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## First flight for Dassault Falcon 6X

by Matt Thurber

At 2:45 p.m. local time on March 10, Dassault test pilots Bruno Ferry and Fabrice Valette pushed the throttles forward and lifted off on the first flight of Falcon 6X S/N 1 from France's Bordeaux-Mérignac Airport. The inaugural flight launched the flight-test phase of the widebody 6X, Dassault's newest fly-by-wire flagship. Certification and service entry are planned for 2022.

Ferry—in the left seat—and Valette logged about two hours and 30 minutes during the flight, testing handling qualities, engine response, and key systems while climbing to 40,000 feet and reaching Mach 0.80.

"The 6X flew exactly as predicted by our models," said Ferry. "From a pilot's perspective, it flies like a Falcon, which is to say with perfect precise handling in all phases of flight. Fabrice and I are honored to have made the latest first flight in another fantastic Falcon."

"Today's flight is another milestone in Dassault history, made all the more

satisfying by the remarkable efforts of the entire Dassault organization and its partners over the challenging past year," said Dassault Aviation chairman and CEO Eric Trappier. "We dedicate today's achievement to Olivier Dassault, who died tragically on [March 7]. Olivier was a Falcon pilot who perfectly embodied his family's boundless passion for aviation."

Following the first flight, S/N 1 flew to Dassault's flight test center at Istres-Le Tubé Air Base near Marseilles to continue the flight-test program. It will be joined by S/Ns 2 and 3 "in the coming months," according to Dassault.

The twin-engine 6X is powered by Pratt & Whitney's PW812D ("D" for Dassault), with each engine delivering 13,500 pounds of thrust. The PW812D features a 44-inch single-piece fan, a 4.5:1 to 5:1 bypass ratio, and the low-emissions Talon X combustor.

With a cabin a height of 78 inches (1.98 meters) and a width of 102 inches, the 6X has

the largest cross-section dimensions of a purpose-built business jet. The cabin can accommodate up to 16 passengers in three lounge areas. Compared to earlier Falcons, the 6X's aisle is five inches wider. Baggage is accommodated in a 155-cu-ft compartment inside the pressure vessel, plus there is another unpressurized compartment of 76 cu ft.

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Read Our **SPECIAL REPORT**

### FBO Survey

AIN readers rate their favorite FBOs in the Americas. FBO Survey results for FBOs in the rest of the world will appear in the May issue.

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With Bruno Ferry and Fabrice Valette at the controls, Falcon 6X S/N 1 lifted off for the first time on March 10 from Dassault's production facility at Bordeaux-Mérignac Airport.

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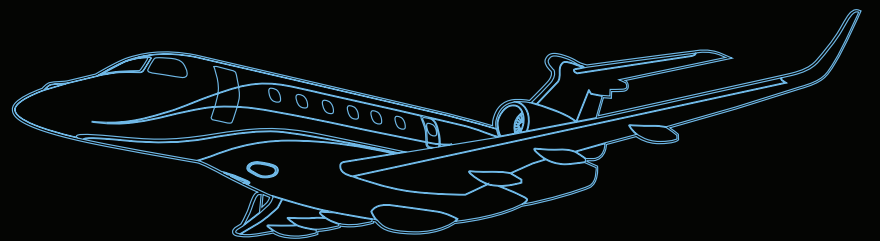
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While there have been many cancellations and postponements of important events during the Covid-19 crisis, AIN remains committed to covering the business aviation industry. Please send any news and press releases, especially related to events you had been planning to attend, to [ctrautvetter@ainonline.com](mailto:ctrautvetter@ainonline.com) and we will endeavor to help share your news.

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## As We Go To Press

### FAA AWARDS TYPE CERTIFICATION FOR KING AIR 260

A little more than four months after announcing the Beechcraft King Air 260, Textron Aviation has received FAA type certification for the upgraded twin turboprop. Like the recent upgrades to its larger sibling—the King Air 360—the 260's flight deck is equipped with Innovative Solutions & Support's (IS&S) ThrustSense autothrottle, a digital pressurization controller, and Collins Aerospace's Multi-Scan RTA-4112 weather radar. The 260 also features newly-designed seats created originally for the King Air 360 to provide greater passenger comfort on longer flights. Textron Aviation began production of the \$6.7 million King Air 260 late last year.

### AVIATION GROUPS UNITE TO OPPOSE NYC HELICOPTER RESTRICTIONS

AOPA, GAMA, HAI, NATA, NBAA, and the Eastern Region Helicopter Council (ERHC) have joined forces to oppose two New York City bills they said would severely restrict helicopter operations there. ERHC chairman Tom McCormick estimated that the two bills could affect as many as 80 percent of NYC helicopter operations. Bill No. 2026 would prohibit operations at city-managed heliports by most charter helicopters if they are not certified to meet Stage 3 noise standards. Military, police, newsgathering, and medevac flights would be exempt. Bill No. 2067 would require operators of the city's heliports to collect documentation from every helicopter that uses the facility, including its airworthiness certificate, registration, inspection reports, and the route to and from the NYC landing site. NBAA pointed out that the FAA prohibits municipalities from burdening aircraft operators with additional or duplicative documentation requirements.

