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Wednesday
24 May 2023

FLIGHT DAILY NEWS

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EBACE
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Progress beats protest

Dominic Perry

Business aviation leaders insist the industry is taking its environmental responsibilities seriously and is working to cut carbon emissions, after climate change activists disrupted EBACE's opening day.

"This is a completely unacceptable form of protest," state NBAA chief executive Ed Bolen and EBAA Chairman Juergen Wiese. "We condemn the action, and the threat it has posed to the safety and security of exhibiting companies and EBACE attendees, and others at Geneva airport.

"Moreover, today's disruption ignores the fact that business aviation is deeply committed to climate action. This is an industry that has cut its carbon emissions by 40% over the past 40 years, is continually reducing emissions today, and is collectively focused on achieving net-zero emissions by 2050.

"We as an industry are open to constructive dialogue about the industry's sustainability leadership, and we regret the protestors' unfortunate decision to disregard an opportunity for that dialogue to take place."

But the challenge facing the industry - and its perception in some quarters as the preserve of the ultra-rich - was starkly illustrated as protestors from a coalition of environmental organisations occupied the show's static display.

A claimed 100 activists chained themselves to aircraft stairs and the static park entrance, temporarily halting access to that part of the show site and disrupting commercial flights into Geneva airport.

They appear to have gained access to the exhibit by scaling a fence at the airport.

"I saw people going over the fence, and people running into the field," says Honda Aircraft chief executive Hideto Yamasaki, who

witnessed the protestors as they charged the static display.

"The police were reinforced and it took more than an hour for them to control it. It was a big thing."

The coalition - including Greenpeace, Stay Grounded and Extinction Rebellion - is calling for a ban on private jets.

Klara Maria Schenk, transport campaigner for Greenpeace's Mobility for All campaign, says: "It is high time for politicians to put a stop to this unjust and excessive pollution and ban private jets."

But Jean Botti, the chief executive of hybrid-electric aircraft developer VoltAero, says attempting to stop people flying will not work.



Carried away: police remove a protestor

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FlightSafety expands Saudi partnership

Saudi Arabia's Prince Sultan Aviation Academy (PSAA) and FlightSafety International have signed a five-year agreement to expand their 20-year collaboration. The partnership will see PSAA, a unit of Saudi Arabian Airlines, become a "delivery partner" of FlightSafety in aviation and maintenance training.

"FlightSafety looks forward to supporting PSAA and other Saudi operators with industry-leading training," says Nate Speiser (left), executive vice-president of sales and marketing at FlightSafety. "Our partnership will equip aviation professionals with relevant skills," says PSAA chief executive Captain Ismael Koshy.



FlightSafety

Parties to conferences

Murdo Morrison

It is party time at Lufthansa Technik's stand. The German cabin completions and maintenance business is displaying a cutaway model of the Airbus ACJ TwoTwenty with 'passengers' seen enjoying a drinks reception, watching entertainment on large screens, and - a unique Lufthansa Technik feature - watching the pilots at work in a special area behind the flightdeck created by moving back the cockpit door and bulkhead.

However, Lufthansa Technik does not expect the biggest market for VIP versions of the former Bombardier CSeries to be so-called "party aircraft".

"Sixty per cent of our customers are governments, and this is our reputation when it comes to cabin conversions," says Wieland Timm, senior director sales for VIP and military customers (pictured).

Uses in this segment include delegation transport. A cabin configured for this include areas for working,



conferencing and sleeping, "ensuring a high level of comfort and functionality as well as security and privacy". In addition, the design has 12 premium-economy and 20 economy seats, providing accommodation for a total of 41 passengers.

In medevac configuration, up to eight stretchers can be installed, as well as two patient transport units for

intensive care patients.

"With its cabin dimensions, the ACJ TwoTwenty represents an optimal platform for the most diverse manifestations of future government and special mission aircraft, at the price of significantly smaller and less flexible aircraft types," says Timm.

It might be some time before Lufthansa Technik

is able to complete an ACJ TwoTwenty. Rival Comlux Completions has an exclusive agreement with Airbus to outfit the first 15 examples, the first of which it has delivered to the type's launch customer, Dubai hospitality group Five.

Also at EBACE, Lufthansa Technik presented a "pre-launch" VIP cabin concept for the Boeing Business Jet 777-9, which it says "incorporates traditional elements of Middle Eastern cultural heritage with a modern twist".

"Our team's mission was to create a cabin that is both functional and beautiful, while also meeting the unique needs of our VIP clients in the Middle East," says Jan Grube, sales director for VIP & special mission aircraft services. "We are confident that this cabin design will set a new standard for VIP aviation, and we look forward to bringing it to market."

At the moment, Lufthansa Technik is showing an animated film of the concept on its stand, but it promises to reveal more details throughout the year.

Collins seals CMS deal for 6X and 10X

Collins Aerospace will supply Dassault Aviation with cabin management systems for the close-to-certification Falcon 6X and the larger developmental Falcon 10X.

The US supplier says that its selection marks the continuation of a relationship between Collins and Dassault that spans two decades.

Passengers and crew aboard both Falcon models will be able to use Collins' cabin management systems to control various features, including lights, window

shades, music, video and moving maps.

Collins notes that some 2,130 Falcons now flying have its systems fitted.

Dassault says its 12-16-passenger, 5,500nm (10,200km)-range 6X is nearing certification, with service entry around mid-year.

The company aims to have its 19-passenger, 7,500nm-range Falcon 10X certified by the end of 2025, though Dassault chief executive Eric Trappier has suggested the milestone might come "a little bit later".



Dassault's Carlos Brana and Nate Boelkins of Collins Aerospace mark the agreement at the show

Gogo goes big

Gogo Business Aviation has rolled out a second, larger aircraft antenna for an inflight connectivity system it is developing with partners OneWeb and Hughes Network Systems.

In 2022 Gogo launched the new wi-fi system, which will use a constellation of low-earth orbit (LEO) satellites. Gogo initially worked with Hughes to develop the system's "HDX" antenna, which will be suitable for smaller aircraft, including turboprops.

Now, Gogo says it is also bringing to market a larger "FDX" antenna, which will allow for faster data-transfer speeds and be ideal for larger business aircraft.

Also at the show yesterday, Gogo revealed the name of its network - Gogo Galileo - and said testing is ahead of schedule.

"The low-earth orbit satellites [provide] true broadband connectivity," says Gogo Business Aviation president Sergio Aguirre.

"Now, you are able to get fast internet speeds anywhere in the world through



Aguirre: 'Now you are going to get fast internet speeds anywhere in the world'

the Gogo offering."

Gogo's smaller antenna costs about \$170,000, while the larger model will run about \$240,000, Aguirre says.

Gogo has already completed some equipment tests, including ice, lightning and thermal evaluations, and Aguirre says the "design is now frozen and we are moving forward".

"We are two months, three months ahead of schedule," adds Hughes vice-president Reza Rasoulzadeh.

Meanwhile, OneWeb head of business development Jason Sperry says his company has launched 588 LEO satellites that compose its constellation. "It will be operational very soon," Sperry says.

Dominic Perry

German start-up Lilium has given a first glimpse of the Pioneer Edition interior that will equip the first 50 units of its electric vertical take-off and landing (eVTOL) jet.

The unveiling – at the show yesterday – comes as the company looks to accelerate the development of the Lilium Jet having recently secured its near-term funding requirements.

Configured in a four-seat club layout, the “high-end” Pioneer cabin is aimed at wealthy individuals prepared to pay the \$10 million price tag for the variant – around \$3 million more than the baseline six-seat shuttle model of the eVTOL.

Head of design Alberto Caruso says Pioneer customers will be able to select from a wide range of options to tailor the interior and exterior to their exact requirements. The ceiling dome of the cabin in particular is “their personal canvas”, he adds.

Caruso says the four-seat layout and the lightweight materials employed – the seats come in at just 7kg (15lb) apiece – mean there is ample space for baggage; Lilium’s performance calculations are based on a 150kg allocation for each passenger and their luggage.

Engagement with the firm’s engineering team “since day one” has enabled the incorporation of features like the large panoramic windows, he adds. “It wasn’t easy but we wanted to combine function with beauty,” he says.

Additional features could



Roewe: Firmer financial footing

Enter the Lilium Jet

Developer reveals high-end cabin for early adopters of innovative eVTOL platform

also be added if there is sufficient demand, such as active or passive noise-reduction systems.

To date, Lilium has signed agreements for 25 Pioneer Edition jets – 20 from UK-based eVolare and five from Swiss operator Air-Dynamic – and chief executive Klaus Roewe is confident that more sales will come.

“We are in very active talks with a couple of other

customers,” he says. “I believe all 50 will be gone before the end of the year.”

Separate talks with fractional operator NetJets for the four-seat Premium version of the jet are also ongoing, says Roewe, as the two sides work to convert a memorandum of understanding for up to 150 aircraft into a firm order.

“[NetJets] are in active discussions to firm it up;

they are super-engaged with us,” he adds.

Roewe, who was only appointed as chief executive in August last year, says Lilium has made “tremendous progress” against three key measures: developing the company, its technology, and of the aircraft as a whole.

Tests of an unmanned version of the Lilium Jet – known as Phoenix 2 – have been proceeding at a site

in southern Spain, with that aircraft “in the next couple of weeks” to be joined by a second prototype.

Critical transition flights – where the aircraft switches between fan- to wing-borne flight – were achieved last year and the manoeuvre has now become so commonplace “that we don’t even recognise it anymore”, says Roewe.

Windtunnel tests of the propulsion system, focused on the performance of the compressor and stator, are also more than 90% complete. “It is all looking good or better than needed,” he adds.

“On the technology side the key stumbling blocks have been removed.”

The design of the Lilium Jet has is also largely frozen and the critical design review process should complete this summer.

Recent tweaks to the configuration include the addition of split-tip winglets, replacing the previous vertical winglet design, which should see a performance boost of around 1-2%, estimates Roewe.

A fourth audit by the European Union Aviation Safety Agency in the coming weeks should result in the award of design organisation approval in the autumn. Service entry is expected in 2025 or 2026.

Roewe is also confident that Lilium is now on a firmer financial footing following the recent \$100 million cash injection from Aceville, an affiliate of existing investor Tencent Holdings. Aceville will provide another \$75 million if the company can raise the same amount from other sources.

Jet Aviation joins IBAC

The International Business Aviation Council (IBAC) has welcomed Jet Aviation as its latest member.

Pictured (l-r) at the show yesterday are Dave Paddock, chief executive Jet Aviation, Ali Alnaqbi, chairman of IBAC, David Best, Jet

Aviation’s senior vice-president regional operations & general manager Americas, and Kurt Edwards, IBAC director general.



BHP/PAK

Flowings aims to fill empty legs

Making its first appearance at EBACE is Dutch start-up Flowings, which is on a mission to open up business jet travel to a wider audience.

Frustrated by his experiences dealing with empty legs on the operational side of the industry, entrepreneur Floris van den Ende decided to do something about it, setting up a platform to market them direct to consumers.

Powered by data from Avinode, the Flowings site offers customers an easy-to-use search feature alongside estimated pricing for a route.

“I was inspired by booking.com – they are trying to sell

empty hotel rooms while we are trying to sell empty flights,” says van der Ende.

A second version of the platform should roll out later this year, allowing customers to sell empty seats on a flight, he adds.

“I want to make this process so much more efficient and more accessible,” he adds. In the meantime, van der Ende is seeking an investment in Flowings of up to €1 million.



Van den Ende: Inspired by booking.com

BHP/PAK

TAG eyes US return

Kate Sarsfield

Boyed by a post-Covid bounce in business aircraft charter and management activity, an upbeat TAG Aviation is to expand globally, with the “thriving markets” of the USA and Australia in its sights.

The company pulled out of the US market in 2009, when the previous major shareholder, the late Mansor Ojje, decided to relocate assets to Europe.

“Looking at this region post-Covid it is undeniable that it has bounced back at a quicker and greater rate than anywhere else in the world,” says TAG Aviation chief commercial officer Karl Mills. “It is also the largest business aviation market in the world so we would be mad not to look at moving there again.”

TAG already has bases in Farnborough UK – its global headquarters – Geneva, Switzerland, Hong Kong and Singapore. It manages

and operates 67 business aircraft across Europe and Asia ranging from Embraer Phenom 300 light jets to the Airbus ACJ319 airliner.

