle system,



King Air 260

which supports pilots in their critical mission of delivering people or cargo by automatically managing engine power from the takeoff roll through the climb, cruise, descent, landing, and go-around phases of flight. This enhancement reduces pilot workload and is designed to prevent over-speed or under-

speed, over-temp and over-torque conditions. The King Air 260 cockpit also features a digital pressurization controller, which automatically schedules cabin pressurization during both climb and descent, reducing pilot workload and increasing overall passenger comfort. The pressurization gauges

have been integrated with the powerful Collins Aerospace Pro Line Fusion flight deck.

The aircraft includes the Collins Multi-Scan RTA-4112 weather radar, providing pilots with a fully automatic system that is optimized to detect short, mid and long-range weather ☺





# The First Ever ACJ TwoTwenty Cabin has been Delivered

Comlux, a leader in business aviation, transaction, and completion services, has delivered the world's first ACJ TwoTwenty with a brand new cabin certified by the European Aviation Safety Agency to FIVE Hotels and Resorts. The VIP cabin was completed in 14 months obtaining a full EASA certification. The aircraft operated by Comlux is now available for charter while based in Dubai, UAE.

"Today is a special day," said Richard Garona, Executive Chairman and CEO of Comlux. "First of all, I want to thank our client, FIVE for their trust.

I also wish to thank the Comlux and Airbus Teams who worked so diligently to bring this magnificent space to life. This is the first of many amazing ACJ TwoTwenty cabins we will develop."

The ACJ TwoTwenty is a dare-to-be-different jet, equipped with Pratt & Whitney engines and a cabin that has been engineered and designed to be the first of its kind. The spacious cabin boasts all the conveniences of modern luxury living, but in the sky.

"This aircraft is a spectacular new chapter for FIVE," said Alok Batra,

CEO, FIVE Hospitality. "A world-famous frontrunner in entertainment driven hospitality, FIVE now expands its' award-winning portfolio to include a FIVE-styled experience that extends the unique and matchless 'Vibe at FIVE' from our hotels on-ground to a luxe immersive experience amongst the clouds.

We will now be able to offer a flawless and bespoke experience by establishing the next level in private aviation. Fly FIVE is FIVE Hotel and Resort's newest home in the skies – and we are excited to welcome our guests on board!"

"With its stunning design, spacious two times larger cabin than a typical business jet and state-of-the-art technology including unparalleled on-board connectivity, the ACJ TwoTwenty sets a new standard in long-haul business travel. We are immensely proud to see this game-changing aircraft complete, offering unbeatable operational efficiency, and unmatched comfort. I have no doubt that it will be embraced by its users and raise the bar in the business jet market." said Benoit Defforge, ACJ President.





## Pilatus PC-12 Fleet Surpasses Ten Million Flight Hours

The global fleet of more than 1,900 Pilatus PC-12s cruises past the ten million flight hours milestone since delivery of the first model. Pilatus leadership sees even greater future sales opportunities for the "World's Greatest Single".

Pilatus is proud to announce that with almost 2,000 PC-12s delivered, the global fleet of the popular single-engine turboprop has officially accumulated more than ten million flight hours. The fleet leader, based in Canada, has flown more than 35,000 hours, while 71 PC-12s have logged over 20,000 hours of flight time. As a whole, the PC-12 fleet has recorded more than 9.3 million landings, with four aircraft reporting over 50,000 landings.

Pilatus delivered 80 new PC-12s in 2022, and plans to

increase production to meet demand in 2023. The current model, the PC-12 NGX, is the third major variant of the type and differs significantly from the original PC-12. Over the history of PC-12 deliveries, engine power and speed have been increased, new executive cabin interiors have been introduced, gross weight and payload capacity were increased, and in 2019 it became the first business turboprop to incorporate Pratt & Whitney's innovative Electronic Propeller and Engine Control System (EPECS) for its steadfastly reliable PT6 powerplant.

Pilatus Chief Executive Officer Markus Bucher stated: "The PC-12s past, present, and future success boils down to its appeal to a wide range of operations, its solid reliability, and its proven

outstanding safety record. As an additional benefit, these attributes have resulted in PC-12 owners enjoying one of the highest levels of value retention among all business aircraft."

The PC-12 is currently being utilized by corporate flight departments, individual owner-operators, fractional and charter companies, air ambulance service providers, and in special mission roles at the local, state, and national levels. The aircraft's large cabin, standard cargo door, docile handling characteristics, and low operating costs offer significant appeal to nearly any type of operation.

With sustainability near the top of nearly every business aircraft operator's priority list, the fuel efficiency of the PC-12 offers immediate and major reductions in carbon

emissions as compared to midsize and larger business jets not optimized for all missions. Pilatus officials note that the global network of Pilatus sales teams are receiving increased interest in the PC-12 from flight departments looking for ways to continue to support their operational requirements with much greater efficiency.

Gretener concluded: "The secret to the PC-12's success is really no secret at all. We continuously listen to our customers and strive to provide them with features, capabilities, and technologies to support the missions which are critical to them. With each aircraft and every individual owner and operator of a Pilatus aircraft, our goal is to become incrementally better."



# Are We in the Right Direction to the NETZERO Goal?

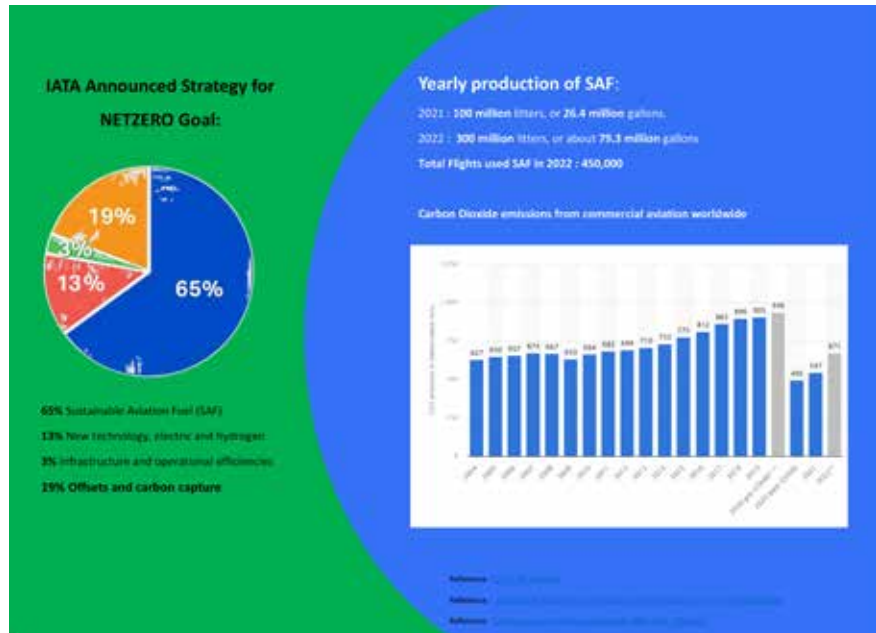
**Mehmet Keyvan CEO & Chairman, KEYVAN Aviation**

At the first look at the NETZERO goal, we need to review the goal plan and timeline. The history of NETZERO's goal and strategy is back to the 66th IATA AGM in 2010, IATA member airlines adopted a resolution that endorsed three ambitious goals to address aviation's carbon

emissions, intending to improve the fuel efficiency of 1.5% per year started from 2010 until 2020, and a reduction in net aviation carbon emissions of 50% by 2050 compared to 2005 levels. The global carbon dioxide emissions from aviation were approximately 250 million tonnes in 1966, almost

doubled in 1990 and after slowing down during the 2008 financial crisis jumped to 1.04 billion tonnes in 2018. During the 77th IATA Annual General Meeting held in Boston, on October 2021, a resolution presented by IATA to member airlines committing to plan for achieving net-zero carbon

emissions from flight operations by a deadline of 2050. This commitment aligned with the Paris Agreement goal for global warming not to exceed 1.5°C. Based on the final plan published during the 77th IATA Annual General Meeting (AGM), the industry in 2050 requires the mitigation of 1.8



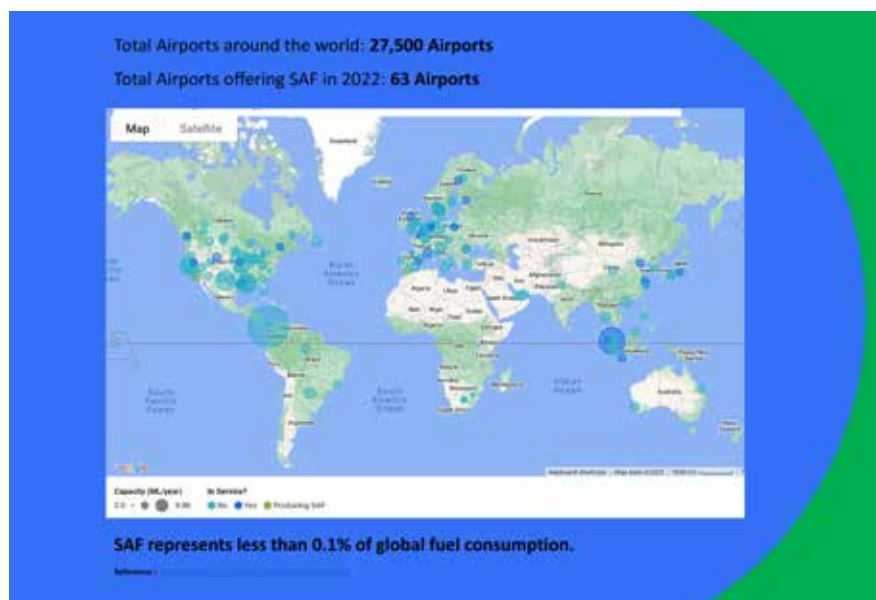
fuel efficiency of 2%, and a cumulative improvement of 21.4%, between 2009 and 2019.