### GLOBAL JET CAPITAL CLOSES FIFTH SECURITIZATION

Global Jet Capital has closed its fifth asset-backed securitization (ABS), with the BJETS 2021-1 ABS adding \$663 million to its securitized assets and bringing its total to more than \$3.6 billion. It has also issued more than \$2.9 billion in bonds. The three tranches that made up the BJETS 2021-1 offering were all oversubscribed, according to Global Jet Capital. The Class A tranche was for \$538.3 million, Class B \$78 million, and Class C \$46.8 million. For this ABS, Morgan Stanley was lead structuring agent and bookrunner. Global Jet Capital's focus on financing and leasing super-midsize and large-cabin business jets no older than 10 years old but preferably

younger than five years old is paying off, according to CEO Shawn Vick.

### GARMIN ADDS FANS TO G5000 EXCEL/XLS UPGRADE

Garmin's G5000 flight deck upgrade for the Citation Excel and XLS has newly certified capabilities, including support for future air navigation system (FANS) 1/A+ and aircraft communications addressing and reporting system (ACARS). These features meet requirements for flying in North Atlantic Track System airspace and also participation in the FAA's Data Comm program. The upgrade uses Garmin's GSR 56 Iridium satcom for over-ocean communications and the GDR 66 radio for VHF datalink communications. The Data Comm service in the U.S. gives pilots access to CPDLC departure clearances (DCL) at more than 60 airports. With DCL, clearances are sent directly to the aircraft and then automatically loaded into the G5000. With ACARS capability, pilots can send and receive datalink messages via an ACARS host and access weather information and digital ATIS.

### BOEING SIGNS FINAL VIP 747 SALE

Boeing inked the last sale of a VIP 747-8i, marking the end of an era of opulence in private aviation. The airframer confirmed to *AIN* that the sale of the jumbo jet represented the last available executive variant of the iconic widebody, as production heads toward its scheduled end next year. According to Boeing, the green aircraft was not newly built but the company declined to disclose when it was produced or the delivery date. It also did not disclose the customer and origin, nor plans for the completion. Three companies have the past experience and current capabilities to outfit a 747-8i—AMAC Aerospace, Jet Aviation, and Lufthansa Technik.

### EBAA CALLS FOR COOPERATION FOR OPS BETWEEN EU, UK

EBAA issued an urgent call for national authorities to eliminate administrative barriers for operations between the UK and European Union states, saying this would benefit all involved. Under the framework of the EU-UK Trade and Cooperation Agreement, the UK government permitted EU operators to exercise Third and Fourth Freedom rights, allowing flights to and from the UK. However, UK operators are finding that those freedoms are not being reciprocated by a number of EU countries. The UK is conditioning those freedoms on reciprocity. EBAA fears that if no further cooperation and bilateral agreements follow, "business aviation operators flying under the new Third Country Operator status will be heavily hampered."



The refurbished Citation Excel Eagle program brings the popular business jet into the modern age with updated Garmin G5000 avionics, fresh paint and interior, and other improvements.

## Russ Meyer unveils refurb program for Citation Excel

by Jerry Siebenmark

Led by a threesome of former Cessna executives including longtime CEO and current chairman emeritus Russ Meyer Jr., CitationPartners is breathing new life into one of the Wichita airframer's most popular twinjets, the Citation Excel, in a new nose-to-tail refurbishment program called Citation Excel Eagle. Using the help of Textron Aviation's Wichita service center and FBO/MRO Yingling Aviation, CitationPartners' goal is to turn out one or more Excel Eagles a month.

The program, which was announced in late February, transforms previous NetJets airframes into a fully-inspected aircraft with new parts, interior, paint, and Garmin G5000 avionics. CitationPartners offered Introductory pricing of \$3.45 million until the end of last month, but now the price for an Excel Eagle is \$3.59 million.

"Nobody has ever done a refurbishment program to the extent that we have when you look at what we're doing at the service center, and then the interior, exterior, and the avionics," Meyer told *AIN*. "It is really a special deal and we believe the market will recognize that value."

With more than 1,000 Excel, XLS, and XLS+s in the active worldwide fleet, it made sense to select the popular midsize airframe for the program developed by CitationPartners, whose other principals include former Cessna CEO Gary Hay and former Citation Mustang and CJ3 program manager Russ Meyer III.

"At Cessna, we had more than 200 orders in our production backlog before we delivered the first airplane," Hay told *AIN* of the Excel. "So that gives you some sense of the market acceptance for the airplane."

Meyer added that not only did they select the Excel because of its popularity, but also because it remains in production as the XLS+. "When you're buying a pre-owned airplane, it's a great asset if it's still in production because if you need a part for an airplane that's no longer in production, you'd better be prepared to wait for it and pay a lot of money for it," he said.

Under the program, CitationPartners will take in one of the more than 100 Excels fractional provider NetJets has traded to Textron Aviation. At the airframer's service center, the Excel will undergo numerous inspections—such as a scheduled 15,000-hour fatigue inspection, a special corrosion inspection, and any of the other major inspections that need to be done in the next couple of years.