While Europe and Asia are “absolutely key”, Mills says, many of TAG’s clients – especially blue chip companies – regularly fly to the USA or are setting up new bases in Australia, Mills says.

“We frequently sub-charter for our customers within these countries, so it makes sense to be able to provide the onward travel ourselves and with our own fleet of aircraft,” he adds.

Entry into the US market could take one of three forms: acquisition, licensing an existing firm with the TAG name, or setting up an operation from scratch.

“Given the lack of business aviation firms in Australia to acquire or rebrand, we will start there with a much smaller footprint,” Mills says.

This is likely to take to form of a sales office to grow the customer base “and then expand the business from there”.



Mills: Looking at biggest business aviation market in world

BHP/PAK

Aspire’s Certus connection

Honeywell has received certification for its Aspire 350 satellite communication system to work via Iridium’s Certus satellite communications equipment. The certification allows Honeywell’s Aspire 350 system to transmit and receive data via the Certus service, which connects to Iridium’s satellites, Honeywell says.

“Iridium Certus is an advanced, multi-service platform enabled by the upgraded, truly global Iridium satellite constellation, with download speeds up to 704Kbps. Certified access to the Iridium Certus service provides operators with high-speed data and voice connectivity in a compact, lightweight package, which helps reduce weight and boosts fuel savings,” it adds.

“We are proud of Honeywell for reaching this milestone and being one of the first partners certified to bring Iridium Certus services to commercial aircraft,” says Iridium executive vice-president Bryan Hartin.

Mills says TAG’s powerful reputation in the management and charter market as “trustworthy, safe and reliable” will make the move into both markets “easier”.

After a “very successful 2022” business across TAG remains strong. The firm added four business jets to its fleet in the first quarter – a Bombardier Global 7500, a Gulfstream G550 and a pair of Phenom 300s. A further seven jets will join the fleet

before the end of the year. Mills attributes the surge in demand for aircraft management to an “uptick” in business aircraft sales during the Covid pandemic. “Many people who purchased business aircraft in the early days of the pandemic – many first-time owners – are now taking delivery of their models and are looking for companies to manage them,” says Mills. “There are lots of opportunities for us.”

Sky Valet adds five French FBOs

Sky Valet Connect announced at the show yesterday the addition of five French airports to its European fixed-base operator network. The expansion is in line with Sky Valet Connect’s strategy to roll-out its offering in regions with high potential for business tourism and high-end leisure.

The new bases in Bergerac, Biarritz, Caen, Deauville and Pau bring Sky Valet’s FBO network to 37 destinations in five countries including Bulgaria, Italy, Portugal and Spain.

“Sky Valet Connect is clearly our main driver to develop our network of FBOs and consolidate our positions in all regions where business travellers go,” says Jean-Francois Guitard, director of general aviation and external development at Sky Valet parent company Aeroports de la Cote d’Azur. “These destinations that are well positioned the heart of dynamic, isolated regions or have a strong international influence with leading sports and historical events,” he adds,



Guitard: Expanding in destinations at heart of dynamic regions

BHP/PAK



EXECUJET

ExecuJet expands in Germany with FBO partnership

ExecuJet is adding three FBOs to its German network through a “strategic partnership” with Kurz Aviation Service.

ExecuJet, a Luxaviation subsidiary, already runs FBOs in Berlin and Munich, while Kurz has facilities in Cologne, Frankfurt and Stuttgart.

Ronny Stechert (pictured), managing director ExecuJet Europe, says “clients and crews will benefit from the synergies of this partnership”, which takes effect from June.

“We know our customers will really appreciate the

efficiency of having a single point of contact for the FBO services we’ll be offering together,” he says. “We’ll be able to share the strengths of our combined networks, while working together to secure the best possible deals on pricing and supplier contracts. We’ll also be rotating staff around locations so our teams can form strong bonds, understand the specific requirements and strengths of each FBO and exchange best practice knowledge to develop and deploy the highest service standards in our industry.”

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One step ahead:
(l-r) Kai Tang,
Melinda Janda,
Michael Skov
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Fast orders

Jon Hemmerdinger

Inmarsat is selling a series of faster in-flight broadband plans as part of its Jet ConneX service with business partner Satcom Direct.

The telecommunications company is rolling out the plans, which will provide data-transfer speeds up to 100Mbps, in response to increasing demand by customers for lightning-fast connections, says Melinda Janda, vice-president of commercial strategy for Inmarsat's business and general aviation division.

The partners have been

flight-testing the technology using a Gulfstream G550 outfitted with Satcom Direct's Plane Simple Ka-band terminal.

They expect to achieve certification of the system in the third quarter of this year, says Satcom Direct chief commercial officer of business aviation and maritime products Michael Skov Christensen.

In addition to developing tail-mounted antenna and modem units for the service, Satcom Direct has partnered with Inmarsat to distribute airtime.

"These will enable passengers to simultaneously connect more devices and enjoy

unchallenged access to the most data-hungry applications, including high-definition video conferencing, without compromising on the service's proven characteristics of consistency, reliability, resilience and seamless global availability," Inmarsat says.

The company launched its Jet ConneX service six years ago. Since then, the product has "earned its reputation as the gold standard for business aviation inflight broadband", says Inmarsat head of business aviation Kai Tang. "As passenger expectations around connectivity evolve, it is imperative that we stay one step ahead."

Opus original

Opus Aero is at EBACE hoping to clinch a sale of a highly exclusive aircraft - an Airbus ACJ319neo (pictured), which it claims is the only example of its kind on the market.

A 2021-built jet pow-

ered by CFM International Leap-1A engines, the aircraft features a Jet Aviation-completed 19-passenger cabin organised into three distinct living areas.

"The Airbus ACJ319neo, serial number 10673, exists

as a reference in terms of the craftsmanship and expertise that go into the production and manufacturing of such an aircraft," says Alexandre Lombard, Opus Aero chief executive.

Cirium fleets data lists the VIP narrowbody (P4-HUA) as currently operated by Chinese firm Sino Jet.



Formula winners

NBAA chief Ed Bolen opened the 2023 EBACE exhibition by welcoming to the show stage two motor racing legends, both familiar with the same pressures facing business aviation.

"There are so many similarities between our industries," Toto Wolff (pictured), a former racing driver who is now chief executive of the Mercedes-AMG Petronas race team, told the audience.

"If we want our industry to survive, we need to reduce our carbon footprint.

And not just as a marketing exercise. It needs to stick."

Like aviation, Formula 1 has been backing climate talk with action, including by introducing hybrid-electric racecars.

Toto Wolff was joined on the stage by his wife Susie, also a racing champion and now managing director of all-female racing series F1 Academy.

"This is very clear statement from Formula 1 to make the industry more diverse," says Susie Wolff.



Trappier urges 'jet bashing' fight back

Dassault Aviation's combative chief executive Eric Trappier has come out swinging against those seeking to demonise business aviation, arguing that the industry must fight back.

"Latterly business jet bashing has been a bit of a sport in Europe," he said during a press conference at EBACE.

"The best defence is to demonstrate that we are embracing emission-reduction targets," he says.

He also rails against the "politicised" decision by the European Commission to exclude business aviation from the list of green industries that "can be considered sustainable investments".

Business aviation's inclusion would have opened the way for additional funding sources, he argues, spurring further decarbonisation efforts.

"I do hope that the European Commission will change its mind and allow OEMs, suppliers and other business aviation firms to help decarbonise the economy."

Trappier argues that the best solution for the industry "in the near term and even the longer term" is sustainable aviation fuel (SAF).

Dassault is already using a 30% SAF blend to power jets in its internal operations, but Trappier says the lack of wider take-up is "not a technical problem but an economic problem".

"You need to get the right volume to get the right price," he says.

While the airframer continues to research longer-term solutions to reduce fuel burn, such as lighter materials or more aerodynamic designs, it has also developed a software-based system that could yield an emissions cut of up to 10%.

Called FalconWays, the routing system uses live weather data to update flightplans en route, optimising a jet's trajectory. Flight tests are ongoing, with the results so far promising, says Trappier.

"In real-world testing, we have found we could reduce emissions by a significant percentage," he adds.



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Wolff: Collaboration well received by owners

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Honeywell's high hopes for 2023

Honeywell Aerospace expects 2023 to be a "strong year for deliveries", despite a weaker used aircraft market, continuing supply chain pressures, and global economic concerns.

The diversified manufacturer's upbeat assessment comes seven months after its latest annual business aviation forecast estimated shipments of 8,500 new business jets in the 10 years to 2032. That total was 15% greater than predicted in its 2022 report.

"Flight hours have softened but they are still very strong and we expect them to continue to be strong for the year," says Ryan Lees, president for Europe, Middle East, Africa and India. "Airlines are still not back to pre-Covid capacity, so business aviation is continuing to thrive as airlines struggle to get parked aircraft back into service."

With near-record business aircraft orders last year and airframers' backlogs "sold out for years to

come", Lees maintains that demand remains robust. "We expect orders to slow, but we are not seeing cancellations. Incoming orders are keeping pace with deliveries, so backlogs are staying consistent," he says. "People still want aircraft sooner than OEMs can deliver them."

He predicts that the environment and connectivity will be two major themes of this year's show. Honeywell, whose business aviation portfolio includes engines, avionics and cabin systems, is "spending a significant amount of investment dollars on sustainable solutions", he says. These include hybrid-electric initiatives as well as work on hydrogen fuel cells.

Honeywell will also be making announcements on high-speed data during the week. "It is becoming an ever more important part of the sector," he says. "Everyone wants a home-like connectivity experience on their plane."

Kate Sarsfield

Three companies in the field of business jet exterior customisation have joined forces at EBACE to promote their services as a one-stop shop to aircraft owners and showcase an innovative livery.

Happy Design Studios and Adhetec from France along with General Atomics AeroTec Systems of Germany, formerly Ruag, have been collaborating on livery

projects for several years and came to attention in 2017 when they unveiled on a Bombardier Global 6000 a carbon exterior design called the Carboneum Experience.

"This has been incredibly well received by business aircraft owners as have the many very complex designs and projects we have worked on together, so we have taken the opportunity to unveil another unique high-end design at the show which features mud-splatter across black paintwork," says Happy

Design Studio owner and designer Didier Wolff.

Adhetec provides the intricate 3D stenciling for the design while the project is completed in Oberpfaffenhofen, near Munich by General Atomics AeroTec Systems.

"From the creation of the liveries to the paint application, from the 3D projection capabilities to the large-scale decals or stencils, we offer a mutual approach for everything related to business jet exteriors," says Wolff.



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In brief...

Check kit out

MedAire's Digital Assessment Kit is available in Europe for the first time, after the equipment received approval under European Union requirements. The kit includes a digital blood pressure monitor, glucometer, pulse oximeter and contactless thermometer, as well as a 12-lead electrocardiogram allowing crew members to assess ill passengers and liaise with a doctor on the ground

Linate lift

Milan FBO group SEA Prime and maintenance and management company Sirio have opened a 4,700sq m (50,000sq ft) hangar at Linate airport. Sirio provides chiefly maintenance services for its Directional Aviation sister fractional operator Flexjet, which is expanding in Europe. SEA Prime says the investment increases to 30,000sq m the total hangar space for business aviation at the airport. Sirio, which celebrates 30 years as a maintenance company this year, supports 11 business jet types for a number of operators including Flexjet.

Aruba approval

ExecuJet MRO Services Malaysia is now an approved maintenance, repair, and overhaul organisation for Aruba-registered business jets. The certification allows ExecuJet to perform heavy maintenance work on Aruban-registered Dassault, Bombardier, and Gulfstream aircraft.

Longitude hits 100

Jon Hemmerdinger

Textron Aviation is marking the production of the 100th Cessna Citation Longitude at the show. The US airframer expects delivery of the large-cabin jet to the first customer later this year.

"The Citation Longitude has redefined its category with class-leading performance, efficiency and an unrivaled cabin experience," says Textron Aviation chief executive Ron Draper.

Launched in 2012, the first Longitude got airborne in 2016, with US certification and first delivery following three years later.

The 12-passenger, fly-by-wire Longitude boasts range of 3,500nm (6,482km). Power comes from twin Honeywell HTF7700L engines, each producing 7,665lb (34.1kN) of thrust.

Garmin's G5000 avionics package for the jet includes three 14in (35cm) cockpit displays, four touchscreen controllers, synthetic vision and integrated auto-throttles.