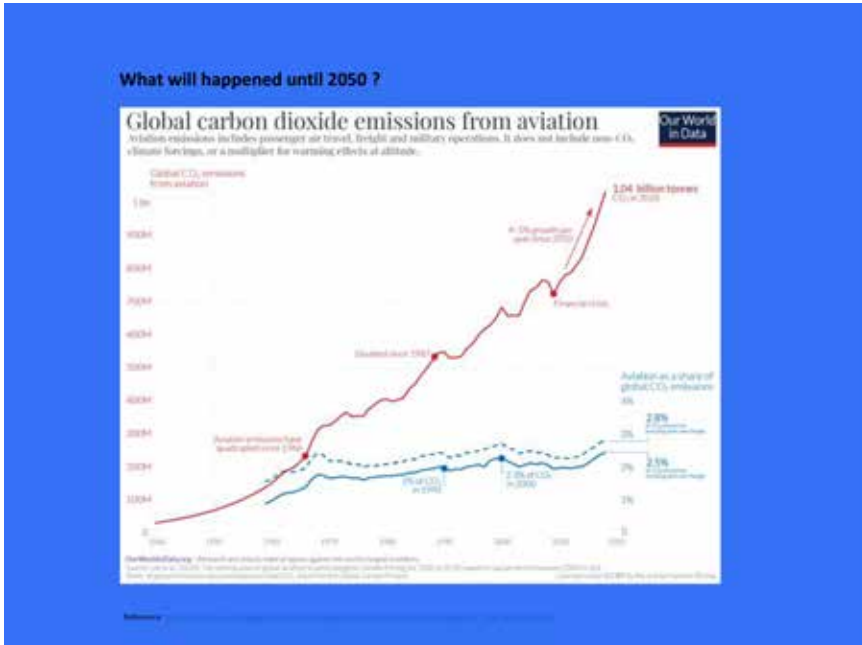
The importance of fuel-producing companies to offer Sustainable Aviation Fuel (SAF) to the market, Air Navigation Service Providers

(ANSPs) for better airspace infrastructure and procedures designs, Aircraft and Engine manufacturers for new and efficient airframe design and technologies and Airport operators were highlighted in the IATA Strategy plan. The

roadmap milestone divided into five years periods. 2025 is set to achieve SAF production equal to 2% of the total worldwide aviation fuel requirement which might be around 7.9 billion liters. 2030 is set for increasing the SAF production by up to 5.2%

gigatons of carbon. The strategy includes with 65% achieved through sustainable aviation fuels. 13% achieved through innovative propulsion technology, such as hydrogen, and electrical systems. 3% offered for efficiency improvements and the remaining 11% through carbon capture and storage and 8% offsets. With reference to the IATA reports member Airlines have achieved an average annual improvement in





of the total worldwide aviation fuel requirement equal to 23 billion liters and ANSPs required to improve airspace capacity and implement the ICAO Aviation block upgrade. The expectation for 2035 included new technology airplanes and systems included with hydrogen and electric options and also SAF production of up to 17% of total global needs equal to 91 billion liters. 2040 and 2045 are planned to increase SAF production to 229 billion liters and 346 billion liters, together with the improvement of Hydrogen aircraft from 90 minutes flights to 120 minutes, and finally in 2050 reaching 449 billion liters of SAF production equal to the expectation of 65% global aviation fuel needs.

The biggest challenges currently are SAF's limited production, cost, feedstock, and accessibility. While fuel-producing companies put all effort to make sure about production capacity increases, certain airlines around the world started to partner with fuel-producing companies to invest in some JV production projects. Unlike traditional aviation fuel (JET A-1), The process of production of the alternative SAF fuel requires feedstock, and not every feedstock is considered sustainable. As a result, Concerns regarding the ability to deliver enough feedstock for SAF have already been raised significantly. Also, due to limited supply chain and demand rising continuously from air

operators, SAF remains expensive. The total number of airports listed in the world is around 27,000 including small

airport which may never offer SAF solutions to the customers, but the current airport offering SAF solutions as of 2023 is less than 0.01% of all the active airport around the world. Concerning the yearly growth rate of global carbon dioxide emissions from the aviation sector waiting for new technology such as hydrogen, and electrical systems which required authority approvals and safety and quality test until 2035 is not looking like a suitable solution and some prompt action required to start reducing the aviation effect in the global environments. I

believe that an important missing ring from the sustainability chain is using the power of the available data to improve operations. There are lots of different data layers available through airlines' normal daily operations which could feed into a powerful AI system and generate very useful and interesting results. Infrastructure data like airport ground mapping and moving plans, terrains and obstacles data, flight procedures and airspace routes and data, restrictions and weather data, and movement and flight data covered by ground and satellite systems could use for this reason. Taking advantage of analysing this data to improve the operation and at the same time generate reports and suggestions to reduce flight time and fuel consumption could support air operators to achieve a daily goal of reducing the aviation effect in the global environment. If using data analytic could help airlines to reduce simply 1 minutes from aircraft taxi time per flight , for an airport with 1,000 flight transaction per day, a saving result of total 1,000 minutes equal to 23,000 liters of traditional jet fuel per day equal to 30,000 minutes and 690,000 liters of fuel per month would be easily achieved 🌍

# THE FUTURE OF THE AEROSPACE INDUSTRY

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# Embraer Executive Jets at EBACE 2023

As a global company with more than 50 years in aerospace, Embraer delivers the ultimate experience in business aviation through aircraft that feature disruptive performance, comfort, and technology. Its portfolio consists of the Phenom 100EV, which offers the business aviation experience in its purest form; the Phenom 300E, which is the best-selling light jet for the past 11 years straight; and the Praetor 500 and the Praetor 600, which with best-in-class flight range, are the most disruptive and technologically advanced midsize and super-midsize business jets, capable of continent-crossing and ocean-spanning missions, respectively. Embraer will

debut the Phenom 300E, Embraer Praetor 500 and Praetor 600 business jets at the European Business Aviation Conference and Exhibition (EBACE) in Palexpo/Geneva, Switzerland, from May 23 to May 25, 2023 to thousands of aircraft buyers, sellers and government officials.

## Phenom 300E

Embraer launched the Phenom 300E in 2018. The Phenom 300E is an upgraded version of the Brazilian manufacturer's vastly popular Phenom 300. With a freshly designed interior and an upgraded avionics suite, the Phenom 300E is a revitalized version of the original model, while keeping all the performance

specifications the same. The Phenom 300E is powered by Pratt & Whitney 355E1 engines. With 3,478 pounds of thrust each, these engines allow the aircraft to achieve speeds of over 500 miles per hour, ensuring any trip is relatively quick.

The Phenom 300E is the fastest and longest-ranged single-pilot jet, with a high-speed cruise of 464 knots and a five-occupant range of 2,010 nautical miles (3,724 km) with NBAA IFR reserves. With the best climb and field performance in its class, the Phenom 300E costs less to operate and maintain than its peers. The aircraft is capable of flying at 45,000 feet (13,716 meters) with a pair of Pratt & Whitney Canada PW535E1 engines. The Phenom



by Yeşim Bilginoğlu  
Yörük

300E offers a spacious cabin with the Embraer DNA Design and its baggage compartment is among the largest in its category. The largest windows in the class deliver abundant natural lighting in the cabin as well as in the private lavatory. The comfort of the seats, with recline and full movement capability, is enhanced by the best pressurization among light jets (6,600 ft. maximum cabin altitude). The Phenom 300E features distinct temperature zones for pilots and passengers, a wardrobe and refreshment center, voice and data





Phenom 300E

communications options, and an entertainment system.

The cabin of the Phenom 300E measures just under 5 feet tall, with the width ticking in just over 5 feet wide. This allows plenty of comfort for passengers. With a length of over 17 feet long, the cabin provides plenty of room for passengers to roam. The cockpit is fitted with the high-performing Garmin G3000 Prodigy Touch suite. Previous models of the Phenom 300 are outfitted with the G1000 suite, but Embraer decided to upgrade when the Phenom 300E was introduced. The Prodigy Touch suite offers the first-ever runway overrun awareness and alert system. With the Phenom 300E being single-pilot rated, this advanced system adds another layer of safety to the aircraft.

By constantly improving on the best. It's in this



spirit that the Phenom 300E received further enhancements, becoming the most successful business jet of the past decade, the best-selling light jet for 11 years running, and the fastest and longest-ranged single-pilot jet in production. Unmatched technology. Superior performance. Uncompromised comfort. The fastest and longest-ranged single-pilot business jet in production is capable of speeds up to Mach 0.80, features a quieter cabin than

ever before, and is the first and only business aircraft to have a runway overrun awareness and alerting system (ROAAS), which provides a warning advisory if the runway approach is too steep or too fast. With its next-generation avionics, generous cabin space, revolutionary interior, industry-exclusive upper technology panel and the best-in-class cabin altitude that made it so popular, plus enhancements that reduce cabin noise, the most

popular light jet sets the standard for all others.