If those inspections turn up any issues, the necessary parts or systems—such as wheels, tires, brakes, windscreens, and starter-generators—will be replaced. "We felt that we needed Textron to be a partner because as the original manufacturer they are the only one that can do some of the inspections and can authorize the airplane for ProParts, among other things," Meyer said.

Once that work is complete, the airplane will be moved across the runway at Wichita Eisenhower National Airport to Yingling, where the airframe will be stripped, the interior replaced, and the G5000 avionics installed. Yingling has had a relationship with Cessna going back several decades, Meyer noted, and with a new paint facility and jet maintenance hangar, it has the capabilities to complete the airplane, including its interior.

Included in the interior refurbishment is replacing the single forward-cabin seat with a two-place, side-facing sofa. Also with the interior, clients who order an Excel Eagle enough in advance—four to five months—will have the opportunity to pick out seat styles, cabin colors, carpet, and cabinetry, as well as exterior paint. "Exactly like a new airplane customer," Meyer noted.

Because of the extensive refurbishment and inspections, Excel Eagles will also be put on Textron Aviation's ProParts airframe systems and avionics and Power-Advantage engine maintenance programs with no need to write "a really big check" for enrollment, Meyer said.

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Aerion's AS2 supersonic business jet is poised to enter the NetJets fleet under an MoU that also would call for an Aerion-branded flight-training academy in cooperation with FlightSafety International.

## NetJets, FSI sign MOU for 20 Aerion AS2s, training

by Kerry Lynch

Aerion has signed a multifaceted memorandum of understanding with NetJets and its sister company, FlightSafety International, including the rights for NetJets to purchase 20 AS2 supersonic business jets. The deal would extend Aerion's backlog for the Mach 1.4 aircraft to \$10 billion, Aerion said.

Under the collaborative agreement, Netjets would become the exclusive business jet operator for Aerion Connect, which is Aerion's vision for a global mobility ecosystem that enables seamless point-to-point travel across multiple modes of transportation in urban and rural settings.

"We constantly look for ways to be on the cutting-edge, and expanding our fleet to

become the exclusive business jet operator for Aerion Connect is a thrilling next step," said NetJets chairman and CEO Adam Johnson. "Together, we will be exploring the integration of the AS2 supersonic business jet into NetJets' global network."

In addition, Aerion would collaborate with FlightSafety International on a supersonic flight training academy for civil, commercial, and military supersonic aircraft. The Aerion-branded academy will leverage FSI's training expertise to serve as a center of excellence for supersonic flight training and education, Aerion said.

"This partnership marries Aerion's innovation and our long-established

experience, opening up new opportunities in the supersonic aircraft space and the future of the industry as a whole," said FlightSafety CEO Brad Thress.

Aerion is planning to bring the AS2 to market later this decade, saying plans to kick off production at Aerion Park in Melbourne, Florida, remain on track for 2023 after the completion of wind-tunnel validation trials late last year, Aerion said.

Meanwhile, Berkshire Hathaway's 2020 annual report sees its purchase obligations swelling from \$6 billion in 2024/25 to nearly \$20 billion after 2025, citing increases at NetJets in addition to its energy and rail groups.

As for 2020 results, NetJets and FlightSafety collectively reported an \$816 million, or 13.5 percent, drop in revenues in 2020 as the Covid-19 pandemic eroded flight and training demand. NetJets flight hours slid 27 percent for the year, while FlightSafety's training hours decreased by 30 percent. ■

## News Briefs

### Vista Global To Buy Apollo Jets, Stake in Talon Air

Vista Global inked an agreement to acquire charter broker Apollo Jets and its undisclosed share in Farmingdale, New York-based charter/management and MRO provider Talon Air. Apollo will become a division of Vista's XO. The addition of Apollo's 4,000 clients will help accelerate sales of XO memberships and subscriptions, according to Dubai-based Vista, which expects a 20 percent increase in North American flights following the acquisition. XO will offer aircraft management and maintenance services via Talon Air, which will continue to operate as a separate company. While Talon Air will be controlled by U.S. interests—including U.S. operator XOJet Aviation and another strategic shareholder—its fleet will be integrated with XO's fleet.

### Dassault Deliveries Drop, but Future Falcon on Target

Dassault Aviation is expecting Falcon deliveries to drop to 25 units this year, a 26 percent slide from the 34 delivered in 2020, as the French manufacturer works to rebuild backlog and prepares to unveil its next "Future Falcon" model by July. The company reported business jet shipments were off by six units in 2020 but Falcon net sales increased from €2.19 billion in 2019 to nearly €2.23 billion last year, propelled by an increase in preowned aircraft deliveries. Falcon backlog dipped by €186 million to €2.147 billion as 2020 yielded orders for just 15, compared with 40 the year earlier. The backlog now includes 34 Falcons.

### SD Starts Flight Testing New Ku-band Antenna

Satcom Direct has begun in-flight testing of its Plane Simple tail-mounted Ku-band antenna system on the company's Gulfstream G350 testbed. Satcom Direct's new antenna, intended for super-midsize to large-cabin business jets and developed in partnership with Germany-based QEST, is the first in a planned series of Plane Simple antenna systems. In-flight testing is expected to conclude in the second quarter, with entry-into-service by June. Satcom Direct also plans to roll out a similar Ka-band unit next year, followed by an electronically-steered fuselage-mounted antenna for upcoming low-earth orbit satellite constellations.