Textron Aviation says the Longitude has the longest required maintenance intervals in its class - 800h or 18 months.

The Longitude is Textron Aviation's flagship after the company shelved development of the larger Hemisphere due to problems with its Safran Aircraft Engines Silvercrest turbofans in 2019.



Ton up: Textron Aviation's Christi Tannahill and Lannie O'Bannon

Meanwhile, Textron Aviation has delivered the first passenger variant of its Cessna SkyCourier turboprop to Hawaiian charter operator Lanai Air.

The shipment marks the next evolution of the SkyCourier programme following handover of more than a dozen cargo-configured variants.

Textron Aviation obtained certification for the clean-sheet SkyCourier in 2022, delivering the cargo-configured aircraft to FedEx the

same year.

The manufacturer has long marketed the SkyCourier as a passenger aircraft suitable both as a 19-seat airliner and as a corporate and executive transport with a lower-density interior.

Textron Aviation is also working on a quick-change interior to allow the rapid reconfiguration from cargo to passenger transport.

"The Cessna SkyCourier is well on its way to becoming a legendary aircraft for our company," says Textron Avi-

ation senior vice-president of global sales and flight operations Lannie O'Bannon.

Powered by twin 1,110shp (828kW) Pratt & Whitney Canada PT6A-65SC turboprops, the passenger variant of the high-wing SkyCourier has range of 900nm and can cruise at 210kt (389km/h). The type has Garmin G1000 NXi avionics.

Textron Aviation does not specify the seat count of the aircraft delivered to Lanai Air, nor say if it expects to deliver more to the company.

Year of the ACH160



Lemos: Exciting moment

Airbus Corporate Helicopters (ACH) believes 2023 will be the "year of the ACH160" as deliveries of the airframer's clean-sheet medium-twin ramp up.

Speaking at the show, Frederic Lemos, chief executive of ACH, said the entry into service of VIP-configured H160s in 2022 was a "very exciting moment".

Lemos promises "several" ACH160 deliveries in 2023, although declines to specify an exact number.

ACH sold 10 examples of the ACH160 last year, from a total of 114 VIP- or corporate-ruled aircraft. The manufacturer has the first ACH160 Exclusive on the EBACE static display, having delivered the helicopter earlier in 2023.

Further orders and deliveries of the type should be spurred by US certification, says Lemos, a milestone expected this year. ACH also booked orders for a pair of ACH225 heavy-twins in 2022, intended for head-of-state transport operations in Asia.

New Gogo Galileo service makes significant progress one year after unveiling



Leaping ahead with LEO

Last year at EBACE, Gogo Business Aviation announced it would be building a new low-Earth-orbit (LEO) global broadband service designed specifically for business aviation that would fit virtually any size business aircraft from light jets and large turboprops to the largest ultra-long-range large-cabin aircraft.

According to Gogo, the company has made significant progress in the past 12 months in conjunction with its strategic partners OneWeb and Hughes Network Systems. And the company has named the new service: Gogo Galileo.

OneWeb, Gogo's network provider, conducted the final launch to complete its full LEO constellation with more than 588 satellites at the end of March, and the network is expected to be operational and aero-ready in early 2024. In addition, Gogo and its antenna provider, Hughes, completed preliminary design review of Gogo's exclusive electronically steerable antenna (ESA) assembly earlier this year.

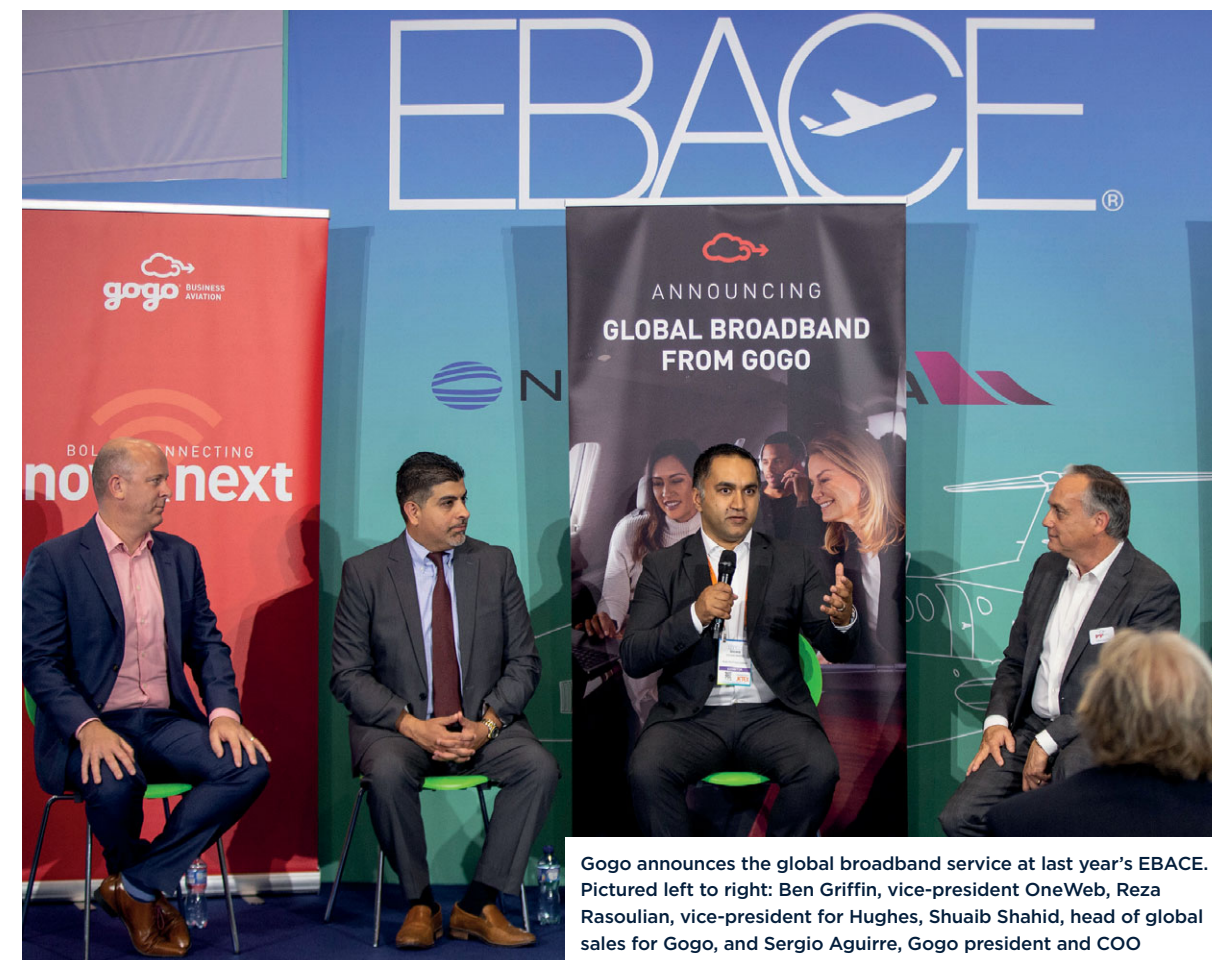
"We are actually ahead of schedule thanks to the work being done by our team in conjunction with the teams from OneWeb and Hughes, and testing with the antenna prototype on the AVANCE platform is underway," says Sergio Aguirre, Gogo's president and chief operating officer. "What we're bringing to the market will deliver best-in-class global performance that is faster, smaller, more affordable, and easier to install than other global satellite solutions."

Customers interested in harnessing the power of Gogo Galileo can pre-provision their aircraft today by installing an AVANCE system, and once the service launches, will only need to add the antenna to the fuselage.

"Gogo has been in business for more than 30 years and business aviation is the only thing we do," Aguirre adds. "We understand the discriminating needs of this industry better than any other inflight connectivity provider, and we have a proven track record of delivering quality products and services."

With Gogo's already extensive portfolio of products and services, unparalleled industry expertise and global customer service, the commercial launch of Gogo Galileo will complete the company's holistic offering with a product to serve every segment of the business aviation market for aircraft operating anywhere in the world.

"Unlike other providers, we're focused on serving all of business aviation with Gogo Galileo, just like



Gogo announces the global broadband service at last year's EBACE. Pictured left to right: Ben Griffin, vice-president OneWeb, Reza Rasoulian, vice-president for Hughes, Shuaib Shahid, head of global sales for Gogo, and Sergio Aguirre, Gogo president and COO

we did with our ATG network in North America several years ago," says Aguirre. "The majority of midsize and smaller aircraft operating outside the U.S. have no viable broadband solution today and Gogo Galileo will give everyone in business aviation the ability to have an exceptional inflight wi-fi experience."

POWERFUL ADDITION

The Gogo AVANCE platform is at the heart of Gogo Galileo. The new service will require just one AVANCE line replaceable unit (LRU) inside the aircraft, which means existing AVANCE customers

will only have to install the ESA antenna, with a single cable in for power, and a single cable out for data.

Today's geosynchronous satellite (GEO) systems are not only more expensive, but are also much larger and require multiple LRUs so they require large airframes to accommodate the size and weight.

"We specifically designed AVANCE so customers could easily and affordably add additional features, functionality, and network capacity to the system," says Aguirre. "We made a strategic decision years ago that would give us the ability to add new networks and for upgrades to be done with minimal cost and less downtime."

Gogo Galileo will deliver performance comparable to terrestrial broadband services, with latency that is significantly less than GEO networks deliver today. The reason is the close proximity of the LEO satellite constellation to Earth. LEO satellites are roughly 1,200 kilometers from the Earth's surface while GEO satellites sit roughly 36,000 kilometers away.

"The experience on our LEO network will be much better than a GEO network can provide and it's not only because LEO will be faster, which it will be, but the latency - or the time it takes for a signal to travel from satellite to ground to aircraft - will be greatly reduced," says Aguirre. "It's basic physics: LEOs are 30 times closer to Earth so the signal gets there much quicker."

The Gogo Galileo system will include one fuselage-mounted unit with an integrated antenna, modem, power supply and RF converter; will only require 28 volts of DC power and much lower wattage; will not rely on aircraft-positioning data; and will include an AVANCE router. ▶



Shuaib Shahid, head of global sales for Gogo, holds a model of the antenna Gogo unveiled at EBACE 2022

Gogo Business Aviation has been in the inflight connectivity game for more than three decades and today is the world's largest provider of broadband services for the business aviation market



From analogue phones to worldwide wi-fi

While many around the world may recognize the Gogo brand, they primarily know the company as an air-to-ground provider in North America. However, Gogo has been serving customers around the globe for more than 20 years.

Today, Gogo offers a customizable suite of smart cabin systems for highly integrated connectivity, inflight entertainment and voice solutions. Its products and services are installed on thousands of business aircraft of all sizes and mission types from turboprops to the largest global jets, and are utilized by the largest fractional ownership operators, charter operators, corporate flight departments and individuals in more than 80 countries.

In other words, Gogo is no stranger to providing international services. Gogo indeed continues to serve North American operators with ATG services and last October it completed construction of the world's first 5G network exclusively built for business aviation.

But Gogo is also focused on global operations and when the company announced that it would be launching a global broadband service last year at EBACE here in Geneva, the industry took notice.

"Gogo created the inflight connectivity revolution in the 1990s and we continue to be the driving force behind breakthroughs that have redefined the inflight experience," says Sergio Aguirre, Gogo's president and chief operating officer. "We've been focused on helping people in the air stay fully connected to their work, life and entertainment on the ground with the latest technology available."

Gogo Business Aviation began as an idea scribbled on the back of a napkin in 1991. At the time, and under the brand Aircell, founder Jimmy Ray had an audacious goal of putting a phone on every aircraft around the world. It was a massive undertaking.