## Praetor 500

The plane's name—Praetor, comes from the Latin word for leader, commander and magistrate, someone who forges ahead and takes command. The Praetor 500 from Embraer is the latest evolution of the Legacy 450 design, with new winglets and extra fuel tanks for greater range, plus, a class-leading cabin altitude of 5,800 feet. Fly-by-wire technology and a



Praetor 500



stand-up cabin allow for a remarkably comfortable travel experience. Based on the existing, and already extremely impressive Legacy 450, the Praetor 500 boasts a remarkable range for a super-midsize jet due to additional fuel tanks. The main strength of the Praetor 500 next to its competitors is in deed lies in its range. Embraer achieved a midsize jet design that can comfortably make a 3,340 nautical mile trip with four passengers and fuel for a 200 nmi divert. It can operate trips such as New York to Los Angeles, Miami to Seattle, San Francisco to Gander, Singapore to Beijing, or Dubai to Bangkok with ease as well as retaining excellent short runway performance. Non-stop. This is the fastest midsize jet that will fly from the west coast of USA to Europe, with just one stop.

Introduced on October 14, 2018, the Praetor 500 and 600 are described as being midsize and super-midsize business jets that are updated versions of Embraer's Legacy 450 (EMB-545)

and Legacy 500 (EMB-550), respectively. The Praetor 500, certificated in 2019, carries the same model designation (EMB-550/500) as its predecessor, the Legacy 450, which first flew in 2013 and entered the market in late 2015. The Praetor 500 midsize business jet quickly became the best-selling jet in its segment due to its blend of range, high speed, and sensible operating costs. With more than 210 flying, the Praetor series has logged more than 300,000 flight hours, and completed more than 195,000 cycles by the summer of 2022.

From the outside, the Embraer Praetor 500 looks like the Legacy 450. The jet is 64 ft 7 in long and sits 21 ft 1 in tall on the ground. The revised winglets give the Praetor 500 a slightly longer wingspan of 70 ft 6 in, longer than the Challenger 350 but not enough to cause problems at the hanger. The Praetor 500 uses two Honeywell HTF7500E turbofan engines that produce 6,540 lbf of thrust. Honeywell specifically developed this

model to fit the needs of the Legacy 450 and 500 series, and the engine remained almost identical since its introduction. The maximum operating speed for the Praetor 500 is Mach 0.83, with a high-speed cruise of 466 knots. The jet takes just 17 minutes to reach 41,000 ft in a direct profile, with a service ceiling of 45,000 ft.

The Praetor 500 has a useful payload of 2,921 lbs. Its maximum takeoff weight is 37,567 lbs. Fuel capacity is 13,050 lbs, with a single-point refueling port to make ground operations easier. Despite having a better range and comparable payloads, the Praetor 500 is considerably lighter than most midsize jets except for the Cessna Citation Latitude.

Like most Embraer jet aircraft, the Praetor 500 uses fly-by-wire controls. The fly-by-wire flight control system includes five layers of redundancy within the electrical schematic to protect the crew from a total system failure: two generators, an APU, two main batteries, and two backup batteries,

and if all else heads south, a ram-air turbine (RAT) to deploy into the slipstream to generate juice for critical capabilities like controlling the airplane.

The passenger cabin of the Praetor 500 fits up to nine passengers, in addition to the two-pilot crew, but most operators configure it with seven seats. The cabin area is 6 ft tall, 24 ft long, and 7 ft wide, making it the widest in the midsize segment. An additional unpressurized cargo bay in the rear fuselage holds 110 more cubic feet of bags and equipment. The seats can recline into berths, a necessity with the impressive range of the Praetor 500. The main competitors in the midsize segment are the Cessna Citation Latitude and the Bombardier Challenger 350.

On May 11, 2023 NetJets has signed a new deal with Embraer for up to 250 Praetor 500 jet options, which includes a comprehensive services and support agreement. The deal is valued in excess of US \$5 Billion, with deliveries expected to

begin in 2025, and will be NetJets' first time offering the midsize Praetor 600 to customers. For over a decade, NetJets has operated Embraer's Phenom 300 series, one of NetJets' most requested aircraft. The partnership between Embraer and NetJets began in 2010 when NetJets first signed a purchase agreement for 50 Phenom 300 aircraft, with up to 75 additional options. In 2021, after Embraer successfully delivered over 100 aircraft, the companies signed a continuing deal for up to 100 additional Phenom 300/E jets, in excess of US\$1.2 Billion.

## Praetor 600

Modeled on the Legacy 500 and first announced at NBAA in October 2018, the Praetor 600 was certified on April 18, 2019 with Brazil's Civil Aviation Authority (ANAC) and on May 20, 2019 with EASA and FAA. The deliveries of Praetor 600 super-midsize business jet was started in June 2019. Embraer claims the Praetor 600 is the world's most disruptive and technologically advanced super-midsize business jet. It is also one of the farthest-flying Super Midsize Jets, able to fly about 4,018 nm (7,441 km) non-stop at long-range cruise speed. It has a maximum endurance of nearly 9 hours, allowing nonstop flights between London and New York,



Praetor 600

London and Dubai, São Paulo and Miami, and Dubai and Hong Kong. High-speed cruise capabilities of 466 knots (863 km/h and Mach 0.83) shortens travel time to the destination.

The Praetor 600 elevates the super-midsize segment to new heights via impressive standards of speed, range, and accommodations that raise the bar well beyond the reach of would-be competitors. Industry-leading technology works in harmony with thoughtful cabin design to present one of the smoothest, blissfully quiet in-flight environments available.

The Praetor 600 amazes passengers with its inviting cabin with a 1.83 m ceiling, flat floor, and fully equipped galley, convenient restroom with wardrobe and cabin luggage storage. With seats that transform to four flat beds, the Praetor

600 is the ideal airplane for long flights, while it can also easily land on runways as short as 3,000 feet. With class-leading takeoff and landing distances, operators will have access to runways that other midsize aircraft cannot navigate.

This state-of-the-art aircraft also offers an extremely smooth flight experience with active turbulence-reduction and best-in-class cabin altitude. Embraer is the only manufacturer to offer this technology in the super-midsize class. Thanks to this technology while the Praetor 600's full fly-by-wire with side-stick controls reduces pilot workload and provides a safer, smoother flight experience, its best-in-class cabin altitude will allow passengers to feel like they are at 5,800 feet while flying at 45,000 feet. During the flight, the ultra-quiet cabin is perfect for

conversation, resting, or working.

Praetor 600 is certified to accommodate 12 passengers. With four variable cabin configurations, the Praetor is most suitable for up to eight passengers but can accommodate as many as 12 when fitted with a belted lavatory seat.

The High-tech Praetor 600 is a fully-connected sky-high office with Viasat Ka-band Wi-Fi and Gogo AVANCE L5 onboard. The aircraft also offers an at-home experience in the skies with Touchscreen cabin controls and a Honeywell Ovation™ Select Cabin Management Suite featuring full 1080p HD video streaming and immersive audio for entertainment. A touchscreen overhead panel puts flight status information, ambient lighting and access to cabin controls directly at passengers' fingertips.

The logo for EMAIR, featuring a stylized blue and white aircraft icon to the left of the word "EMAIR" in a bold, blue, sans-serif font.The logo for Cessna Citation Service Center, with "CESSNA" in black, "CITATION" in blue, and "Service Center" in black, all in a sans-serif font.

## EMAIR Aviation Aims to Provide Customers with Efficient & Cost-Effective Services

EMAIR Aviation, a leading aviation maintenance and repair organization based at Esenboğa Airport in Ankara, Turkey, has become the first independently owned service facility in EMEA to gain factory authorization for line and base maintenance on the Cessna Citation Longitude.

Textron Aviation, the manufacturer of Cessna aircraft, has granted this certification to EMAIR Aviation in recognition of their technical expertise

and commitment to providing high-quality maintenance services. With this approval, EMAIR Aviation is now authorized to offer maintenance services for Textron Aviation's flagship Citation Longitude business jet.

EMAIR commented, "We are very proud to be the first independent service provider in EMEA to receive this approval from Textron Aviation. It demonstrates our unwavering dedication to delivering the best

possible maintenance services to our customers. With this new capability, we can offer our customers even more value and convenience. We are committed to continuously improving our services and expanding our capabilities to better serve our customers."

The Citation Longitude is a well-regarded business jet model known for its advanced technology and reliability. Thanks to EMAIR Aviation's newly acquired capability,

owners and operators of the Citation Longitude can now receive maintenance services within Turkey and the EMEA region, saving time and reducing costs associated with traveling to other countries for maintenance.