### Pilot Records Rule Nearly Final

Speaking at an NBAA town hall meeting, FAA Administrator Steve Dickson said he is unsure when the electronic Pilot Records Database (PRD) rule will be released but added that the agency found the association's comments "very valuable" in crafting the final version. The PRD rulemaking is now undergoing review by the executive branch, and he acknowledged that the rule must be scalable and applicable to the operator but added it also must "achieve the safety benefit."

## Olivier Dassault killed in helicopter accident

Olivier Dassault, 69, a prominent French politician and Dassault Aviation board member, was killed in a helicopter crash on March 7. French accident investigation agency BEA confirmed that an Airbus AS350B single crashed soon after takeoff from "private grounds" at Touques on the Normandy coast, close to where Dassault reportedly has a home.

According to police reports in various French media outlets, the pilot,

Jean-Claude Bedeau, a 74 year old former Air France captain, also died in the accident that occurred at 5:50 p.m. local time. French prosecutors have formally launched an involuntary manslaughter investigation.

The AS350B—registered in France as F-GIMB and owned by BPCE Lease—was part of a fleet operated by Dolijet from a base at La Ferte-Alais, south of Paris. In the latest Dassault Aviation financial statement,

published on Friday, Olivier Dassault is listed as chairman of Dolijet.

Besides being a member of the French parliament since 2002, Dassault was on the supervisory board of the Groupe Industriel Marcel Dassault holding company, which controls 62.7 percent of shares in Dassault Aviation. Private investors hold 27.44 percent of the business jet and fighter maker's equity, with Airbus having 9.9 percent.

Having graduated from the French air force academy, he held a pilot's license and set a number of speed records in various Falcon jets between 1977 and 1996. His other business interests included various media holdings. He was the son of former Dassault chairman and CEO Serge Dassault and grandson of the French aviation group's founder, Marcel Dassault.

Messages of condolence were posted by French President Emmanuel Macron, prime minister Jean Castex, and defense secretary Florence Parly. C.A.



Olivier Dassault (front row, second from left) at the 2019 Paris Air Show next to French President Emmanuel Macron (center) and Dassault Aviation CEO Eric Trappier (second from right).



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# GAMA: general aviation shipments drop in pandemic year, bizjets down 20%

by Kerry Lynch

General aviation fixed-wing shipments and billings predictably dropped across the board in 2020 thanks to the pandemic, with business jet deliveries the hardest hit, down by 20.4 percent, according to the General Aviation Manufacturers Association (GAMA). However, pockets of the market fared better—piston deliveries were off by just 0.9 percent—leading to an overall decline of 9.7 percent in GA airplane deliveries and 14.8 percent in billings on the year. In all, the industry shipped 2,399 fixed-wing aircraft valued at \$20 billion in 2020, compared with 2,658 valued at \$23.5 billion a year earlier.

On the rotorcraft side, total deliveries fell 17.7 percent to 674, while billings declined 16.2 percent to \$2.7 billion. This compares with 819 civil rotorcraft shipped and \$3.2 billion in billings in 2019. (Leonardo has not yet reported its year-end totals and is not included here.)

During 2020, manufacturers handed over 644 business jets, compared with 809 a year earlier. Most business jet OEMs saw deliveries slide on the year—Bombardier was down 28 units, Gulfstream (-20), Dassault (-6), Embraer (-23), Textron Aviation (-74), and Honda Aircraft (-1). Deliveries of Cirrus's SF50 single-engine jet, which has become the most delivered jet airplane annually, slid by eight units, to 73. Pilatus saw PC-24 deliveries tick up a unit to 41.

The decline in the business jet segment, however, was better than the original predictions of a 25 percent-plus drop, "so it's getting much better," said GAMA chairman Nicolas Chabbert, who is senior v-p of Daher's Aircraft division and CEO of Daher Aircraft and Kodiak Aircraft.

As for turboprops, deliveries dropped 15.6 percent from 525 in 2019, to 443 last year. Billings were down 17.7 percent to \$1.4 billion. The single-engine turboprops had a slightly stronger year, down 11 percent.

Pilatus fared strongly on this end with just a single unit drop to 82 PC-12s on the year. Deliveries of Daher's TBM and Kodiak single turboprops, meanwhile, were down 15, to 53, in 2020. Textron Aviation saw its King Air deliveries slide by 31 units, to 62.

But during a pandemic when general aviation private flying continued as other types of operations slowed or ceased, piston aircraft deliveries proved more resilient, down just 12 units, to 1,312. Textron Aviation's Skyhawk buffered that decline, with deliveries almost doubling from 126 in 2019 to 241 last year.

Billings for the segment dipped 7.3 percent to \$716 million. Chabbert noted that for the sixth year in a row, Asia-Pacific was second only behind the North American market for piston aircraft demand. This demand highlights the need for pilot training, he said, adding this bodes well

for continued market strength there. The need for pilots is still high, he said, noting that student starts were up 3 percent in the U.S. in 2020 with almost 50,000 students.

Last year also saw the first electric aircraft certified, the two-seat Pipestral Velis Electro, Chabbert noted.