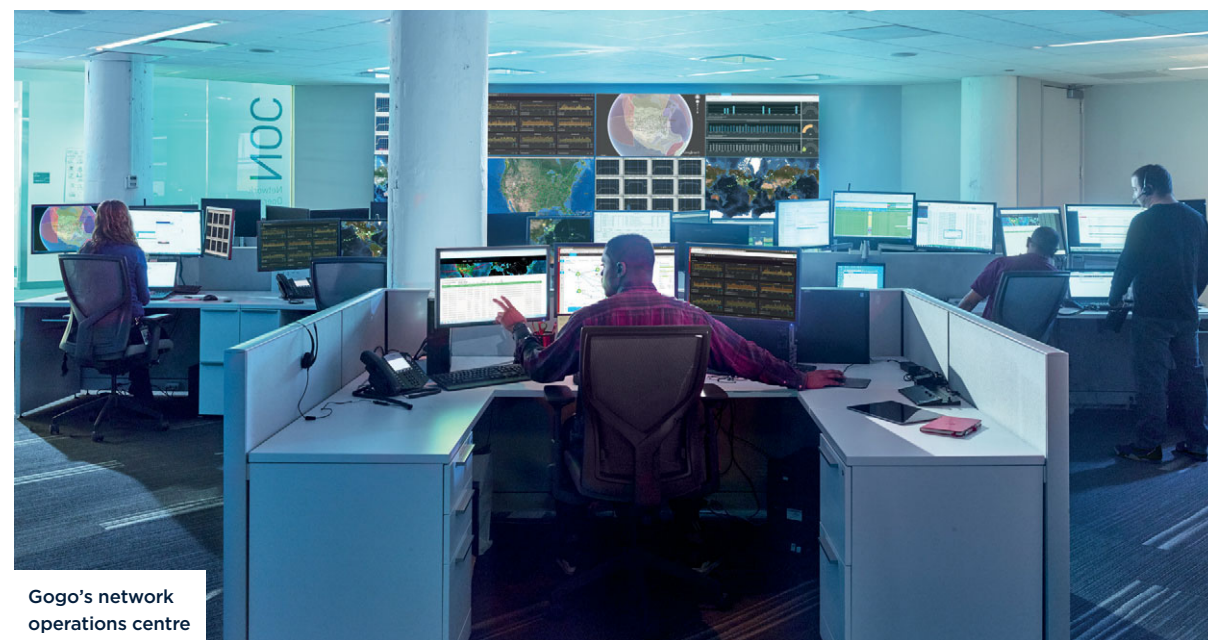
"Our team worked hard from the beginning to bring the best communications solutions to the aviation market," says Aguirre. "Things started small, and at the time, nobody would've imagined where we'd be more than 30 years later. Innovation is in our DNA, and we've never stopped seeking the next great technological breakthrough."

FIRST INFLIGHT CONNECTIVITY SYSTEM

Gogo's first product offered analogue phone service to the business aviation market.

"Very little of what we wanted to accomplish existed when we started, so the technology we were creating was absolutely cutting edge," says Aguirre. "Many of the basic building blocks for getting connectivity to aircraft resulted in Gogo being issued some very important patents."

Thanks to some of the early pioneers at Aircell, Gogo became the proud owners of several core patents for inflight communications. The industry has seen many new technologies since then, with the main goal of trying to keep up with bandwidth demands from passengers traveling around the world. What started as a platform for sending a couple of quick emails, has evolved into networks



Gogo's network operations centre

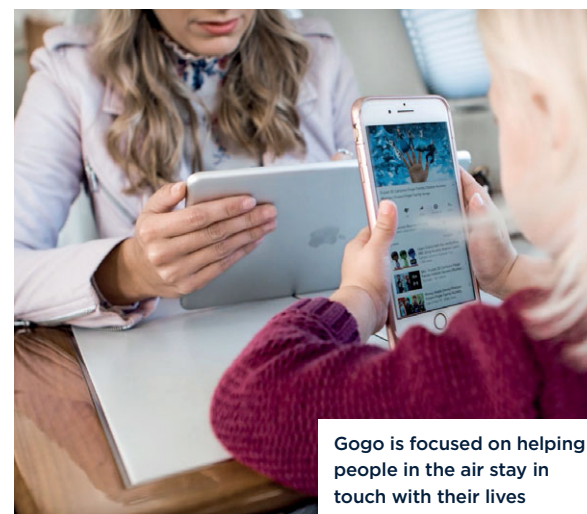
capable of streaming movies and keeping passengers connected at the same time.

The company operated a domestic analogue phone service for many years before other technologies caught up with it.

In 2002, Gogo began offering Iridium phone service as a new solution for business aviation. The service was able to provide global digital phone service through an extremely lightweight hardware package. Over the years, Gogo has installed Iridium hardware on thousands of aircraft and began offering Inmarsat's SwiftBroadband service as well.

INTERNET TAKES CENTRE STAGE

In the early 2000s it was clear that the internet was becoming an increasingly important part of everyone's lives. At that time, internet access was primarily limited to homes and offices, and while there were plenty of laptop computers (and even



Gogo is focused on helping people in the air stay in touch with their lives

some early tablet PCs), it would be several years until the technology required to take the internet in the air would be developed.

"Gogo realized that things were changing, and we used some of the expertise we gained from developing our first network to create a way to bring internet access to business and commercial aviation," Aguirre says.

"One of the first things you need in order to get data transmitted wirelessly is radio spectrum," he continues. "Thankfully for us, the Federal Communications Commission (FCC) in the USA was about to auction off some new spectrum. This spectrum auction took place over several months in 2006, and on 7 June 7 2006, Aircell was announced as the winner of the largest spectrum block, netting us 3.5MHz. It changed everything."

From that point forward, the company began to build an ATG cellular network from scratch while creating the airborne hardware and building tower sites around the country. All of that work was completed in just two years.

The advantages of Gogo's ATG system were clear: the system was extremely lightweight, it could be installed relatively quickly and offered a path for future upgrades. Gogo began developing other systems that could fit on aircraft of all sizes from small turboprops to the largest private jets. Today, Gogo connectivity products can be found on more than 9,000 aircraft.

"We've never stopped looking for what's next and that's why we're building global broadband system that will use a low Earth orbit (LEO) satellite network," says Aguirre. "We brought broadband connectivity to aircraft of all sizes and mission types in North America and our global broadband service, Gogo Galileo, will do the same on a global scale. We are dedicated to this industry. Business aviation is all we do today, and our customer service is second to none." ▶

Gogo AVANCE: business aviation's only true technology platform

In 2017 Gogo introduced the AVANCE connectivity platform and the new technology represented a paradigm shift for inflight connectivity in business aviation. Since that time, AVANCE has been so well received that others in business aviation have caught the 'platform' bug.

You see it in ads, marketing content, and sales pitches. Many technology players in business aviation talk about the "latest and greatest platform" or "our new and improved (insert buzzword) platform".

But what, specifically, is a technology platform? What does it mean and what benefits does it need to provide to warrant that term?

To answer that question, we asked Gogo Business Aviation to see how it defines "platform", and to explain how AVANCE meets the criteria.

"A technology platform is a group of individual components brought together to make a cohesive unit," says Jeremy Tyler, vice president of software applications engineering for Gogo. "You bring in software, hardware and other tools to create a consistent experience for the user. Apple is a great example."

"The Apple iOS operating system is the 'brains' across its hardware, but Apple created an entire digital ecosystem where everything can be integrated, automatically synchronized through the cloud, and even updated between any Apple device," he continues. "The result is a seamless, consistent 'Apple' experience independent of the Apple device you are using. AVANCE is very similar."

According to Gogo, AVANCE software is the "brains" on all of its systems - AVANCE L3, L5 and SCS - and future products as well, such as Gogo's global LEO broadband product Gogo Galileo. Gogo uses one operating system that detects what systems and services it is connected to so every feature Gogo offers is available to every system.



The Gogo AVANCE experience is the same, regardless of aircraft



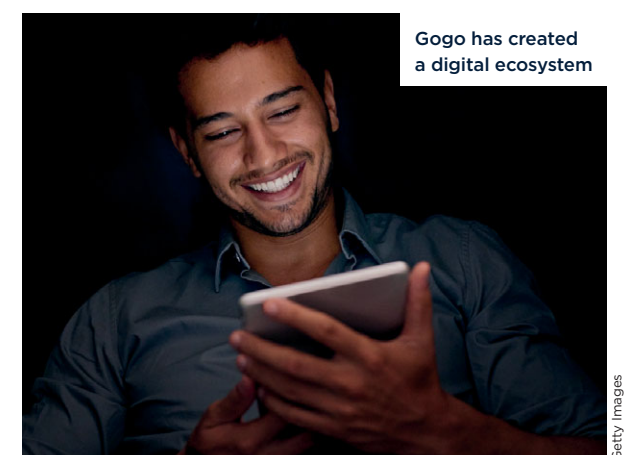
AVANCE offers upgrade paths to global broadband and Gogo 5G

"It doesn't matter if our system is on a Gulfstream heavy-iron aircraft or a turboprop like a Pilatus PC-12, the experience is the same," says Tyler. "And the benefit for aircraft owners, operators and passengers is that Gogo can get innovations and updates into their hands almost instantly: things that other providers have to do with hardware, which requires putting the aircraft down for a period of time for the change which takes time and is expensive, we can do over the air."

In terms of hardware engineering, AVANCE is built modularly, and it's designed to be what the company calls "plug and play" which makes it easy for customers to expand and upgrade their inflight wi-fi experience.

"When we create a new solution, we don't have to start from scratch, we can simply use our base set of features," says Chris Rippe, distinguished member of technical staff product development for Gogo. "When we need to do an upgrade, we can design it once for the whole platform. 5G is a great example of this modular design. When a customer is ready to upgrade, they won't have to remove any hardware to add 5G speed to their AVANCE L5 system - instead, they'll simply plug a small Gogo X3 (5G) LRU into the AVANCE L5, much like how you'd connect a peripheral like a printer to your laptop."

AVANCE also gives operators comprehensive inflight connectivity and entertainment in a single LRU (line replaceable unit) that has been designed to be future-ready right out of the box which allows Gogo to:



Gogo has created a digital ecosystem

- Easily add new networks such as Gogo 5G and the new global LEO broadband system
- Instantly deploy new services over the air
- Remotely deploy support and software updates over the air
- Quickly connect to and enable new third-party applications

"When we lowered our service altitude from 10,000 feet AGL to 3,000 feet, every AVANCE customer received that update over the air," says Rippe. "Our customers never had to touch the aircraft or bring it down for that upgrade to be implemented, and Gogo is the only connectivity provider in business aviation with that capability today." ▶



Leading Gogo's expansion

Shuaib Shahid is responsible for Gogo Business Aviation's global sales and channel management activities and is the company's main point of contact for international operations. He will be leading Gogo's sales initiatives for the new global LEO broadband satellite service expected to launch late next year.

Shahid has nearly 20 years of experience in the inflight connectivity market, working in global operations throughout that time. He spent several years with a leading satellite network operator early in his career in business aviation and helped it launch the ubiquitous inflight connectivity service SwiftBroadband. Throughout his tenure, he was responsible for that company's entire business aviation division.

He also set up global operations in Europe and the Middle East with another major business aviation IFC service provider, so he's no stranger to serving global markets.

Shahid joined Gogo 10 years ago and has been exclusively focused on Gogo's services and equipment portfolio outside the United States during that time.

Shahid: No stranger to global markets

Gogo Vision 360 captivates passengers

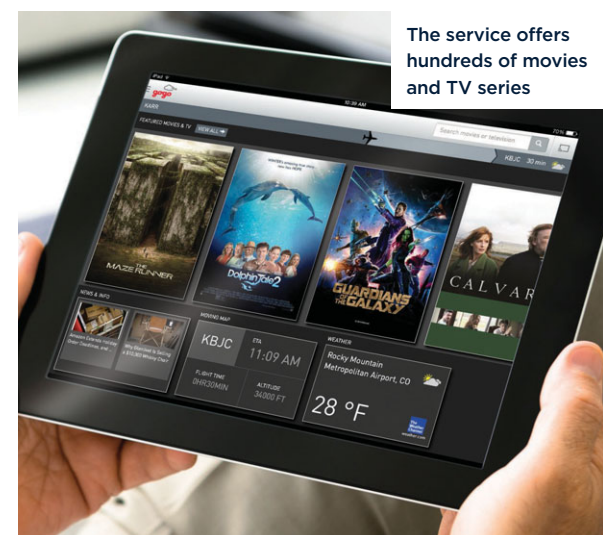
Gogo set a new standard for inflight entertainment (IFE) in business aviation when it unveiled Gogo Vision 360 in 2020 – a premium IFE service that features a compelling and comprehensive suite of services, including a state-of-the-art 3D moving map.