EMAIR Aviation's modern facility at Esenboğa International Airport offers a comprehensive range of maintenance, repair, and overhaul (MRO) services for various types of aircraft. The company's goal is



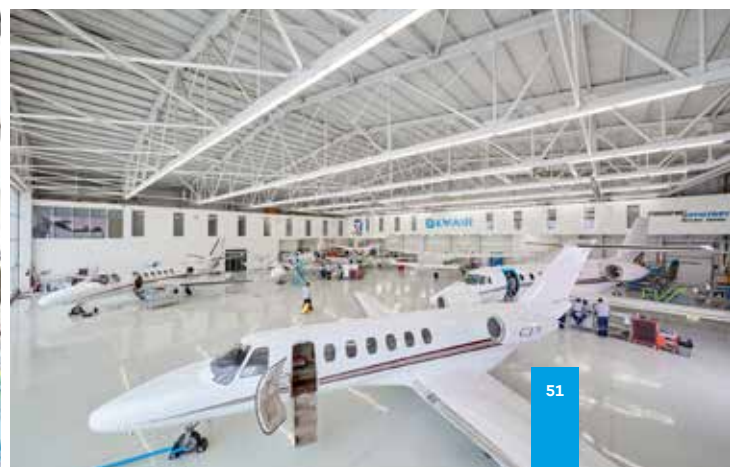
capability is a significant achievement for the company and the Turkish aviation industry as a whole. It further strengthens Turkey's growing reputation for excellence in the aviation sector and reinforces EMAIR Aviation's position as a leading MRO provider in the region.

Founded in 1962, EMAIR Aviation is the authorized sales representative and authorized service facility for Textron Aviation's Cessna and Beechcraft family of business jets and general aviation aircraft in Turkey. The company celebrated its 55th year of partnership with Textron Aviation this year.

to provide customers with efficient and cost-effective services that meet or exceed their expectations.

EMAIR Aviation's factory approval for Cessna Citation Longitude line and base maintenance

For more information about EMAIR Aviation and its extensive range of services, including aircraft sales, maintenance, and repair, visit their website at [www.emair.com.tr](http://www.emair.com.tr)



# GLOBAL JET at EBACE 2023

This will be the twelfth year Global Jet has supported EBACE and will be exhibiting once again at booth Z98 - HALL 6 - Palexpo Geneva.

After five months of a successful start to 2023, Global Jet can already draw-up a positive statement for the months to come. Stronger than ever, the European Leader in Business Aviation continues to grow in each of its core businesses: Aircraft Management, Charter & Brokerage, Aircraft Sales & Acquisitions and Design & Completion.

Furthermore, Global Jet continues to innovate to ensure the highest levels of safety, quality, and services for their customers by developing new systems and procedures in order to be at the cutting edge of technology.

## Charter & Brokerage

Since EBACE 2022, Global Jet saw its charter fleet grow at an exponential rate with the addition of a brand-new state-of-the-art Airbus ACJ319 Neo, a VVIP Boeing Business Jet BBJ1, a brand new a Gulfstream 650ER, two Global 6000's, a Global Express XRS, a Gulfstream 550, a Falcon 7X, a Pilatus



PC24 and finally a Phenom 300.

The Pilatus PC24's main advantages are the take-off and landing capabilities. Global Jet obtained a specific approval for this aircraft to perform private and commercial flights out of its base – Andorra – La Seu d'Urgell. Flights to this airport are highly complex and require

specific authorizations. These Pilatus PC24 is one of very few jets that can operate to this airport making it a significant advantage for charter customers.

Amongst the latest addition in March 2023, Global Jet added a brand-new 2022 Airbus ACJ319 Neo, reinforcing its position in the wide-body segment.

This VVIP aircraft will also be available for selective charter customers in Europe and worldwide. It has an exquisite and personalized cabin with a configuration of 19 passengers, and the latest technology. Having just come out of Jet Aviation Basel completion center, the cabin configuration of this refined VIP private jet provides ample space and



possibilities for private clients to enjoy every moment of the journey. Customers will be able to feel at home, whilst benefiting from all the new amenities on board. This wide-body aircraft is ideal for transatlantic flights and offers a range of 6000 nautical miles with a top speed of 469 knots. Additionally, Global Jet welcomed in April another brand-new Gulfstream 650ER based in Geneva. The addition of this aircraft makes Global Jet one of the largest G650 and overall Gulfstream operator's in the world. This airplane will be commercially operated and available for charter customers, reinforcing Global Jet's major role in the charter market.

Furthermore, Global Jet was one of the first operators to upgrade the cockpit of one of its Falcon 8X with the latest generation of avionics known as cockpit Easy IV. This modification further increased the level of safety for passengers and makes the navigation much easier for the pilots.

Global Jet's Charter and Brokerage team also noted an increase in flight requests and bookings, which is encouraging for the rest of the year.



Global Jet also announced the opening of a commercial office in Dubai, to serve the charter requests from this region. Demand from this area has steadily grown over the years with many existing clients choosing to relocate to the UAE and the overall market size increasing.

This gives the Global Jet Charter team the opportunity to be more efficient and proactive towards this new

developing region. The team will be able to satisfy the needs and desires of their customers with a local presence.

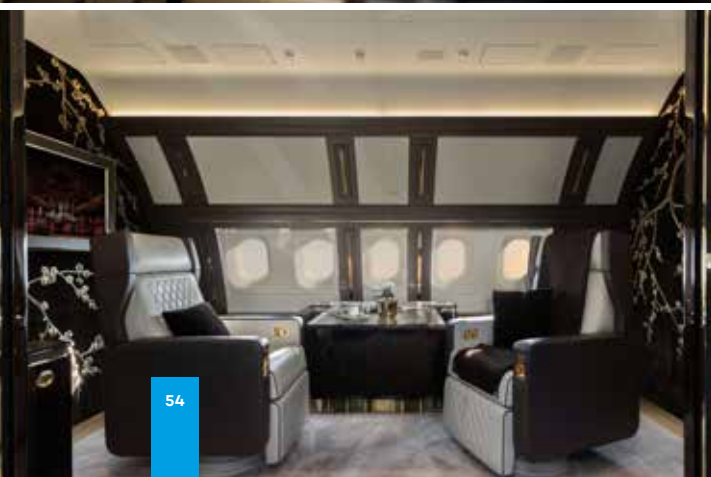
Global Jet is also assigned Denis Mironov as Charter Sales Manager at the Geneva office. Denis and his sterling reputation combined with fifteen years of experience in the business aviation, makes him the ideal candidate to take over this position and succeed in this new challenge.

## Aircraft Sales & Acquisitions

A flight to quality.

Has the aircraft sales market started to slow down after a few years of frantic activity since the pandemic? Global Jet's 23 years of buying and selling experience may confirm this trend but there is still positive news according to Global Jet, which reports that a more discerning type of buyer is emerging, armed with





the post-pandemic flying experience and looking for the highest levels of quality.

The start in 2023 has been exceptionally busy even though many of Global Jet's peers have commented that demand in certain segments has been slow and inventory levels increasing, which is certainly accurate for some aircraft types. Hardy Sohanpal, Head of Sales & Acquisition at Global Jet comments that, "In many ways, the market shift now plays to Global Jet's core strengths since buyers are focused on quality rather than the urgency to get a deal done". He further adds "The more advisory, informative and technical expertise role that Global Jet is renowned for, fits the needs of today's buyers and sellers".

ally 80% of Global Jet's current sales portfolio, which includes a number of 'off market' aircraft for sale, are currently deal pending. This includes two Falcon 7X's, a Global Express XRS and a corporate owned Gulfstream 650.

Demand for pedigree aircraft is up and "Buyer's prefer to access aircraft from tried and trusted sources", comments Yann Nado, Global Jet's Business Development Director.

Market intelligence is playing an equally critical factor for buyers and sellers. In the bull markets of 2021-22, sellers were able to name their price and terms. Now it is a balance of pricing conservatively

to maximize the value combined with a time limited presence on the market. Global Jet's experience of buying and selling aircraft has honed the skill in analyzing the market and advising clients accordingly. "Having a trusted peer network to openly discuss price expectations, so that advisors can feel confident, is an important factor to a successful sale or acquisition" says Hardy Sohanpal.

The same applies for buyers. Global Jet recently acquired a virtually new Gulfstream G650ER on behalf of a buyer, where careful analysis of the technical features and overall market availability resulted in the successful delivery of a 'stunning machine', in the words of a satisfied new owner. Global Jet underlines that this year has seen an exceptionally high number of Acquisition and Technical Support mandates executed from buyers across the world. This practice is now becoming the norm for Global Jet since clients recognize the company's excellent reputation and their ability to access 'off market' aircraft. Their insight as an operator also plays a critical part since buyers can access 'real life' and practical operating experience during the acquisition phase.

Global Jet emphasizes that next quarter looks positive with a steady flow of projects ranging from acquisition mandates for a Falcon 7X, a Gulfstream G550, a Global



Express XRS and a Legacy 650. They also expect to launch further aircraft for sale via the closed market and to continue to steadily grow the aircraft ownership market in their usual 'boutique' and personalized way.

## Aircraft Management

Since the beginning of 2023, five aircraft joined the aircraft management fleet and the company expects to add a further eight aircraft in the coming few months, either fully private or commercial; confirming the major role Global Jet plays in the aircraft management market. In the near future, expect the following business jets joining the Management fleet: a brand-new G700 from Gulfstream, two Global 7500 and one Global XRS from Bombardier, making Global Jet the largest Bombardier and Global 7500 operator in Europe. Additionally, the latest generation of the Praetor 600 will be added 3rd quarter as well as a Challenger 300.

With more than 35 different aircraft types in its operation, Global Jet has unique expertise in aircraft management and offers clients the highest levels of safety and quality in the industry. All of their business jets available in the fleet are operated using a unique fully transparent platform and, in the most

cost-effective way, whereby owners benefit directly from negotiated fleet discount rates.