As for helicopters, piston shipments slid 20.7 percent to 142 units, while turbine shipments were down 16.9 percent to 532 units. Airbus Helicopters deliveries were off by 13 units, to 287, while Bell experienced a 61-unit decline, to 140. Robinson, meanwhile, handed over 19 fewer aircraft in 2020, for a total of 177. Its R66 turbine helicopter held steady at 54 deliveries in both 2019 and 2020.

"As expected, in 2020, the Covid-19 pandemic negatively impacted general aviation and stifled the industry's growth," said GAMA president and CEO Pete Bunce. He was encouraged that signs point to strong demand for general aviation products and services and that demand rebounded in

the fourth quarter but remains concerned the market is "being constrained by pandemic-induced supply chain limitations and a vast array of disjointed barriers to air travel across national borders."

Looking forward to this year, he said, "It will be important for the general aviation industry to work together with our commercial sector colleagues to keep our interlinked but very fragile supply chain secure, while continuing to engage global regulatory authorities to leverage their mutually recognized safety competencies to keep pace with accelerating technological innovations that improve aviation safety and environmental sustainability and facilitate industry recovery."

Chabbert also pointed to constraints associated with the pandemic, including supply chain issues and restrictions. But he said the 2020 results "are not representing the level of demand, which remains very high. Our industry is resilient. I am very optimistic for 2021." ■

## ■ Textron's King Air 90, Sovereign end rule

Textron Aviation has ended production of the Cessna Citation Sovereign+ midsize business jet and Beechcraft King Air C90GTx twin-turboprop. Demand for both airplanes had slipped in recent years while Textron Aviation noted its action was based on a continuous alignment of product offerings with current and future market demand.

"Both aircraft have been valued members of legendary product lineups for decades," the company said. The models will continue to be supported by Textron Aviation's service centers and parts operation.

The 2019 certification of the super-midsize Citation Longitude, as well as the earlier 2015 entry-into-service of the midsize Citation Latitude, presented "the opportunity to minimize overlap within this customer segment" by ceasing Sovereign production, the company added.

The Sovereign featured a stretched Excel fuselage and a new wing and entered

service in 2004. Since then, Textron Aviation has delivered 349 Sovereigns and 94 Sovereign+. It was upgraded to the plus variant in 2012. In the past four years, annual deliveries of the Sovereign+ had slipped to the single digits, according to figures from the General Aviation Manufacturers Association (GAMA).

A "pioneer of the King Air family," the C90 was a derivative of the Queen Air. In 1964, the 65-90 was the first King Air 90 variant to be delivered. Between 2004 and 2009, the C90 received a series of three upgrades—GT, GTi, and GTx—with the last refresh in 2015 adding Collins Pro Line Fusion avionics. In all, 2,178 variants of the King Air 90 series—including A and B models—have been delivered. Last year, the Wichita airframer announced the King Air 260 and 360/360ER. GAMA figures showed C90GTx deliveries in the past five years representing a fraction of its larger siblings. J.S.



Textron Aviation has ended production of the midsize Cessna Citation Sovereign+ and the King Air C90GTx twin-turboprop.

## ■ News Briefs

### Bizav Could Lead U.S. Recovery, Says NBAA Chief

While business aviation typically lags in economic recoveries, NBAA president and CEO Ed Bolen believes that this time the industry "might be a leading indicator of the U.S. recovery" because business aircraft have emerged as a safer way to travel during the pandemic. Speaking at a town hall forum during the association's virtual Flight Operations conference, he said business aviation's recovery will gain more steam midyear as "we reach Covid-19 herd immunity" thanks to higher vaccination rates. Bolen expects company aircraft usage to increase exponentially as international travel restrictions ease, while aircraft could also be made available to more employees. In addition, he said it is likely the industry will retain many of the new charter customers gained during the pandemic.

### Analyst Predicts Improving Year at Textron Aviation

Jeffries equity analyst Sheila Kahyaoglu believes that Textron Aviation is primed for a double-digit sales rebound this year. Following a 23 percent decline in 2020 sales, Kahyaoglu looks for sales growth of 14 percent in 2021 at the Wichita airframer. She estimates revenue from Citation sales will increase 31 percent year-over-year, while deliveries will reach 165 aircraft, which would be a 25 percent increase from the 132 jets and turboprops the company delivered in 2020.

### Data System Extends Engine TBOs for Citations

Latitude Technologies has STC'd its Enode Engine Data Acquisition Unit (DAU) and IOnode Digital Data Recorder (DDR) for the Cessna Citation II, S/II, V, and Ultra. Under the STC, Latitude aims to give operators greater flexibility by supporting a 2,000-hour TBO extension for the Pratt & Whitney engines on these legacy Citations. Latitude's IOnode DDR acts as a lightweight data collection system for automating flight data management and flight operations quality assurance programs. By recording and transmitting this data, the unit's digital and analog inputs allow operators to analyze data accurately for fleet-specific program goals.

### G280 is Stage 5 Compliant

The FAA has confirmed Gulfstream's G280 meets Stage 5 noise standards. The update reflecting the Stage 5 recognition has been added in the G280 aircraft flight manual, and new noise data sheets will be issued to operators. Gulfstream called the acknowledgment important to ensuring continued operational flexibility at noise-sensitive airports, including those with time-of-day entry restrictions. Stage 5 is the current FAA noise standard for jet and large turboprop aircraft and went into effect for all new type designs at the end of last year.