The service offers unlimited streaming of on-demand movies, TV programming and news, along with digital magazines and a stunning 3D premium moving map from FlightPath 3D, all at a fixed monthly price eliminating the unpredictability and often high costs associated with inflight video and audio streaming.

Gogo Vision 360 is integrated into every AVANCE system – L3, L5 or SCS – and is available for activation via a call to Gogo customer care as a new service or as a free upgrade for existing Gogo Vision customers. Activation will occur automatically over the air with no downtime required.

There are 30 leading digital magazine titles available on Gogo Vision 360, and for those interested in global news, a wide array of current news topics from Bloomberg News have been added including global business, investing, technology, automotive, energy and breaking business and finance stories from Asia, Europe, the Middle East, Africa and the U.S.

Gogo Vision 360 is configurable for Arabic, English, French, German, Italian, Russian, and



The service offers hundreds of movies and TV series

Spanish. Audio tracks for movies and TV episodes are offered in English, French, German, Italian, Russian, Spanish, and Swedish.

All Gogo Vision content is updated automatically each month through a seamless delivery via Gogo Cloudport, either in a customer's own hangar or at Gogo Cloud locations in Europe and throughout the U.S. Gogo Vision is the only IFE service that can deliver content updates over the air. ▶



Gogo Galileo

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gogoair.com/galileo



Signature looks to expansion

Signature Aviation is at EBACE as the industry's largest fixed-base operator looks to expand its network outside its North American heartland.

Just over a tenth of Signature's 230 or so FBOs are outside the Americas – almost all of them in Europe. However, it boosted its presence on this side of the Atlantic with its acquisition in 2020 of two former TAG Aviation FBOs in Switzerland, in Geneva and Sion, giving Signature its first facilities in that country.

That year, Signature also took full ownership of its Italian joint venture with SEA Prime, which operates FBOs in Milan and Rome. John-Angus Smith, managing director Signature EMEA, says the company – which was purchased for \$4.6 billion by Global Infrastructure Partners (GIP) in early 2021 – is “looking at how we expand, both organically and through acquisition”.

He adds: “There is lots of opportunity to look at what our global footprint should be. We have capital available from our investment partners.”

Since the GIP acquisition, Signature last year added 14 former TAC Air sites in the USA, taking in into markets such as Buffalo, Knoxville, Lexington, and Salt Lake City.

In the UK, Signature has also opened a new FBO in Edinburgh and replaced its flood-damaged site in Birmingham with a new facility.

Brazil green light for Cirrus Safe Return

Brazilian regulators have approved the Garmin-supplied Cirrus Aircraft Vision Jet Safe Return system for use in the country. The Collier Trophy-winning automatic landing technology was certificated in the USA in 2020 and in Europe the following year, and allows passengers to autonomously land the single-engine jet with one touch of a button if the pilot becomes incapacitated.

It means yet-to-be-delivered Vision Jets as well as examples already operating in Brazil can have the avionics device fitted.

Zean Nielsen, chief executive of Cirrus Aircraft, describes the decision by safety authority ANAC as “a tremendous milestone for our Brazilian owners and operators”.

Flexjet hoping for helo effect

US fractional's European division takes delivery of Sikorsky S-76

Kerry Reals

US-based Flexjet is continuing its European expansion with the launch of a new private helicopter division, after taking delivery of its first Sikorsky S-76 on the continent.

Flexjet says it will be the first fractional ownership provider in Europe to offer helicopter services to owners as an extension of its existing private jet programmes. Helicopter programmes will also be offered as a standalone service.

Existing customers who have purchased a minimum of 50h on a Flexjet long-range business jet and enrolled in the Gulfstream G650 programme in Europe will be offered complimentary access to the new Sikorsky division.

All other jet owners will be required to buy a fractional share in the helicopter division separately.

Flexjet says the new venture will “significantly” enhance its Gulfstream G650 programme, which launched in Europe last September.

Each Flexjet S-76 seats up to eight passengers and features bespoke interiors from its LXi cabin collection. The helicopters have a range of 300nm, allowing point-



New service will focus initially on UK

to-point connections from London to Dublin or Paris.

The new service will initially focus on the UK, where Flexjet has its European base at Farnborough airport, before being expanded to other parts of Europe “in the coming years”, says the company. It follows a similar launch by Flexjet last year in the USA, where the company offers helicopter operations in Florida and the northeast.

The new helicopter operation will feature at this year's Royal Ascot horseracing event, where Flexjet will host the private heliport.

“No other private jet

provider can offer access to an in-house helicopter fleet, which is yet another example of what makes our service stand out from our competitors,” says Flexjet European managing director Marine Eugene. “Following the successful model already pioneered by Flexjet in the US, our new UK helicopter division defines us as a leader in combined fixed-wing operations and private urban mobility.”

Alongside the Sikorsky S-76, which Flexjet says will be targeted at regular helicopter programme fliers, the company will offer on-demand helicopter charters on

its operated and managed fleet of Agusta AW109s and AW169s. These helicopters were previously operated by Halo Aviation, which was acquired by Flexjet's parent company in 2021.

“We see significant market potential for our premium helicopter programmes here, and we're raising the bar in rotary operations in every respect,” says Eli Flint, president of Flexjet's global helicopter operations.

Flexjet says that every helicopter flight will include offsetting at 300% of carbon emissions, “to recognise both CO2 and non-CO2 pollutants”.

Dassault's SAF bet at Little Rock

Dassault Aviation will use a sustainable aviation fuel (SAF) blend to power all customer acceptance and departure flights from its Little Rock, Arkansas completion facility, as part of the manufacturer's efforts to reduce the carbon footprint of its operations.

The French airframer says that all flights operated by company-owned Falcon aircraft, whether for business, transport or support purposes, will use SAF blends under the plan.

The fuel is being supplied in Little Rock by Avfuel and Finland-based SAF producer Neste.

“SAF offers carbon emission reductions of 80-90%



Avfuel and Neste are supporting the manufacturer's initiative

compared to conventional jet fuel, when used in its concentrated form,” says Dassault. All Falcon aircraft

are certified to use up to 50% SAF blends – the maximum allowed under current regulations.

The new Falcon 10X ultra long-range twin will be compatible with 100% SAF when it enters service in late 2025, says Dassault.

However, this will depend on a change to the rules governing the amount of SAF that can be used on aircraft. A wider uptake of SAF will also require a massive ramp-up in production volumes, with current volumes accounting for less than 1% of total jet fuel demand.

The business aviation industry has committed to achieve net-zero carbon dioxide emissions by 2050. Dassault says that it believes SAF is “currently the most promising solution to meet this target”.

Jekta's founder wants to build on the legacy of his father's start-up, Aero Volga, and bring a 19-seat electric amphibian to into service this decade

Murdo Morrison

His father created one of the few successful aviation start-ups in post-Soviet Russia, producing the eight-passenger Aero Volga LA-8 amphibian. Now George Alafinov wants to build on that legacy by developing a 19-seat electric successor in Switzerland, with the aim of flying the seaplane by 2026.

Alafinov believes his all-composite Jekta PHA-ZE (for Passenger Hydro Aircraft - Zero Emission) 100, with a floating hull and five electric motor-powered propellers on each high wing, offers a sustainable and affordable solution to the connectivity needs of coastal and lakeside communities.

He has established his company at the Aeropole 2 aerospace cluster at Payerne airport in southwest Switzerland where Jekta is building a 27,000sq m (290,000sq ft) facility. As well as offering legal and other support services, the town is between two lakes, ideal for testing a flying boat.

Alafinov - who is taking part in an EBACE panel discussion today - is targeting deliveries of the unpressurised, 130nm (240km)-range aircraft in the first quarter of 2029.

In March, Jekta confirmed its first serious interest in the aircraft, with a letter of intent for the purchase of 10 PHA-ZE 100s from Gayo Aviation, a Dubai-based tour operator and private aviation brokerage. This month it announced a memorandum of understanding with Honeywell to "explore and identify" which of the aerospace supplier's technologies - including electric engines, flight control systems and connectivity products - might be incorporated into the final aircraft, with a decision by the end of this year.

Although Swiss-registered Jekta is a separate entity to Aero Volga - and free from restrictions on doing business with a Russian entity - Alafinov believes his family's more than 20-year heritage gives Jekta the DNA to bring to market a modern amphibious transport.

Aero Volga developed the composite LA-8 - powered by



PHA-ZE 100 will be powered by five electric motors on each wing

Lycoming or Czech LOM Praha piston engines - in the late 2000s, and delivered 22 examples. It also built around 30 D-Borey amphibious ultralights.

Alafinov says the inspiration for the PHA-ZE 100 came from a realisation that current 12- to 19-seat types able to be adapted to operate on water, such as the Cessna Caravan and De Havilland Canada DCH-6 Twin Otter, were decades-old designs, and their metal structure meant corrosion was a threat.

Meanwhile, developers of latest generation full or hybrid-electric aircraft, such as Eviation and Heart Aerospace, are offering pressurised cabins, able to operate at higher altitude, but heavier, he says. Crucially, they are not focusing on amphibious variants.

"While working on the eight-seater, we realized that nobody was building anything in the 12- to 19-seat niche, so we said let's make a 19-seater," he recalls. "Then we said what if we do it with electrical propulsion?"

He continues: "The average flight length in that sector is 74km, so there are advantages in having a shorter-range aircraft. An unpressurised aircraft is achievable with current technologies, and the decrease in running costs is vast."

Alafinov reckons there are about 1,000 amphibious aircraft of nine seats or more in service, with about 350 operators. However, he thinks Jekta can "expand that market greatly" given the need for regional connections in large developing countries with poor ground infrastructure, such as India.

"Although India is developing a lot of new airports, there are many remoter communities that will still have no access to air links, but populations there could benefit if there were viable seaplane routes," he says. "In parts of Southeast Asia that same applies."

There will also be a market for the PHA-ZE 100 in Switzerland and

Nordic nations where there are many communities based close to water, but that are also introducing strict environmental controls on regional air transport, he maintains.

The PHA-ZE 100 will feature a planing hull with retractable tricycle landing gear to allow it to land on conventional airstrips. Strut-braced, high-aspect-ratio wings will taper to drag-reducing swept wingtips. Batteries will provide 1h of power, with 30min reserve.

Although Jekta has been "in conversations" with potential suppliers for two years, "we are not making any announcements yet", says Alafinov. However, he discloses that it will manufacture wings from the composite fibre Oratex, which Aero Volga previously used.

Alafinov is convinced about his decision to site the company in Switzerland, despite the high costs of doing business there. The country is one of the first in the world to have regulations for electric aircraft. "There's a dialogue here, an understanding that you don't get everywhere," he says.

Its "great universities" also provide talent and partnership opportunities, while 'Made in Switzerland' is a great brand, he adds. However, while Jekta will base design, flight-testing, marketing and management in the Alpine nation, most of the manufacturing will take place abroad.

There was another reason for the move - the deteriorating political situation in Russia. "We wanted for some time to move out of Russia and use our resources to create a new brand and a new company. We had plans well before the [Ukraine] invasion, but that accelerated things," he says.

Alafinov admits "we don't have a lot of capital" and the firm will have a big push to attract investors this year. He rules out a flotation through a special purpose acquisition company or SPAC, the preferred route of many recent disruptive

technology start-ups, because "their time has passed".

Jekta made one of its first presentations to potential investors in Abu Dhabi in November.

Alafinov sees the Gulf as a market with governments, investors, and entrepreneurs keen to tap into the concept of sustainable aviation, including in the high-end leisure segment.

Jekta does not have the market to itself. A number of companies are developing amphibious aircraft. They include Germany's Dornier Seawings, a Chinese-backed firm that plans to relaunch production soon of the Seastar CD2, a 12-seat amphibian originally designed in the 1990s but never delivered.

Rhode Island-based Regent in April unveiled a full-scale mock-up of its electric Viceroy - a "seaglider" designed to operate exclusively just above the water surface with ground effect producing a cushion of air - which it plans to start flight-testing in 2024.

Norwegian start-up Equator Aircraft and Icon Aircraft of the USA are among those offering smaller amphibious designs, while China's AVIC is working towards a 2024 service entry for its much larger AG600, an aircraft intended, like De Havilland Canada's CL series, as a firefighting water bomber.

Alafinov believes that rapid advances in battery technology will soon allow Jekta to offer much longer-range versions of the PHA-ZE 100. "That's why we plan to put a bathroom on the aircraft. You have to think about what's going to happen in 20, 30, 40 years," he says.