From the technical and maintenance side, Global Jet obtained last year, an internal Part 145 agreement. This is an important milestone as it allows the Operator to perform Line maintenance checks without having to move the aircraft to a maintenance center; resulting in significant financial and time savings for the owners.

## Design & Completion

Global Jet's Design & Completion team, in cooperation with AMAC Basel, is at the final delivery stage of a Boeing Business Jet Max 8 VVIP for an existing client. In parallel, they are working on the completion of a brand-new Gulfstream 700 as well as a Bombardier Global 7500.



Denis Mironov

The Design & Completion team of experts with more than twenty-three years of solid knowledge and experience is always ready to welcome new challenging projects and remains at your disposal to

turn your dreams to reality.

Nothing is left to chance. Global Jet's growth continues, 2023 is filled with new and exciting projects that will be shared during the upcoming year 🌐





# Exploring the Ancient City of Ephesus A Journey Through Time and Travel

Every day we see new airlines are starting to fly to Türkiye from new destinations of Europe. Izmir Adnan Menderes Airport is one of the preferred airports for these airlines. According to the data for 9 months between January and September 2022, Adnan Menderes Airport served approximately 8 million passengers. A total of 53 thousand 683 aircraft took off and landed, while the number of passengers traveling on these aircraft reached 7 million 604 thousand 393 people.

Our destination for today is Izmir. Izmir Adnan Menderes airport, which can be reached by direct flights from Europe, is perfectly situated for both seaside resorts or historical places to visit. In addition to Turkish Airlines, the flag carrier airline of Türkiye, Pegasus Airlines, SunExpress, Corendon, Tui and many airlines organize direct flights to Adnan Menderes airport from different cities of Europe every day.

Adnan Menderes Airport, operated by TAV Airports, is an airport that was

deemed worthy of the "best airport" award in its category in 2022, within the scope of the Airport Service Quality ASQ, thanks to the services and the comfort it provides to its passengers. We Turks say that everything in the Aegean is natural or close to natural, because the freshest, newest, and cleanest comes to our whole country from the Aegean side of our country. TAV airports also adopted the same concept and established an airport operating policy that respects the



by Şebnem Akalın

nature, by minimizing energy consumption and water consumption, and efficiently managing waste.

After the airport, we have a 45-minute drive to a region with a history of approximately 7,000 years. We chose to stay in Özdere in order to be



close to the ancient region and to benefit from the bay hotel is situated with a wonderful sea. Kuşadası can also be a good choice for accommodation. There are many hotel options in this area but this time we stayed in Paloma Pasha hotel, which belongs to Paloma group hotels. The staff, food and cleanliness is much better than expected. The hotel is a cozy hotel that enables it to take its service to higher levels, the sea of the hotel is wonderful. There is another facility that belongs to the same group of hotels right next



to it. Definitely will be my next stop when I will be in the area.

Our first stop in the name of history, is the Ancient City of Ephesus, Ephesus is one of the largest and most impressive ancient cities in the world and its cultural and historical significance was highlighted in its addition to the UNESCO World Heritage Site list in 2015.

In Roman times it was situated on the northern slopes of the hills Coressus and Pion and south of the Cayster River, the silt from which has since formed a fertile plain but has caused

the coastline to move ever farther west. The city came to prominence under the ancient Greeks, who built the famed Temple of Artemis, one of the Seven Wonders of the Ancient World. Though only one column remains of the temple today, it was said to be very grand and impressive indeed.

Ephesus is also an important site for Christian history in the region. It was here that St. Paul wrote "First letter to the Corinthians" and St John is said to have written his Gospel. Ephesus is believed to be the final resting place of Mary and one of the most

visited sites is St Mary's Basilica.

Library of Celsus is one of the most beautiful structures of Ephesus and the facade of the library has been carefully reconstructed from original pieces and looms large over the city. Originally built in 125 AD in memory of Tiberius Julius Celsus Polemaeanus, an Ancient Greek who served as governor of Roman Asia 105–107 AD in the Roman Empire. Celsus paid for the construction of the library with his own personal wealth and is buried in a sarcophagus beneath it.



## FLIGHT&TRAVEL NOTES



The amphitheater with a capacity of 25.000 is believed to be the largest in the ancient world. Initially used for dramatic performances, there are evidence that it was later used for gladiatorial fights.

You need to spend your whole day to understand and feel the life of ancients in Ephesus. After visiting the fabulous Library of Celsus and the amphitheater you will spend your time in the remains of Temple of Hadrian, Terrace Houses, The Odeon, The Temple of the Sebastoi, Basilica of St. John and Agoras.

House of Virgin Mary situated just 5 minutes away from Ephesus and we couldn't left the area without visiting the House of Virgin Mary. The common Christian belief is that Mary, mother of Jesus Christ, came to Ephesus with St. John after the Crucifixion of Christ and the two lived the rest of their lives near the city. The House of Virgin Mary was discovered in 1812 in the visions of a bedridden German nun.

Pope IV. Declared by Paul as an official pilgrimage site for Christianity, the House of Virgin Mary was restored in 1951.

In the House of Virgin Mary, where tens of thousands of Catholics come to become pilgrims every year, Christians become pilgrims by lighting candles and

drinking water from three fountains symbolizing money, love and happiness. When you are in the area, House of Virgin Mary should be in your bucket list, you will feel blessed as soon as you step into the house.

When you were walking through the remains of ancient civilization It is



hard not to dream about how they lived in their mortal daily life. Ephesus Museum is the right place to visit to understand more about them. The museum is located in Selçuk nearby to Ephesus. You can see the historical artifacts found in the Ephesus excavation site. And also, the best-known piece you need to see is Artemis statue in the Temple of Artemis in Ephesus.

In this area there is too much to learn, too much new places to explore, we need a break and taste wonderful wines and organic food from the area. There are too many local vineyards in and around Izmir district, but we were staying so close to one of my favorites, Yedi Bilgeler. Yedi Bilgeler vineyard is situated on the ancient road between the cities of Ephesus and Magnesia and is in the center of the Ionian city-states. As the owners of the vineyard believe that the region was the area where science and thought is born and also the wine and olive oil were produced and offered to the entire Mediterranean basin, they named their wines after the philosophers. Anaxagoras is my favorite, but you should try them all and understand the underlying philosophy.

Like every civilization, every holiday comes to an end but like Albert Einstein said, 'Time flies when you are having fun' and we definitely say time flies when you are in Türkiye, until next time 🍷



# Hitit has Announced its First - quarter Results for 2023

Hitit, Turkey's largest service exporter in airline & travel IT solutions (HTTBT), has announced its first-quarter results for 2023. According to the disclosed balance sheet, Hitit increased its revenues by 67% compared to the same period last year, reaching US\$6.3 million in the first three months of this year. The number of passengers served by the airlines partnered with Hitit experienced a remarkable 64% growth, while the EBITDA margin reached 40% during this period.

Nevra Onursal Karaağaç, Hitit's Chief Sales & Marketing Officer, stated that the company serves 65 Partners across 47 countries as of March 31, 2023. She said, "Our Partners, using Hitit's technology, exchange data with the customs and border systems of 84

countries today, operate flights to more than 700 airports, and integrate with more than 60 banks and payment systems using Hitit infrastructure."