# One Aviation bankruptcy ends in liquidation

by Rob Finrock

With most of its salable assets already in the hands of other entities, the nearly six-year run of Albuquerque, New Mexico-based One Aviation came to an end in February with an order by U.S. Bankruptcy Court Judge Christopher S. Sontchi to liquidate the company's remaining assets.

"I've lost confidence in management," Sontchi said in converting One Aviation's reorganization effort, which began in October 2018, to Chapter 7 liquidation. "We need an independent fiduciary to come into this case and have a look at it...we need to stop the music here."

None of the remaining parties in the case opposed the ruling, including Citiking International, which had intended to take control of One Aviation upon its exit from Chapter 11 reorganization. However, the Chinese-backed entity repeatedly failed to make good on its court-approved emergence plan, leaving One Aviation to pursue alternatives to keep the company whole.

Following an aborted Section 363 asset sale attempt, One Aviation received court approval in November to sell off the Eclipse 500/550 program to AML Global Eclipse LLC, with Nautical Hero Group bidding for assets related to Kestrel Aircraft. Arguments on the disbursement of funds from those sales and remaining company assets will now proceed under stewardship from the U.S. Trustee Program.

AML Global has maintained support for approximately 260 Eclipse aircraft worldwide and rehired many non-management One Aviation employees involved with that program. That process also hasn't been without some drama, as AML Global accused former management of hiding

multiple files containing employee and financial records from the new owners, prompting a court order last month to preserve those documents.

"There were at least some allegations of some skullduggery...with the AML transaction," Sontchi reiterated Thursday. "If [anything] disappears—documents get taken, file cabinets disappear—whoever's responsible is going to feel the wrath of God." ■



Eclipse Aviation's journey started in 1998, when very light jet makers promised to "darken the skies" with thousands of aircraft. Only 260 Eclipse 500s were ever built.

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The ramp-up in Global 7500 production and expansion of services is expected to boost revenues by \$2 billion annually at Bombardier by 2025.

# Bombardier: Global 7500 to drive profitability jump

by Kerry Lynch

Bombardier expects its Global 7500 ramp up—along with significant growth in its service center capacity and a gradual market improvement—will help boost profitability by 50 percent on a compound annual growth rate (CAGR) through 2025 and drive a nearly \$2 billion increase in annual revenues.

Revenues are anticipated to grow to \$7.5 billion and earnings (EBITDA) to reach \$1.5 billion with a 20 percent margin by 2025. That represents a jump from the \$5.6 billion in revenues and \$200 million in earnings in 2020.

The company's flagship Global 7500 will remain a key part of reaching its profitability goal, as it turns this year "from negatively impacting earnings to being the biggest EBITDA contributor over the next five years." Bombardier is reaching the milestone as it hands over the 50th copy this quarter.

It estimates that costs associated with Global 7500 production will drop by 20 percent over the next 50 aircraft. Bombardier president and CEO Éric Martel expressed confidence in that target, noting the company has "good visibility" on those costs with production already having begun on the 89th unit and work on the 100th aft fuselage underway in Mexico.

"We've achieved a 40 percent reduction" in the first 50 aircraft, most derived from labor costs involved with the learning curve of the build, he said. "The program continues to mature as planned. Many of the typical early growing pains and ramp-up risks are now in the rearview mirror."

The 45 currently in service have accumulated more than 7,400 hours and 3,400 cycles and are achieving a 99.7 percent dispatch reliability rate. Martel said production is sold out through 2023 and interest and orders have remained strong. The company has reached its targeted run rate of 35 to 40 per year.

As for revenue growth, it expects about half to come from aircraft sales and the

remaining from the aftermarket. Martel believes that 2020 will be the low point for the market but that it would take several years to return to 2019 levels. Bombardier, which carries a \$10.7 billion backlog, plans to hold production steady for now. However, by 2025 it expects revenues from aircraft manufacturing to grow by almost \$1 billion.

Martel said the company is remaining conservative in its outlook but was encouraged by preowned aircraft metrics and positive reports from major fleet owners regarding new customers coming into the market. Bombardier is seeing some demand as a result on both the Challenger and Global side. Overall, he was optimistic that order activity had strengthened by the

end of 2020 with 43 gross orders in the fourth quarter and said that momentum has carried into this year.

At the same time, the company expects service center sales to account for a greater share of overall revenues. It is in the midst of a major expansion, recently bringing a facility in Berlin in-house and other projects set for completion in Singapore, London, Melbourne, and South Florida over the next couple of years. Collectively, the additions will increase Bombardier's worldwide capacity by 50 percent. Importantly, Martel said, a large portion of the investment in the expansion is "now behind us."

In tandem, Bombardier expects its in-house service center revenues to double from \$1 billion to \$2 billion through 2025. When adding in-service sales involving "third-party capture," service revenues overall will grow from \$3.2 billion to \$4 billion, it estimates.