Alafinov - a Swiss citizen who served in that country's air force - admits that bringing the design to production and securing Jekta's long-term future will be a "long journey", but says the family has done it before. "My father built a successful company," he says. "Starting in his garage." ▶

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German medevac specialist FAI believes its expertise in healthcare sector bolsters its reputation in wider mission-critical charter market

Call an ambulance

Murdo Morrison

Entering the basement below FAI’s maintenance hangars at Nuremberg’s airport, you realise why the German operator has established its enviable reputation in the air ambulance world over three decades. Next to a well-stocked pharmacy is a storeroom with three EpiShuttle isolation pods, a transparent shell covered stretcher with its own oxygen and air ventilation system. FAI was the first in Europe to invest in the product, which proved a boon during the height of the Covid-19 pandemic.

“No competitor has a wider range of medical services on board,” says Siegfried Axtmann, chairman and founder of FAI Aviation Group. “We offer a turnkey service bedside to bedside.” With its own team of doctors and paramedics, and a dedicated medevac fleet of five Bombardier Challenger 604s and five Learjet 60s, the business specialises in long-distance medical transfers on behalf of corporate, government and insurance firm customers, with a significant presence in the Middle East.

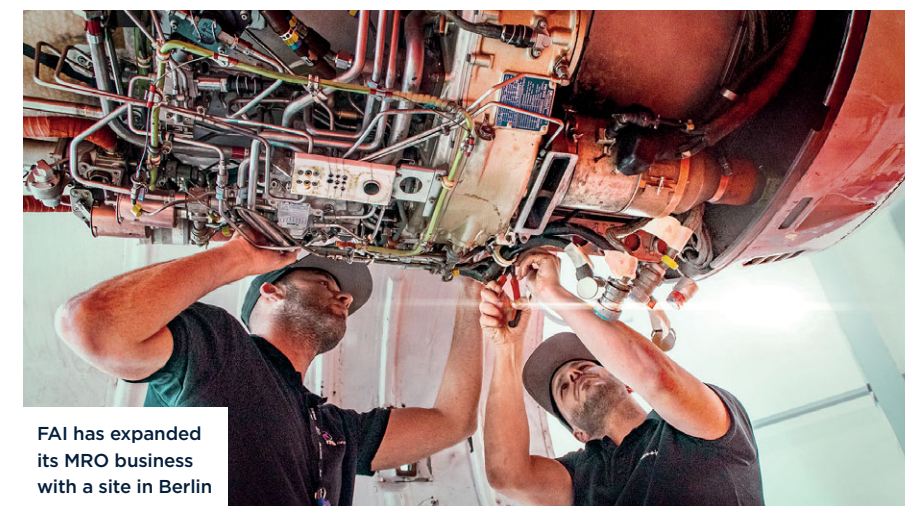
Medevac is the biggest of FAI’s three divisions, representing close to €50 million (\$54 million) of almost €130 million revenues in 2022. A maintenance, repair and overhaul arm, FAI Technik – bolstered this year by the addition of a maintenance base in Berlin specialising in Beechcraft, Gulfstream and Hawker types – will bring in some €25 million this year. Meanwhile, charter and aircraft management businesses have revenues of around €30 million and €15 million respectively.

Six years ago, Bahrain’s sovereign wealth fund Mumtalakat took a “significant minority stake” in FAI, which has helped the German company “develop deep routes” in the region, says Axtmann. The company has had a sales office in Dubai for 20 years and around a fifth of its business comes from the Middle East. FAI is an official supplier to the McLaren Formula 1 team, which is majority-owned by Mumtalakat.

With an all-Bombardier fleet and an in-house and third party maintenance operation at Nuremberg reflecting that loyalty, FAI had until recently no intention to expand elsewhere in Germany – not least in the capital where the Canadian manufacturer already had an in-house service facility. However, an unexpected opportunity to move into brands outside Bombardier came up when Berlin-based Hawker Beechcraft specialist BBA filed for bankruptcy in 2022.



FAI’s medevac fleet includes five Challenger 604s



FAI has expanded its MRO business with a site in Berlin

While FAI has not bought the business itself, it has acquired its assets, including its 4,700sq m (50,000sq ft) premises at Berlin Brandenburg airport, and taken on 30 staff, almost all the former workforce. FAI has expanded its own maintenance licences to include Hawker HS125 and Beechcraft Premier I/IA and King Air series aircraft, as well as most Gulfstream models. It will additionally offer aircraft-on-ground (AOG) services to Bombardier operators.

Distinct from the medevac fleet, FAI’s charter division, FAI Rent-a-Jet, operates five Global Express aircraft – one of which it can reconfigure as an air ambulance – and two more Learjet 60s. While medevac performed strongly in the pandemic, charter had a tougher time as Covid-19 restrictions curtailed travel. However, from late 2021, demand for business and leisure trips soared, and only began to tail off in the final quarter of 2022 as inflation fears

and North America. The contribution from the Berlin MRO aside, Axtmann expects revenues this year to be around the same as 2022, with headwinds continuing to affect the charter business.

Although FAI’s charter unit relies on selling through brokers, what sets it apart, says Axtmann, is the group’s reputation as an uncompromising special mission operator, built on the back of its medevac activities. “Almost all our charter is intercontinental. We don’t really operate within Europe,” he says. “We often go into countries the average operator cannot because they don’t have the insurance – taking NGOs [non-governmental organisations] into hot spots, for instance.”

On medevac, FAI is evaluating its fleet needs, with a disposal of its Learjet 60s possible. The issue, he says, is not their vintage – they are between 20 and 25 years old – but that the small-cabin segment is highly competitive and their direct operating costs are not much less than the Challenger 604’s. “We have not decided our future model,” says Axtmann. “We are looking at Embraers and Learjet 75s, but there is a chance we leave the small jet sector entirely and concentrate on larger aircraft.”

While the roughly 2,000nm (3,700km)-range Learjet 60s can perform intercontinental missions with fuel stops, many clients want direct flights and the larger interior that the 3,700nm-range Challenger 604 offers, he says. Additionally, because the Challenger 604’s GE Aerospace CF34 is a commercial engine – it powers Bombardier and Embraer regional jets – maintenance costs are much lower than on the Learjets. ■



Axtmann: We go to the countries the average operator cannot

dampened business confidence. Axtmann says having the three separate businesses helped the group through the pandemic and its aftermath, although medevac has been consistent throughout, helped by repatriation flights early in the crisis and steady requests for medical transfers, often from the Gulf to specialist hospitals in Europe

The UK capital has more business aviation airports than any major city. Several of them have been investing to attract new customers

London calling



Farnborough is teaming with Aston Martin as it sees the two brands as complementary

Murdo Morrison

Paris may boast the world's busiest business aviation airport at Le Bourget, and Geneva and Nice can count themselves among Europe's most popular destinations for well-heeled flyers. However, no city has as many airports competing to be its preferred private aviation gateway as London.

Discounting its major airline hubs Heathrow and Gatwick, the UK capital offers operators and their passengers no fewer than six points of entry – more if you include airports within a reasonably easy reach of London, such as Oxford and Southend, and airfields that cater for the smallest jets.

Each has its own unique selling points, whether pricing, operating hours, privacy, range of services, upmarket terminals or ease of getting to central London. What is more, at several of the airports there are rival fixed base operations, all with their own value propositions.

There have been major developments in the past year or so, with major infrastructure investments underway at Biggin Hill and Farnborough, and changes in the fixed-base operator (FBO) landscape at Biggin Hill and Stansted.

Three of London's airports are within the M25 orbital motorway: the former wartime airbase of Biggin Hill in the southeast, now a thriving business aviation hub; London City, best known for its regional airline connections to European financial

centres; and Northolt, a shared military facility.

Just beyond the capital to the southwest, is Farnborough, like Biggin Hill a dedicated business aviation airport. North of the metropolis are two airports famous for low-cost airline flights, but that also secure a substantial share of London's business aviation traffic: Luton and Stansted.

Of all the airports circling London, Farnborough is certainly the most striking. Under two decades of ownership by Swiss services group TAG, the one-time military airport underwent a transformation, constructing architecturally distinct wave-roof hangars and a luxury terminal.

Like Biggin Hill, the airport has a storied history. Samuel Cody made the UK's first powered flight from there in 1908 and for much of the

last century it housed the country's aeronautical research facilities. The biennial Farnborough air show takes place on the opposite side of the runway.

In 2008, TAG opened a luxury 169-bedroom hotel on the airport's perimeter, positioning The Aviator at aircrews and "elite travellers moving between London and the world's leading destinations". In 2019, Australian infrastructure fund Macquarie acquired the entire airport, including the hotel.

Macquarie has continued the investment, with building work underway on a new £55 million (\$67 million) 16,000sq m (175,000sq ft) hangar, dubbed Domus III. It opens in January 2024, and will increase hangar space by 70%.

The airport saw a strong rebound in traffic in 2022 with 33,000 movements, up 2% on the 32,000 in

2019, giving it a claimed 31% share of the London market. However, chief executive Simon Geere admits demand softened in the second half as the economy slowed following a post-Covid surge.

Farnborough's business model differs from many of the other London airports in that owns the airport itself and almost all the infrastructure, and provides the majority of its fixed-base services including hangar space, passenger processing, and aircraft handling.

However, in recent years it has been attracting more third-party tenants. Around 70 companies – including fractional operator NetJets, its biggest customer – have offices at the airport, creating what the airport calls a "growing aerospace and aviation industry cluster".

Dassault Aviation Business Services, the French manufacturer's maintenance arm, has a 6,000sq m hangar on the airport estate, while simulation-training company FlightSafety opened its centre next to the terminal in 2006.

In 2020, Gulfstream relocated its main European maintenance, repair and overhaul hub from Luton, building a new 21,000sq m hangar, not far from the terminal. Geere believes there are "two obvious sites" at the airport for a second MRO facility, although he gives no clues on potential candidates.

The airport wants "subtly to reposition our brand" as an "aspirational product", according to Geere, by increasing awareness among private aviation users themselves. "You'll find us talking

less about business aviation and more about premium air travel connectivity," he says.

This is partly why Farnborough has been embarking on a series of upmarket brand partnerships, including with Aston Martin. One of the luxury carmaker's DBX707s chauffeurs passengers to and from their aircraft.

Geere says this fits perfectly with Farnborough's position in the market, with many of its regular users wealthy individuals based in London or who regularly fly there for business or pleasure. "We've always said we are a premium product at a premium price," he says.

Luton is Farnborough's main rival as the most popular London airport for business aviation. While the main terminal serves largely low-cost and leisure airlines, there are two large standalone FBOs, operated by Signature Aviation and Harrods Aviation.

Luton is Signature's flagship FBO on this side of the Atlantic – 28 of the company's 230 or so locations are outside North America, almost all of them in Europe. Signature built the impressive two-storey VIP terminal in 2016 after acquiring incumbent operator Landmark.

Despite its reputation as a cheap and cheerful airport for holidaymakers, Luton is the perfect choice for private travelers, argues John-Angus Smith, Signature's managing director EMEA. "It's location is why it's so popular. There is great access to London down the M1 [motorway]," he says.

He also disputes suggestions that business jet operators sometimes battle for take-off and landing positions with EasyJet and Wizz Air airliners. "We are a significant tenant, and we work with the airport on slots. They are good at giving us solutions. It's never a problem," he says.

Signature's competitor at Luton is Harrods Aviation, which has also been expanding its footprint at another commercial airport, Stansted, where it was one of four FBOs until it bought its neighbour Fayair earlier this year.

Anglo-Egyptian entrepreneur Mohamed Al-Fayed set up Fayair shortly after selling Harrods Aviation – along with its sister company, the famous Knightsbridge department store – to its current owner, the Qatari sovereign wealth fund, in 2010.

Harrods' acquisition of Fayair will allow it effectively to double its footprint at Stansted, with an additional 3,600sq m hangar and 8,500sq m of ramp parking. It also gives the business – which uses a refurbished 1960s former airline terminal – a 21st century passenger facility.

In the immediate future, Harrods, which also has a large maintenance hangar at Stansted, will maintain both brands "to avoid confusion with customers", but longer-term will rebrand Fayair as Harrods Aviation and operate from both locations, says sales and marketing director Will Holroyd.