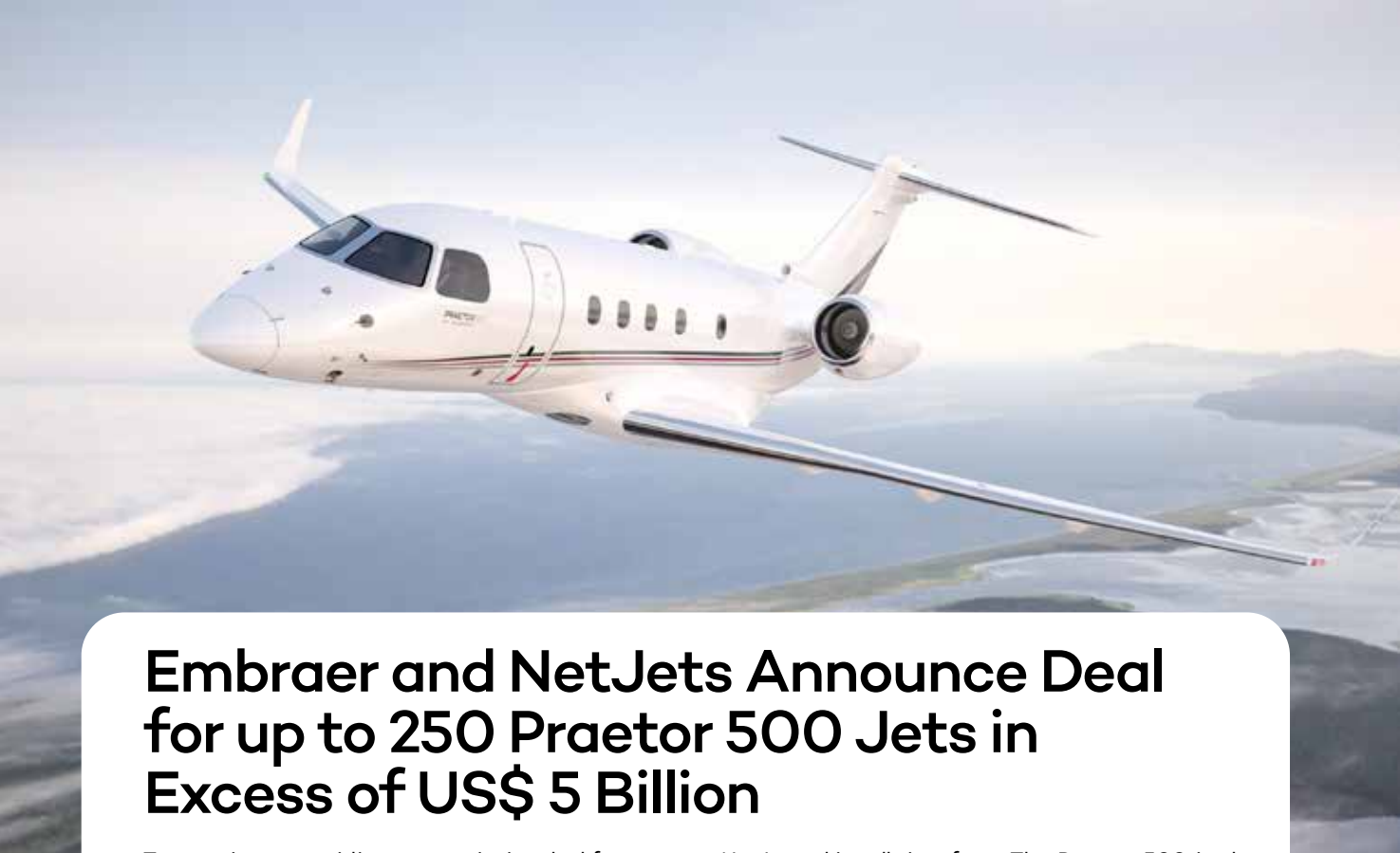
Ms. Karaağaç stated that the most important achievement in the first quarter of 2023 was winning the tender for the Passenger Service System Master Software and Support Services Contract of Turkish Airlines' subsidiary, Anadolujet. She said, "On February 23, 2023, we signed a contract with Turkish Airlines, specifically for their subsidiary - Anadolujet, and started the necessary preparations for system integration. The contract period will be five years, starting from the completion of integration process and the commencement of utilization by the Anadolujet brand. As

a local Türkiye-based technology company that has established a solid reputation in the sector, we are proud to work together with our national flag carrier, Turkish Airlines, on such a strategic project."

Ms. Karaağaç noted that international air transportation numbers are now approaching pre-Covid-19 levels, and emphasized that Hitit has intensified its sales and marketing efforts to take advantage of this upturn. She continued, "Looking at IATA's quarterly data, we see that domestic flights, in particular, have reached 98.9% of pre-Covid figures. In international flights, 88% of pre-Covid figures have been reached. The lifting of travel restrictions in China has had a significant impact on the rapid growth of the Asian market again."

"This balances the negative effects of global rising inflation and geopolitical crises. On the other hand, Hitit's wide range of Partner segments spread across several regions can offset any possible adverse developments occurring within 1-2 regions. In addition to new contracts, 10 new airline system integration projects were completed and activated in Q1 2023 as a result of contracts signed in previous periods."

"Nigeria-based Air Peace, which flies to the most destinations in Africa, and Surinam Airways, Surinam's national carrier, have also started using Hitit's PSS solutions. These two airlines will provide services to their passengers using Hitit's technology for the next five years" 🇳🇮



## Embraer and NetJets Announce Deal for up to 250 Praetor 500 Jets in Excess of US\$ 5 Billion

To continue providing reliable global access and exceptional service to current NetJets Owners and their guests, NetJets has signed a new deal with Embraer for up to 250 Praetor 500 jet options, which includes a comprehensive services and support agreement. The deal is valued in excess of US \$5 billion, with deliveries expected to begin in 2025, and will be NetJets' first time offering the midsize Praetor 500 to customers. For over a decade, NetJets has operated Embraer's Phenom 300 series—one of NetJets' most requested aircraft.

The partnership between Embraer and NetJets began in 2010 when NetJets first signed a purchase agreement for 50 Phenom 300 aircraft, with up to 75 additional options. In 2021, after Embraer successfully delivered over 100 aircraft, the companies signed a

continuing deal for up to 100 additional Phenom 300/E jets, in excess of \$1.2 billion.

With this new agreement, NetJets signifies not only its commitment to creating an enhanced customer experience as the company is averaging over 1,200 worldwide flights per day but also its trust in Embraer's industry-leading portfolio and top-ranked support to deliver the ultimate experience to NetJets customers.

"Since 2010, Embraer has enjoyed NetJets' ongoing commitment to our industry-leading aircraft, which is a true testament to the value of our brand and our ability to deliver the ultimate experience in business aviation," said Michael Amalfitano, President and CEO of Embraer Executive Jets. "Our strategic partnership has been an integral part of our business growth, with

NetJets taking all aircraft delivery options that have been ordered with Embraer since inception. After building this successful foundation with the Phenom 300 series, it's our pleasure to have now signed this monumental deal for the Praetor 500 midsize jet, and we look forward to an even more exciting future ahead."

"We are eager to add the Embraer Praetor 500, one of today's most state-of-the-art business jets, to our midsize fleet," said Doug Henneberry, Executive Vice President of NetJets Aircraft Asset Management. "This historic fleet agreement is another way that we are growing our fleet for the benefit of our loyal customers. By adding up to 250 aircraft to our fleet, we will continue providing NetJets Owners with exceptional service and seamless access to all corners of the globe."

The Praetor 500 is the world's most disruptive and technologically advanced midsize business jet, boasting an impressive best-in-class range—enabling U.S. coast-to-coast capability—industry-leading speed, and unparalleled runway performance. In terms of technology, it's the only aircraft in its category with full fly-by-wire flight controls.

Not only does the Praetor 500 offer exceptional performance but it also offers one of the most comfortable cabin experiences. It features the lowest cabin altitude in its class, as well as the tallest and widest cross section in the segment. Additionally, it offers a flat-floor cabin, stone flooring, a vacuum lavatory, and ample baggage space, including a fully enclosed internal baggage compartment.



## HAVELSAN Achieved Level D Certification Under EASA Regulations

HAVELSAN, the sole simulator manufacturer in Türkiye, recently achieved Level D certification under European Aviation Safety Agency (EASA) regulations for its Boeing B737 MAX Full Flight Simulator (FFS) operated by Turkish Airlines. This certification is a significant milestone for HAVELSAN, highlighting its expertise and commitment to providing top-quality training tools for pilots.

EASA Level D certification is the highest level of qualification that a flight simulator can achieve, indicating that the simulator meets the most rigorous standards in terms of accuracy and fidelity to real-world aircraft performance. This certification process involves rigorous testing to ensure that the simulator can accurately replicate a wide range of scenarios and conditions that pilots may encounter during actual flights,



such as take-off and landing, turbulence, and emergencies.

By achieving EASA Level D certification for its Boeing B737 MAX Full Flight Simulator, HAVELSAN has further solidified its position in the simulation field and will be able to offer its customers the highest level of accuracy and fidelity in their simulator training. This certification enhances safety, efficiency, and performance in the

aviation industry by ensuring that pilots are well-prepared to handle any situation that may arise in the cockpit.

HAVELSAN has been delivering top-quality simulators since 2017 when it delivered an EASA Level D certified Boeing 737-800 NG Simulator to Turkish Airlines. In 2018, the company signed a contract for a total of 11 A320 CEO NEOs and Boeing 737 MAX FFS and FTD Simulators. The company aims to

obtain EASA Level D certification for its Airbus A320 CEO/NEO FFS in the third quarter of 2023.

With these state-of-the-art simulators, HAVELSAN will be able to offer its users top-of-the-line simulator solutions for all narrow-body aircraft. The company's commitment to excellence in the simulation field has attracted attention globally, following the successful delivery of simulators to Turkish Airlines.



## Air bp and Neste to Offer Increased Volume of Sustainable Aviation Fuel in Europe

Air bp, the international aviation fuel products and services supplier and Neste, the world's largest producer of renewable diesel and sustainable aviation fuels (SAF), have signed an agreement to offer an increased volume of sustainable aviation fuel to airport customers in 2020 and 2021. The volume is five times larger than that supplied by the businesses in 2019. Air bp will make the Neste-produced SAF available at selected airports in Europe, with deliveries to airports including Stockholm (ARN) and Oslo (OSL) expected to begin in the coming weeks.

The increased supply of

SAF comes in response to rising demand from existing and new airline customers, as well as from Norway, where there is a mandate requiring 0.5% of all jet fuel sold to be SAF.

Neste's SAF is produced from 100% renewable waste and residue raw materials. In its neat form and over the lifecycle, it can reduce up to 80% of greenhouse gas emissions compared to conventional jet fuel. SAF undergoes the same quality tests as regular fossil jet fuel and can be blended at up to 50% to fuel aircraft. Currently, SAF offers the only viable drop-in alternative to fossil liquid fuels for powering

commercial aircraft.

"bp's ambition is to be a net zero company by 2050 or sooner and to help the world get to net zero. Air bp aims to support our customers and the wider aviation industry on their path to meet their low carbon goals. We believe sustainable aviation fuel will play an important role as the industry recovers from the impact of the COVID-19 pandemic. Through our successful ongoing collaboration with Neste, we are pleased to be able to offer our customers a substantially increased volume of SAF as they work towards reducing their emissions", says Martin Thomsen, Air

bp's chief executive officer.