At the same time, the company, which is facing hefty debt costs, is undergoing a cost-reduction program with the goal of \$400 million in recurring savings through increased labor productivity, reduced corporate cost and indirect spending, and an "optimized" manufacturing footprint. Plans call for Bombardier to reduce its facility space by one-third, producing \$50 million in savings alone.

At the same time, the company is keeping down research and development expenses, maintaining it has just refreshed its product line, with the bulk of those costs now behind the company. However, it does expect continuous product improvement expenses and investments in targeted markets such as special missions.

With the measures, Bombardier anticipates turning cash-flow positive next year and generating \$500 million by 2025. ■

## Titan Aviation Fuels breaks out of its Shell

Titan Aviation Fuels, which has served as the official branded distributor of Shell Aviation fuels for general aviation (GA) in the U.S. for the past 18 years, is rebranding its 550-member Shell FBO network under its own independent, full-service Titan Fuel brand. The announcement means the sunset of the Shell Aviation fuel brand in the U.S. after more than a century.

"The main change for us is to move from a branded model to an unbranded one," Shell Aviation president Anna Mascolo told **AIN**. "We will continue to reliably service the aviation industry with quality aviation gasoline and jet fuel and look forward to expanding our customer base within the U.S. aviation market." The change will not affect Shell's aviation brand outside the U.S., and it will continue supplying Titan and other GA distributors in the U.S.

Titan—formerly Eastern Aviation Fuels—has been in operation as a fuel distributor



since 1975. According to the company, the transition for its customers will be seamless, involving little more than the replacement of the iconic red and yellow scallop shell logo with a new capital T sporting a red wing.

"All the programs, the cards, the contract fuel, they were all branded Shell, but they were administered by us," said Titan president Robbie Stallings. "We've been the ones building the relationships and managing the network, but we've always been doing it using someone else's brand. Now it will be with our brand." The network-wide rebranding process is expected to be completed over the next six months. **C.E.**

## News Briefs

### FBOs Felt the Covid Bite in 2020, Says ABSG Survey

According to Aviation Business Strategies Group's (ABSG) annual FBO Fuel Sales Survey & 2021 Industry Forecast, nearly 70 percent of the North American FBOs surveyed reported decreased fuel sales last year as a result of the pandemic. Survey results showed that 13 percent of the FBOs queried indicated they had the same level of fuel sales between 2019 and 2020, while about 20 percent did report an increase in volume. Based on interviews with FBO owners and aircraft operators, ABSG forecasts a slow recovery for the industry this year.

### QTA Develops Repair for HTF7000 TR Door Corrosion

Quiet Technology Aerospace (QTA) has obtained FAA and EASA approvals for a lower-cost repair for recurring corrosion issues involving Honeywell HTF7000 engine thrust reverser (TR) doors. Applicable to the Challenger 300/350, G280, Legacy 450/500 and Praetor 500/600, and Citation Longitude, the repair is approved for use even if the TR doors are deemed beyond economical repair, QTA said. It has developed a "Life Extension Program" that involves structurally reinforcing the aluminum door with graphite doublers. This will extend the life of the TR doors until a permanent fix is finalized and approved, which QTA expects later this year.

### Pilots and Charter Exec Convicted over Ghosn Escape

A court in Turkey has convicted two former pilots and an executive formerly employed by private charter operator MNG Jet on charges of migrant smuggling for their part in the escape of indicted automotive executive Carlos Ghosn from Japan to Lebanon in December 2019. Ghosn hid in a Global 6000 operated by MNG to fly from Tokyo to Istanbul, before switching to the company's Challenger 300 for a flight to Beirut. The court found pilots Erem Yucel and Noyan Pasin guilty of the charges, along with Oken Koseman, who was reportedly an operations manager with Istanbul-based MNG.

### UK Firm Seeks To Turn Waste Plastic into Jet-A

London-based Clean Planet Energy (CPE) has launched a new sustainable aviation fuel (SAF) produced from non-recyclable plastics. According to the company, its new kerosene/jet-A can be used as a direct drop-in fuel "fully miscible with conventional jet fuels and is fully compatible with existing aircraft and fuel infrastructure," including equipment, pipelines, and tanks. Over its lifecycle, the fuel promises to reduce CO<sub>2</sub> emissions by 75 percent compared to conventional fuel. Company CEO Bertie Stephens said its pathway fits within the existing ASTM D7566 "but uses ultra-low-cost, zero value waste plastic feedstock."

# STAYING SAFELY ALOFT

## Dear Aviation Professional,

One of the top causes of fatal general aviation accidents doesn't have anything to do with mechanical failure. It's controlled flight into terrain, when an otherwise airworthy aircraft is inadvertently flown into the ground, an obstacle or a body of water. While one might think CFIT only occurs in mountainous areas, the reality is that pilots everywhere need to have a plan and suitable strategies in place to address the threat before they fly.

That starts with training. Keep skills sharp with scenario- and route-specific-based training to build proficiency, especially in operations that require extended low-level flight. Some of the most effective training doesn't focus on the aircraft itself, but on understating human factors like the nature of visual illusions to which we're susceptible and the personal and interpersonal dynamics that support safe decision-making. A good safety culture promotes consistent use of CFIT avoidance policies and denies the ability of false urgency to compel flights that should be postponed or cut short from pressing into unacceptably risky situations.