While Harrods Aviation caters for a number of large aircraft private charters, such as sports teams and touring bands, Holroyd says the Fayair terminal is "purpose-built for the small to midsize sector, and perfect that that sort of operation".



Luton is home to two major FBOs as well as a hub for low-cost airlines



Biggin Hill says its investments have been about more than increasing traffic

He describes the neighbouring FBOs as "chalk and cheese". The Harrods Aviation facility is "beautiful inside but not designed for purpose. Everything has its moment, and the time is now right to repurpose this building. We will continue to use both for different sorts of flights," he says.

Holroyd says 2022 was "remarkably successful" for Harrods Aviation. "We saw a continued uptick, with a big increase in long-range, large-cabin aircraft." While 2023 has begun positively, he says it will be a year of "wait and see" what the impact of a wider global economic slowdown might be.

The acquisition has given Harrods Aviation "the appetite to look further afield, potentially at other locations", says Holroyd. "We have a globally recognised brand. However that comes with a great responsibility and anything we do must enhance rather than dilute that brand."

Biggin Hill has arguably been the busiest business aviation airport in London over the past 12 months in terms of investment, opening a 56-bedroom hotel called The Landing in early 2023, and doubling the size of a maintenance hangar it leases to Pilatus distributor Oriens Aviation.

While the initiatives helped Biggin Hill to increase traffic in 2022 by 56% over the pre-pandemic year of 2019 – including a record July that saw a record 3,400 landings and take-offs – the investment has been "about more than movements", according to commercial director Robert Walters.

"It's also about all the value added we are providing on the ground," he says. "All our investment means more jobs, as our tenants expand and recruit. We are on the journey to create 2,300 additional jobs by 2030," he says.

To help achieve that, Biggin Hill is working with a training provider to establish a technical college on the site – a project mooted several years ago, but on ice since the pandemic. Walters hopes to have the first cohort of apprentices and other students in place by September next year.

There is a wider agenda too. Business aviation airports – and private flying generally – have been in the firing line from environmental campaigners who portray the industry as largely unnecessary and hugely damaging to the environment.

However, Walters says one of his obsessions is trying to convince those living near Biggin Hill of the enormous contribution his business makes to the local community in terms of creating skilled long-term career opportunities in the likes of aircraft maintenance.

Farnborough too has been making the same plea, issuing a study with its local authority Rushmoor Borough Council that it says "shows that over the last decade the airport has had a significant impact on the prosperity" of the community.

"We are proud of our long-standing history of contributing to the economic wellbeing of the region," says Geere. "Creating jobs is core to what we do. Through continued investment, we plan to support the creation of many more." ■

Harrods Aviation's new hangar and FBO at Stansted



Anthony Rossi, vice-president marketing for Pratt & Whitney Canada, outlines what the engine manufacturer will be highlighting at EBACE

Powering through the years



Q How would you characterise Pratt & Whitney Canada's position in the industry?

A With a 95-year history, Pratt & Whitney Canada is a long-established aviation engine manufacturer with an enduring track-record. We have consistently demonstrated our commitment to engine innovations and have pushed the boundaries of aviation technology. Today, we collaborate with more than 60 airframe OEMs, have over 15,000 customers and 65,000 of our engines are in-service powering aircraft across the globe. This experience gives us an unmatched insight into aviation trends. It also demands that we take a leadership role in heralding foundational change within the industry.

Q On that theme, how is P&WC helping the industry achieve its carbon reduction targets?

A Air travel is no longer just about getting from point A to point B, it's about minimising environmental impact as much as possible.

With the goal of achieving net-zero CO2 emissions by 2050 now backed by airlines and governments we continue to focus on advancing technologies that

will help achieve that. Sustainable aviation fuel (SAF) is a key focus for us, as we recognise its vital role in achieving the industry's goal of net-zero emissions. We are pleased to collaborate with ATR to ensure that PW127-powered ATRs will be able to use 100% SAF by 2025. Our efforts extend beyond regional aircraft to include our business aviation applications. We have a comprehensive testing plan spanning the next 3-4 years to ensure that all our engine families, including those in business aviation, are 100% SAF compatible. ADAC Luftrettung, a German air rescue operator, is in the process of extending SAF usage to its fleet of P&WC-powered helicopters. In late 2021, ADAC announced its plan to operate with SAF at blends of 30-40% over the course of 36 months, the programme will set one of the most extensive operational SAF usage cases for the sector.

To accelerate our SAF research, we recently announced a new project supported by the government of Quebec. This initiative will enable further testing and research on various SAF types, including synthetic e-fuels developed by the SAF+ Consortium. Additionally, we are working with Airbus to conduct 100% SAF flight testing on the Pratt & Whitney GTF-

powered A220 aircraft, which serves the business aviation market as the ACJ TwoTwenty. With [standards agency] ASTM International expected to define a specification for 100% SAF as early as 2025, we are committed to making significant progress in this area.

In the realm of hybrid-electric propulsion, we are proud of the strides we have made in our collaboration with sister company Collins Aerospace. Following the successful first engine run of our hybrid-electric demonstrator in December 2022, we are now focused on flight testing, targeting a remarkable 30% improvement in fuel efficiency compared to today's most advanced regional turboprop aircraft. Hybrid-electric propulsion holds immense potential not only for the regional market but also for a wide range of applications, including high-speed eVTOL [electrical vertical take-off and landing] aircraft.

Q Your PW800 series is flying on the Gulfstream G500/600 and will also power the G400, as well as the soon-to-be-certificated Dassault Falcon 6X. What can you say about its operational performance so far, and progress on the upcoming programmes?

A The engine family has maintained strong momentum. We are confident that this trend will persist as we eagerly await the entry into service of the G400 and the

Falcon 6X. It has been performing exceptionally well on the G500/600. With over 230,000 flying hours accumulated to date, these engines have showcased outstanding performance and reliability. Our collaboration with Dassault has been on track, meeting all milestones as we work together to support the Falcon 6X's entry into service.

Q How is 2023 developing for you so far and how do you view prospects?

A As we navigate through 2023, we are optimistic about the future of our business. We are especially proud this year as we are celebrating two major milestones - reaching one billion flight hours across our entire engine fleet, which is a testament to the trust and reliability our engines provide, and the 60th anniversary of the iconic PT6 engine family. The PT6 engine series has remained a leader in helicopter and general aviation as we continuously strive to ensure that the PT6 engine meets the evolving needs of today's OEMs and operators. The PT6 E-Series engine, featuring a dual-channel integrated electronic propeller and engine control system, has ushered in a new era of flying experience, offering simplified operations and enhanced control. The engine's digital connectivity enables comprehensive data analysis for improved performance and maintenance insights.



The PW800 series powers a number of business aircraft including Dassault's Falcon 6X

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Wayne Starling is executive director of the International Aircraft Dealers Association – which represents companies specialising in buying and selling used business aircraft for clients. He explains why the US-based organisation is exhibiting at EBACE for the first time

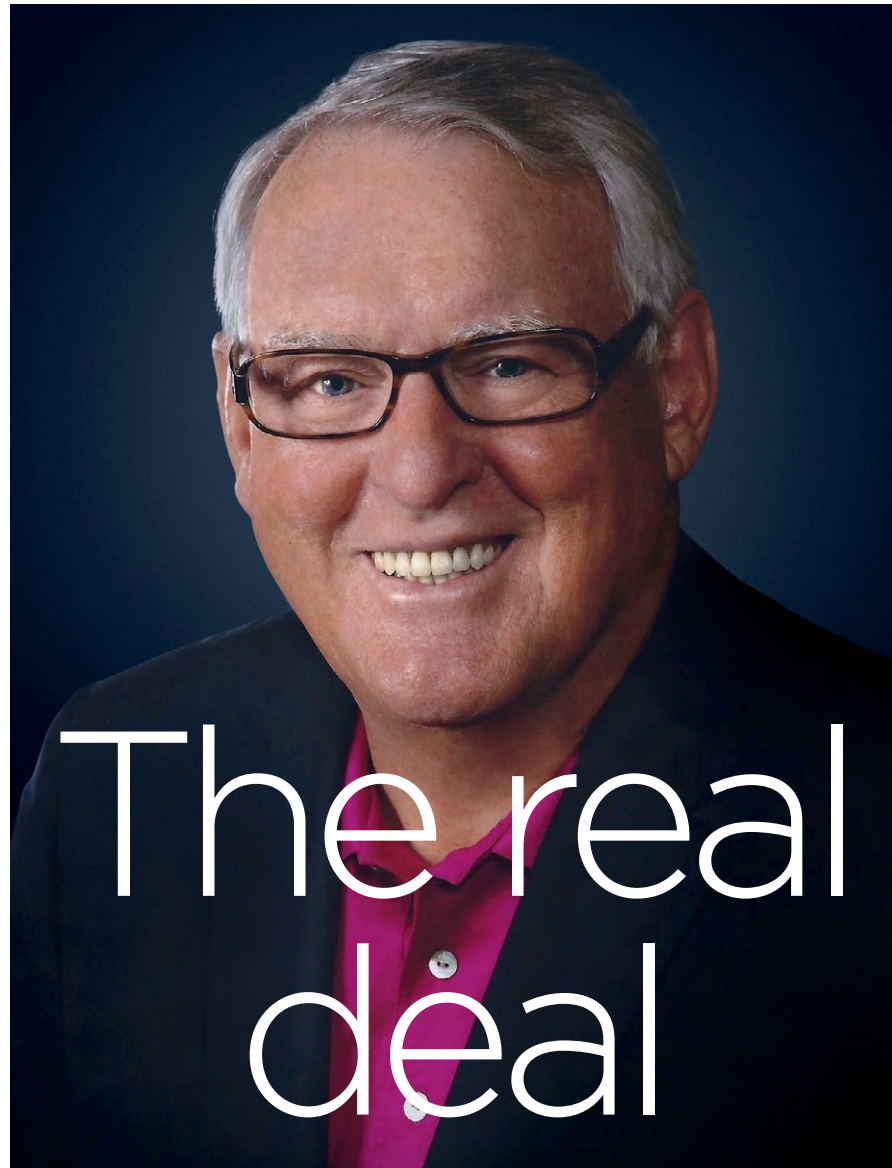
Q Tell us about IADA and its role in the industry.

A As a formidable collective force influencing and shaping the business aircraft industry, IADA plays a central role in ensuring trust and transparency within the pre-owned sales space. The market for used aircraft is always changing due to factors like the economy, technology, supply issues and government regulations. So our active dealers keep on top of these fluctuations, constantly adapting to ensure their clients are the best informed and best represented sellers and buyers of business aircraft.

Q You are exhibiting at EBACE for the first time. Why, and what are you hoping to achieve this week?

A IADA is exhibiting at EBACE this year for the first time for an especially important reason. IADA's global mission is to promote fair and ethical practices within the aircraft transaction industry, and EBACE provides a very attractive platform for us to share our commitment to transparency and integrity in this part of the world. We're here not only to support our members as they represent their clients and meet new clients, but also to share IADA's global advocacy for trust, transparency, and accountability.

We're also here showcasing the expertise of our accredited IADA members to international clients, as well as highlighting our commitment to providing a better marketplace. IADA's third-party accreditation process contributes to better outcomes in aircraft transactions for both buyers and sellers.



Overall, IADA's presence at EBACE is an important part of our global effort to expand our footprint beyond our North American roots

and reach more potential buyers and sellers with our message of transparency and trust across borders.

In addition, here at EBACE we are promoting IADA's relationship with 4AIR, a company focusing on private aircraft sustainability. 4AIR offers the clients of our members a free carbon assessment and programme plan, and a discount on 4AIR voluntary programmes, regulatory compliance monitoring, and reporting. All carbon credits through 4AIR are quantified and verified through the most respected and leading bodies that issue and register credits. Reducing the carbon footprint of business aviation is in all our best interests.

Q IADA's origins are in the USA. Why is it so important to you to achieve a broader international footprint?

A Clearly, private flying is a global endeavour. As a result, IADA has seen our international reach grow organically over the last few years. While most of our dealers

do business in North America, our largest market, our members are also very active in Europe, Latin America and the Caribbean, Asia-Pacific, the Middle East and Africa. In fact, IADA members currently do business in over 100 countries.

This universal presence brings us a step closer to becoming a global force that upholds consistent standards of safety, service, quality, legal requirements and ethical practices. Since the market for used aircraft fluctuates differently around the world, our members are constantly adapting to ensure our clients get the best advice possible.