"The COVID-19 pandemic and its economic implications have not changed our ambition. We remain fully committed to combating climate change by providing tangible, immediately available solutions for reducing the greenhouse gas emissions of flying in cooperation with our partners. The use of sustainable aviation fuel will play a significant role in the industry's ongoing efforts in making air transportation fit for the climate and environmental challenges it is facing. We are looking forward to continuing our close collaboration with Air bp and jointly



contributing to a more sustainable aviation”, says Thorsten Lange, Executive Vice President, Renewable Aviation at Neste.

Neste’s sustainable aviation fuel annual capacity is currently 100,000 tons. With their Singapore refinery expansion on the way, and with possible additional investment into their Rotterdam refinery, Neste will have the capacity to produce some 1.5 million tons of SAF annually by 2023.

Air bp has supplied SAF since 2010 and, to date, has supplied more than 20 customers and 16 airports globally, including Norway’s Oslo Airport where it was the first to supply SAF produced by Neste through the existing airport fueling infrastructure, in collaboration with other industry stakeholders.

In 2018, Air bp and Neste announced plans to explore and develop supply chain solutions for delivering SAF to airports and airlines. As a next step in their collaboration, in April 2019 they jointly developed a viable supply chain solution for sustainable aviation fuel to the Swedish market. This latest step in their cooperation will help to increase the availability of SAF at various airports through making best use of Air bp’s and Neste’s expertise in the fields of production, blending, supply and safe operations.

## The Latest version of Daher’s “Me & My TBM” Application was Unveiled

Application brings new capabilities and usability for this cloud-based app that is employed by an increasing number of TBM turboprop-powered aircraft owners and operators.

This application, which originally was introduced by Daher in 2018, leverages the company’s big data expertise to collect, process and analyze more than four million data points generated each day by the TBM in-service fleet. Through its evolution during the past five years, Daher has continually enhanced the Me & My TBM app’s capability for flight monitoring, furthering the ability of pilots to improve their flying skills – while also introducing sustainability features through eco-efficiency tracking. Among the app’s main improvements are its enhanced readability, which was achieved by incorporating larger text, design enrichments and better pictorial presentations. Additionally, Version 6 introduces new flexibility that supports its use by multiple pilots while tracking

their specific flights – addressing the needs of fleet operators, flight departments and aircraft renters. In encouraging TBM pilots to further develop their airmanship, this Me & My TBM version now enables aviators to log flights that involve multiple landings – which is a particularly powerful tool for instructors during flight training debriefings. The application also can generate compliance reports based on the TBM’s stabilized approach criteria (SAC). Another new feature is the ability to identify the specific types of flights: private or business trips, training, maintenance, or ferry missions.

In addition to the various technical improvements, Version 6 of the Me & My TBM app opens the possibility for automatic data transfer to other popular cloud-based applications, such as the CloudAhoy data-driven post-flight debriefing tool and the FlySto software for the processing of avionics log files.





## Garmin Receives Operational Excellence Award from Airbus Helicopters

Garmin announced it recently received the 2022 Operational Excellence Award from Airbus Helicopters at their annual Supplier Conference in Marignane, France. In addition to recognizing excellence in on-time delivery and quality, the award highlights Garmin's outstanding performance amid a period of global supply chain challenges.

"It is an honor to be recognized by Airbus Helicopters for our commitment to serve them and our mutual customers. This prestigious award represents the strong collaboration between Airbus Helicopters and Garmin and is a testament to the hard work and dedication provided by the entire Garmin team. We are truly grateful to receive this award recognizing the entire organization's commitment to on-time delivery, quality,

and customer support." – Carl Wolf, Garmin Vice President of Aviation Sales and Marketing

Select Airbus Helicopters, including the H125, H130, H135 and H145, offer Garmin as standard avionics. Garmin's vertically integrated manufacturing model and agility in global operations allows products to be delivered at high rates while mitigating supply chain issues. Garmin is committed to delivering products on time with great quality globally. This marks the fourth award Garmin has received from Airbus Helicopters globally. The Garmin Aviation team was recognized with the 2018 North American Supplier of Excellence Award by Airbus Helicopters Canada and received consecutive On-Time Delivery awards by Airbus Helicopters, Inc. in 2019 and 2020.

## GEMINI WINGS Expands to Meet the Growing Demand in Charter Sales

GEMINI WINGS, an innovative European business aviation platform, is experiencing a growing demand for its services. It became necessary to expand its charter sales activities and in that way Gemini Wings has appointed Jana Holomucka as a Flight Consultant for the company's charter services.

"It is an honor to be part of the GEMINI WINGS team," remarked Jana Holomucka, Flight Consultant at GEMINI WINGS. "Each day, I get to work with some of the most talented people in the industry to empower our clients with top-notch aviation services that meet their individualized needs," she added.

A formal member of the team since September 2022, Holomucka has brought over 20 years of aviation experience to the company and its clientele. At GEMINI WINGS, she relies on this experience as a Flight Consultant to successfully manage domestic and international charter flights for business aviation brokers operated by the company. Jana oversees the day-to-day work of the company's growing charter advisory division, which plays an increasingly important role in meeting the company's goal of creating a network of European aircraft operators and individual owners that can rival today's largest in terms of communication, planning, and pricing and support broker.

"Jana has proven to be a valuable member of the GEMINI WINGS team in just a few months," remarked Martin Feč, CEO of GEMINI WINGS. "Her knowledge of the industry, from all angles of the operation and over 20 years, has proven invaluable for helping her understand client needs and provide top-notch service to even the most demanding customers," he added.

# Gözen Digital Aviation to Acquire Boeing's Operator/OpsManager Product Line

Gözen Digital Aviation (GDA), a wholly owned subsidiary of Gözen Holding, announces that it has entered into an agreement to acquire Boeing's Jeppesen Operator/OpsManager product line. This acquisition reflects GDA's ongoing strategy to accelerate growth in digital aviation activities, drive enhanced operating efficiencies and provide end-to-end service along with Gozen's existing activities in the aviation ecosystem since 1979.

Operator is a web-based flight scheduling system that consolidates all operational support systems into one seamless solution to meet the



unique requirements of ad-hoc operations such as business, charter and corporate aviation. The product line will become a valuable addition to GDA's portfolio to provide end-

to-end digital solutions in aviation operations while continuing its operational excellence. GDA has plans to further develop Operator on the basis of tailor-made solutions and experience as

a service approach. With an outstanding focus on customer success, an aviation-oriented and dedicated team has been assigned to provide support on a 24/7 basis.

## Jetex is now a Member of ABAG

Jetex announced its membership of the ABAG - Associação Brasileira de Aviação Geral. ABAG's mission is to promote and safeguard the interests of individuals and organizations operating aircraft to support their businesses.



The engagement reinforces Jetex's commitment to advancing the growth of the general aviation industry in

Brazil and Latin America. Jetex will work closely with ABAG and its partners to share information on

capabilities, projects and the Company's vision for supporting flight operations worldwide.

# Safran and Lufthansa Technik Signed a License Agreement for the MRO of the Airbus A320neo / LEAP-1A Nacelles

Safran Nacelles and Lufthansa Technik have signed a license agreement for the Maintenance, Repair and Overhaul (MRO) of Airbus A320neo's LEAP-1A nacelles. Over 2,500 nacelles produced by Safran Nacelles are currently in service on Airbus A320neo aircraft that are powered by CFM International's LEAP-1A engines\*.

Lufthansa Technik is becoming a member of Safran Nacelles' licensed MRO network. The company will be able to

carry out warranty tasks, repairs and modifications guaranteed by Safran Nacelles, the OEM. Thus, in combination with its existing rotatable asset pool of LEAP-1A spares, Lufthansa Technik can offer its customers spare availability from OEM stock locations and MRO services. A320neo operators will benefit from Safran Nacelles and Lufthansa Technik's extensive repair experience and are assured to find a station nearby so that repair time can be shortened, and the

cost of logistics reduced. With this partnership, both companies will jointly ensure the highest standards in nacelle MRO for the growing fleet of Airbus A320neo.

Alain Berger, Safran Nacelles' Executive Vice President – Customer Support & Services, stated: "I look forward to sharing with Lufthansa Technik our best OEM quality standards. Operators of the A320neo nacelles can therefore rest assured that they will benefit from the best repairs in an extensive network of

global stations."

"We are delighted to extend our long-standing partnership with Safran Nacelles through this MRO license", said Andreas Drosdowski, Vice President Aircraft Component Services at Lufthansa Technik. "The LEAP-1A engine type represents a major part of the future of Lufthansa Technik's nacelle portfolio and the long-term commitment to providing top level spare availability and MRO services to our valued customers."

## Titan Aviation Launched Their Carbon Offsets Program

TITAN Aviation Fuels is pleased to announce the launch of their Carbon Offsets Program available through the TITAN FBO network. The program is being offered in conjunction with Terrapass, one of the industry's most respected environmental products organizations. Terrapass sources Green-e® Climate certified carbon credits that meet the highest standards in terms of quality and transparency.