Q In a few words, describe the market for used aircraft and how do you see prospects for your members for the rest of 2023 and beyond?

A In the first quarter of 2023 we saw a slight increase in expectations for the next six months, and supporting this expectation were the sales figures from IADA's accredited dealers, who generally buy and sell more aircraft by dollar volume than the rest of the world's dealers combined. We are looking at a slight decrease in pricing and a slight increase in available inventory, across the board, for turboprops, light jets, mid-size jets and large jets.

As we predicted, there has been some replenishment of inventory levels and a return to more rational pricing and valuations. Even though macroeconomic forces, geopolitical tensions, and banking crises dominate the headlines, customers appear to be little swayed from their interest in buying and selling business jets. While 2023 activity levels – aircraft sales, flight activity, MRO shop demand – have generally slipped back from record highs in 2022, the market for business aviation products and services remains vibrant.

There is evidence that demand and supply forces are rebalancing with less frenetic activity and realistic pricing but with a steady build-up of available inventory. Further, most OEMs have increased their order backlogs to more than two years of production and they are straining to accelerate deliveries in the face of slowly recovering supply chains. However, many customers won't wait two or more years to get their next aircraft.

While some low-time aircraft with attractive pedigrees continue to attract top-dollar prices for now, the overall market has begun downshifting some from its peak, with accelerating prices and strong residual values. IADA members foresee a generally strong but somewhat tighter marketplace going forward. ▶

IADA foresees a 'strong but somewhat tighter' market for used aircraft transaction



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The biggest business aviation manufacturers are investing heavily in bringing customer support in-house, as a way to differentiate their brands, create additional revenue, and retain loyalty

Murdo Morrison

At airports from Miami to Melbourne and Farnborough to Dubai, giant, gleaming OEM-branded hangars have been springing up. It is part of a march by the three large-cabin business jet manufacturers into maintenance, repair and overhaul. Bombardier, Dassault Aviation, and Gulfstream have all been investing heavily in bricks and mortar in the past three years, driven by a newfound fashion for vertical integration.

The thinking is that, while MRO is a lucrative revenue stream in its own right, controlling aftersales helps the manufacturer retain that crucial relationship with an owner throughout the aircraft's life. However, this was not always the case. Until just over a decade ago, the OEMs seemed content to "stick to their knitting" by focusing on designing and producing aircraft, while ceding most their aftermarket operations to MRO specialists, especially outside their "backyards".

The push into MRO began in earnest 15 years ago with Jet Aviation's purchase by Gulfstream parent General Dynamics. Although Gulfstream had its own in-house MRO network, Zurich-based Jet Aviation gave it a global network of maintenance operations that crucially were brand-agnostic. That - along with Jet Aviation's complementary aircraft management and charter activities - meant the businesses were viable in thin markets where fleet size did not justify opening a Gulfstream hangar.

That was also the thinking behind Dassault's purchase of the maintenance activities of ExecuJet from Luxaviation in January 2019. For almost 30 years, ExecuJet had been establishing a presence in regions including southern Africa, the Gulf, Southeast Asia and Australia, all parts of the world where Dassault - with its two sites in France at Paris and Bordeaux, and three in the USA at Little Rock, Reno, and Wilmington - had no



Maintaining an edge

Gulfstream's Savannah site is part of an extensive US network

aftermarket presence.

Within weeks, Dassault also expanded its European footprint by announcing it was taking over TAG Aviation's MRO operation, including service centres in Farnborough, Geneva, Lisbon and Paris, as well as satellite sites in Luton and Moscow. Later in the year, it added RUAG's maintenance sites in Geneva and Lugano, renaming the entire integrated European network Dassault Aviation Business Services or DABS last year.

Dassault says it is committed to "supporting multiple OEM brands" at DABS, as well as at ExecuJet MRO Services. "What was most important to Dassault was our footprint," says Graeme Duckworth, a co-founder of ExecuJet in South Africa in 1991, who remains the unit's chief executive. "But they also recognised

that it was only possible for us to remain profitable because we cater for other OEMs. We don't favour one over another."

In fact, ExecuJet MRO Services still caters for more Bombardier aircraft than any other make, a legacy of a partnership earlier this century that saw the company provide maintenance services for Bombardier owners in the Middle East, Australia and South Africa, as well as acting as a sales representative. Although the venture formally ended in 2008, ExecuJet MRO Services has retained relationships with many Bombardier operators.

The business is expanding its operations in the United Arab Emirates and Malaysia. It was due to occupy its new facility at Dubai South, next to the emirate's second airport, on 1 May, relocating from its

established site at the main Dubai International airport. The latter will remain an FBO operated by its former sister business, which is still owned by Luxaviation. A new site at Sultan Abdul Aziz Shah Airport in Subang, near Kuala Lumpur, comes on stream in the first quarter of 2024.

While its two rivals have splashed the cash on major acquisitions, Bombardier has been focusing on developing its in-house network with recent major investments in new or expanded facilities in London, Singapore, Miami and Melbourne, Australia. The exception was in 2020 when it bought out its former partners in Berlin Brandenburg-based Lufthansa Bombardier Aviation Services (LBAS) - Lufthansa Technik and Luxaviation to give it complete control in a key MRO market.

The Canadian manufacturer unveiled its new site at London Biggin Hill in November, although it had been operating in the hangar for several months. The building - capable of housing 14 Globals - replaced a smaller but still substantial facility at the business aviation airport that Bombardier moved into six years ago to replace former Qatari tenant Rizon Jet. The hangar is similar in size to its newest facility in Miami that it also opened late last year.

Last year was a busy one for Bombardier elsewhere. It opened a service centre at Melbourne's Essendon Fields Airport in September to reflect, it says, a growing fleet of more than 80 Bombardier business jets in the country. That followed the inauguration of a facility at Singapore's Seletar Aerospace Park, quadrupling the size of its former hangar to 26,000sq m (290,000sq ft) and able to support 2,000 jets annually.

In December, the company ended its frenetic year by breaking ground on its sixth service centre outside the USA, on a 9,300sq m site at Abu Dhabi International Airport, interestingly choosing that emirate over neighbouring Dubai, long seen as the UAE's centre for business aviation. The facility, capable of housing four Globals and due to open in 2025, will be its first in-house location in the Middle East, and fills a notable gap in its network since the termination of its ExecuJet partnership.

Gulfstream has also been active. After relocating its European hub



Bombardier opened its new Biggin Hill maintenance base in 2022

from London Luton to a larger site at Farnborough in summer 2020, the Savannah-based manufacturer went on to open a 15,000sq m customer support centre at Fort Worth Alliance airport. It adds to Gulfstream's existing site at Dallas Love Field. Gulfstream also broke ground on a new 21,000sq m facility at Phoenix-Mesa Gateway Airport in May 2022, which will double its current capacity there, and will open this year.

Earlier this year, the company announced it was expanding its footprint at its home airport, where it operates two service centres, the most recent of which opened in 2019. This phase, which will see

almost 19,000sq m of capacity added to that building, represents a \$98.5 million investment for the manufacturer. It will support 250 extra jobs. President Mark Burns says the focus on increasing its maintenance estate is to "support the growing demand for our fleet around the world".

Whether we will see more manufacturer spending on customer support infrastructure this year and beyond is unclear. With the latest openings and announcements, the big OEMs appear to have addressed the most obvious markets where they expect their fleets to grow over the next decades. However, will there

be a situation where there is too much capacity? Independent MROs, for instance, are still going to be competing hard for work, especially on older, out-of-warranty aircraft.

ExecuJet's Duckworth believes there is room for everyone who provides a professional service, with the manufacturers focusing their in-house networks on the spate of newer programmes going into service and independents able to target lucrative upgrade work on older types. "The market is still big enough," he says. "With the OEMs concentrating on the incremental aircraft, we are very happy to take on the rest." ▶



ExecuJet's latest operation at Dubai South



Dassault established the DABS brand for its MRO sites last year

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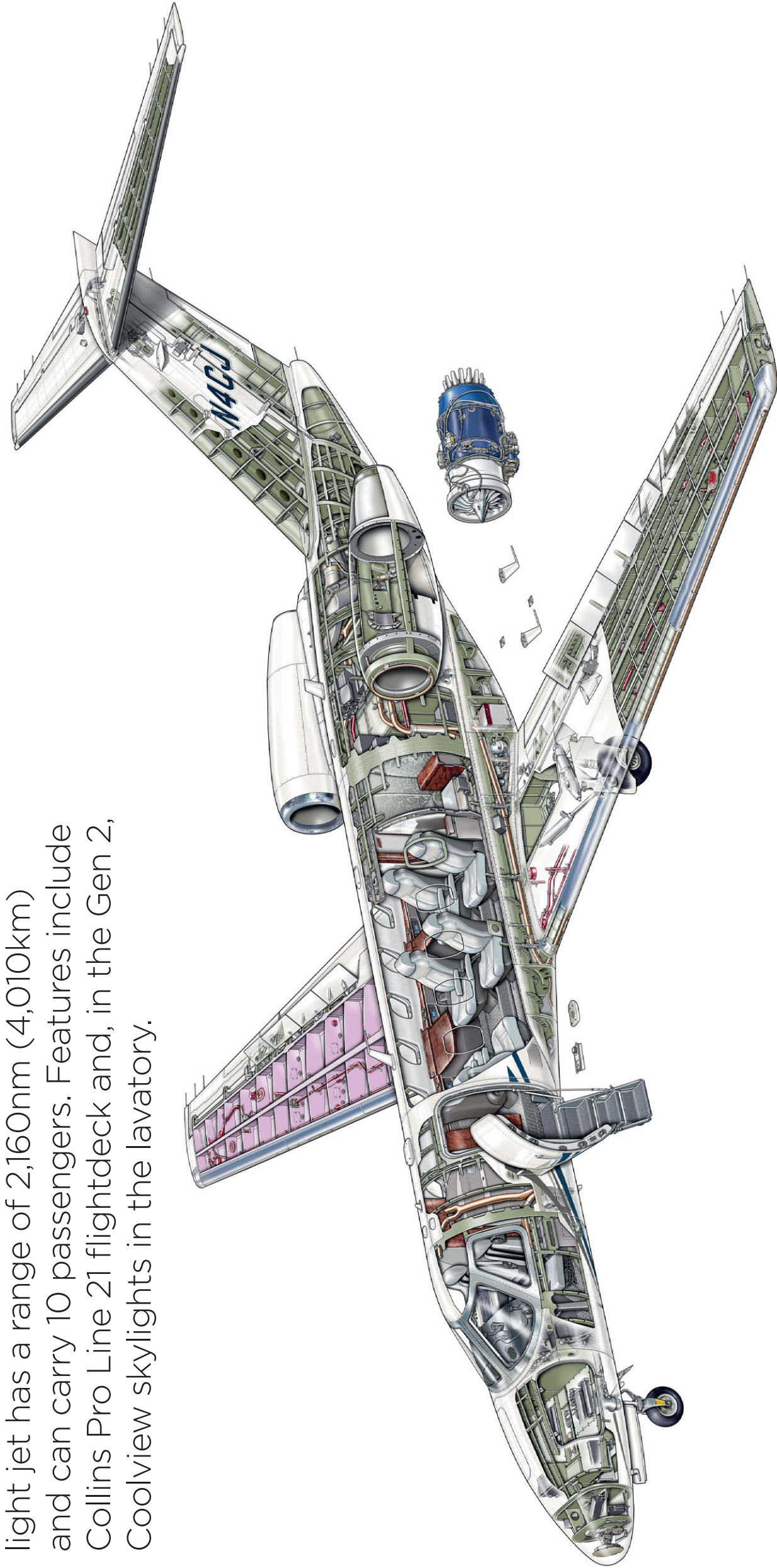
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Cessna CJ4

The Cessna Citation CJ4 was unveiled in 2006 and went into service in 2010, with the latest version – the Gen 2 – announced two years ago. The Williams International FJ44-4A-powered light jet has a range of 2,160nm (4,010km) and can carry 10 passengers. Features include Collins Pro Line 21 flightdeck and, in the Gen 2, Coolview skylights in the lavatory.

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We train you to stay sharp, fine tune, and always be prepared. This empowers you with unwavering calmness and composure needed for all situations, from the everyday to the unusual. For this reason, FSI training is reserved for the sky's most elite.

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