The Titan Aviation Fuels Carbon Offsets Program

currently supports the Crow Lake Wind Emission Reductions Project in South Dakota, a 162 MW wind project that hosts 108 wind turbines generating renewable energy and displacing fossil fuel-generated grid electricity.

The program will be offered throughout the TITAN FBO network where participating FBOs can offer the carbon offsets to their customers at the point of sale.

Additionally, TITAN is proud to announce that all four

Wilson Air Center locations in Charlotte, Chattanooga, Houston, and Memphis will be the first in the TITAN network to offer the program.

"Wilson Air Center has always been centered around satisfying our customers' needs and requirements, and we are pleased to continue serving them by taking this next step with our Carbon Offsets Program in order to help support our customers' environmental initiatives," said Bob Wilson, Owner,

Wilson Air Center.

"We are very proud to offer this program through participating TITAN branded FBOs that will give flight departments a vehicle to help reach their corporate sustainability goals," said Robbie Stallings, President, TITAN Aviation Fuels. "Wilson Air Center has always been an innovator and leader in the FBO market, and their decision to launch this program at their FBOs reinforces that mindset," he continued.

# MNX Receives Class 7 Radiopharmaceutical License for Italy – Enabling Light Jet Charter Services

MNX Global Logistics (“MNX”) as one of only five air providers of Class 7 materials into Italy and the only provider licensed to charter light jet services. In an exclusive partnership for radiopharmaceuticals with Air Hamburg, MNX is able to cross a geographic and demographic threshold that has been inaccessible for Radiopharmaceutical companies on a light charter basis.

“The population of Italy is vital when conducting clinical trials for radiopharmaceuticals,” said Tom Brennan, Vice President of Life Sciences at MNX. “Currently there are studies for Alzheimer, Prostate Cancer and Breast Cancer that will regain momentum as we’re able to deliver more doses.”

C e r t a i n Radiopharmaceuticals have a short half-life and must be delivered in less



than five to six hours. Air charters significantly cut down on transport time, relieving much of the up-front risk and reducing loss of valuable doses due to decay.

“Air Hamburg is proud to receive the approval to carry

radiopharmaceutical goods into Italy and looks forward to partnering with MNX to provide air charters,” said David Bergold, Vice President Sales.

Time-critical logistics is the hallmark of MNX. “Whether by ground, air,

or a combination of both, we ensure our customers’ products are delivered with care and precision and often within very short windows of time. Earning the Class 7 license in Italy expands our reach for a vital segment of healthcare studies,” said Brennan.



## Ryanair Holdings Ordered 300 new Boeing 737-MAX-10 Aircraft

Ryanair Holdings ordered 300 new Boeing 737-MAX-10 aircraft (150 firm and 150 options) for delivery between 2027 to 2033. When finalised, and subject to all options being exercised, this deal is valued at over \$4.0bn at current list prices and is the largest order ever placed by an Irish Company for US manufactured goods.

Boeing's new fuel efficient, B737-MAX-10 aircraft have 228 seats (21% more than the B737NG) and the phased deliveries between 2027 and 2033 will enable Ryanair to create more than 10,000 new high-paid jobs for pilots, cabin crew and engineers, to facilitate disciplined traffic growth of 80% from 168m in year end March 2023 to 300m p.a. by March 2034. Ryanair expects 50% of these deliveries will replace older B737NGs, which will allow Ryanair to continue to operate one of Europe's youngest, most fuel efficient, and

environmentally sustainable aircraft fleets.

In addition to very significant revenue growth this new order offers Ryanair, the extra seats (coupled with greater fuel and carbon efficiency) will further widen Ryanair's unit-cost advantage over all EU competitor airlines. This new order will enable Ryanair to deliver sustained traffic and tourism growth at lower fares (and lower emissions per flight) across all European countries where Ryanair continues to lead the post Covid traffic, tourism and jobs recovery. Given the strength of the Ryanair Group's balance sheet, its industry leading credit rating and the approx. 2-year gap between the last delivery of B-8200 "Gamechanger" aircraft in FY25, and the first MAX-10 delivery in FY27, the Group anticipates that capex will be substantially funded from internal cashflows, although the Group will

remain opportunistic in its fleet financing strategy.

Boeing President & CEO, Dave Calhoun, said: "The Boeing-Ryanair partnership is one of the most productive in commercial aviation history, enabling both companies to succeed and expand affordable travel to hundreds of millions of people. Nearly a quarter century after our companies signed our first direct airplane purchase, this landmark deal will further strengthen our partnership. We are committed to delivering for Ryanair and helping Europe's largest airline group achieve its goals by offering its customers the lowest fares in Europe."

Ryanair Group CEO, Michael O'Leary, said: "Ryanair is pleased to sign this record aircraft order for up to 300 MAX-10s with our aircraft partner Boeing. These new, fuel efficient, greener technology aircraft offer 21% more seats, burn 20%

less fuel and are 50% quieter than our B737-NGs. This order, coupled with our remaining Gamechanger deliveries, will create 10,000 new jobs for highly paid aviation professionals over the next decade, and these jobs will be located across all of Europe's main economies where Ryanair is currently the No.1 or No.2 airline.

In addition to delivering significant revenue and traffic growth across Europe, we expect these new, larger, more efficient, greener, aircraft to drive further unit cost savings, which will be passed on to passengers in lower air fares. The extra seats, lower fuel burn and more competitive aircraft pricing supported by our strong balance sheet, will widen the cost gap between Ryanair and competitor EU airlines for many years to come, making the Boeing MAX-10 the ideal growth aircraft order for Ryanair, our passengers, our people and our shareholders."

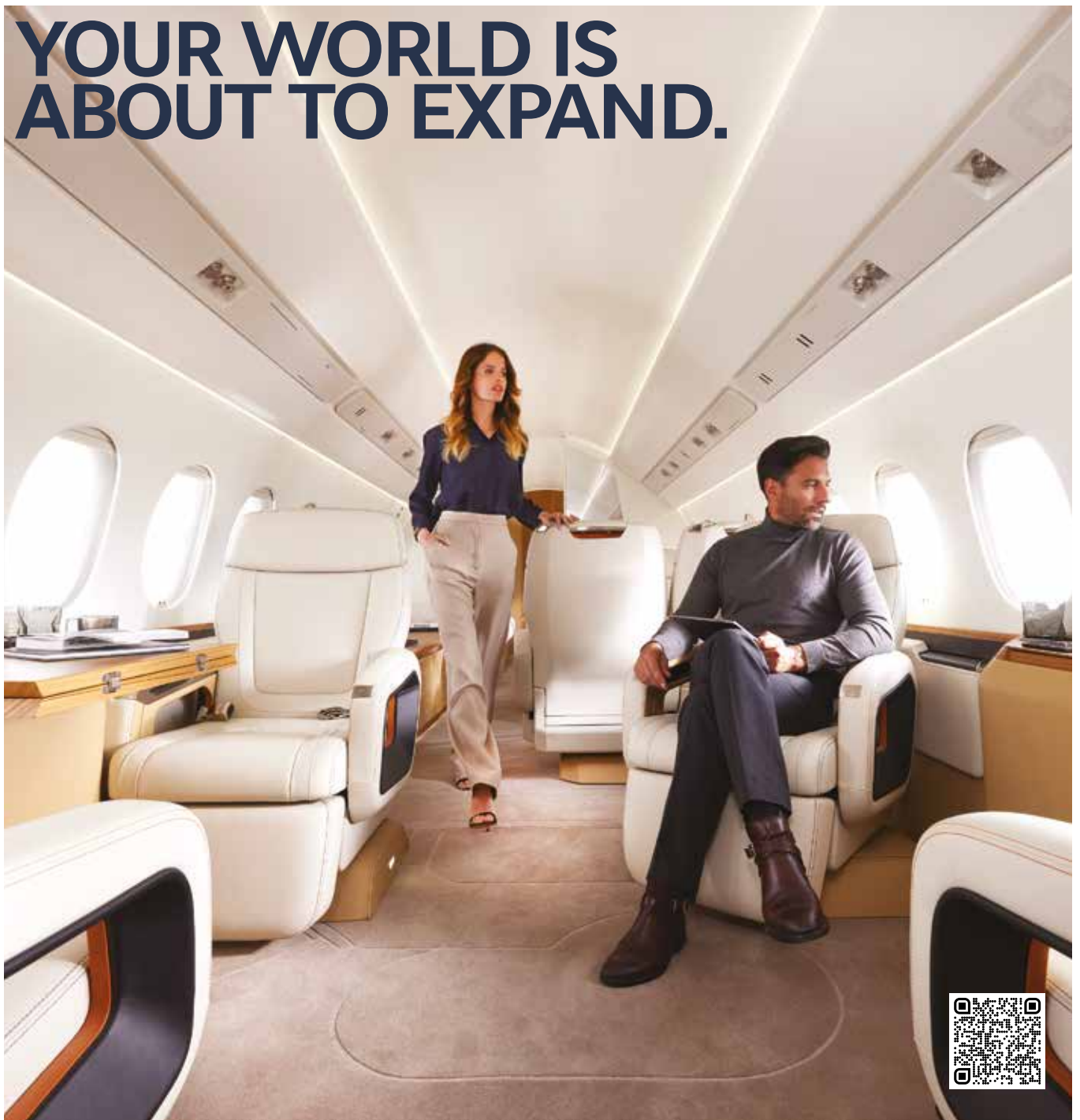


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