Technology plays a part, as well. Procedurally integrate terrain awareness and warning systems into standard practices for climb-out, approach and landing, and visual navigation. Be careful to not dismiss alarms without thoroughly assessing their meaning, especially in unfamiliar areas. Finally, it's worth noting that overreliance on aircraft automation is a known precursor to CFIT accidents because it can force a crew or pilot to expend precious time regaining their own situational awareness if things go astray. There is no substitute for having absolute certainty over where the aircraft is, where it's going, and its relation to surrounding terrain at all times.

## Join the Conversation

Search and tweet #PlanToAvoidCFIT to add your thoughts, experiences or questions about how best to counter the threat of CFIT.

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President and CEO, USAIG





# STAY ABOVE IT ALL

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CONTROLLED FLIGHT INTO TERRAIN



The nature of the CFIT threat varies based on the type of operation, but demands every aviator's attention. Visual illusions, cockpit distractions, technology overreliance, gaps in preflight planning and pressing visual flight into adverse weather can cause CFIT accidents. Having a sound preflight plan and CFIT avoidance policies – and sticking to them – are tried and true defenses.

- ▶ Study weather, terrain layout and minimum safe altitudes for the route; and identify personal limits, turn-back strategies and divert options before takeoff.
- ▶ Always know your aircraft's position relative to terrain; never relinquish that role to onboard automation or ATC.
- ▶ Understand and use terrain avoidance warning systems to the fullest, but avoid overreliance or habitually inhibiting their alerting features.
- ▶ Heighten positional crosschecks around unfamiliar airports or routes, and when proceeding visually after cancelling IFR handling.

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SAF availability is poised to grow exponentially over the next five years as the number of producers expands and the number of pathways to develop it nearly doubles. In addition, progress is being made not only to increase its ability to reduce greenhouse gas emissions but on research to increase the amount used in the fuel blend, which is now a 50/50 mix.

## 4AIR is first bizav purchaser on IATA Carbon Exchange

4AIR said it was the first private aviation stakeholder to make a trade on the International Air Transport Association's (IATA) Aviation Carbon Exchange (ACE), a platform where aviation stakeholders can trade carbon offsets to reduce their climate impact.

The private aviation sustainability solutions firm purchased credits to offset 15,000 tonnes of carbon dioxide from ClimeCo via ACE on behalf of client PrivateFly, allowing the charter provider to meet its offsetting commitment for 2020 operations. PrivateFly has committed to be emissions neutral for 2021, by offsetting all of its flights this year at 300 percent of their carbon footprint to account for carbon-dioxide and non-carbon-dioxide emissions.

According to 4AIR, the purchased credits support a solar-energy project in India. Besides reducing carbon emissions, this project spurs economic development and job opportunities.

"The Aviation Carbon Exchange is a phenomenal step for increased transparency and simplicity in the process of acquiring carbon offsets," said 4AIR president Kennedy Ricci. "4AIR is uniquely positioned to aggregate private flight hours from users and operators all over the world to buy offsets on [ACE] at a larger scale. We can help the private aviation community support verified projects worldwide, making it easy for them to meet sustainability goals." **C.T.**

# SAF may see 1B gallon annual output by '25

by Kerry Lynch

Noting the "opportunity is large," a senior leader on the sustainable aviation fuel (SAF) front outlined a vision where production of SAF grows to at least one billion gallons a year by 2025, the number of pathways to develop it more than doubles, and the industry progresses toward the goal of a 100 percent sustainable option.

Speaking during the virtual NBAA Go Flight Operations Conference in late February, Commercial Aviation Alternative Fuels Initiative (CAAFI) executive director Steve Csonka outlined the building block approach that the industry has taken to get to the point where the industry can now use a 50/50 jet-A and SAF blend as a true drop-in solution.

In the 50/50 blend, SAF has proven to meet the necessary fuel spec and has demonstrated that it reduces life cycle greenhouse gas (GHG) emissions by at least 50 percent and on average anywhere between 60 and 80 percent or more. Csonka added that "we can make those reductions greater" later this year, noting that some producers using feedstocks such as tallow and cooking oil are on track to produce SAF by year-end that reaches almost 100 percent reduction of GHG emissions.

As for availability, currently, there are three major producers that combined for nearly 60 million gallons in 2020, with Neste accounting for 35 million gallons of that total. A couple more are joining the fray this year, bumping up that tally to an estimated 72 million. But more than a dozen—that are announced at this point—are set to come online over the years beyond that. The total output is expected to grow more than 1,000 percent next year, reaching 746 million gallons, and ultimately one billion gallons by 2025.

But Csonka added this only accounts for announced plans. A number of others are bubbling under the surface, leading the International Air Transport Association to suggest production could actually reach two billion gallons by 2025. "I agree with those assessments," he said, but those production plans need to go public before CAAFI will take them into account.

To reach that mark, Csonka sees the number of SAF pathways substantially growing. Currently, seven pathways are approved using various feedstocks to produce SAF. There are another six in process and a whole group beyond that, Csonka said, estimating it could be as much as 15.

The varied pathways and use of feedstocks are important because critics have levied charges that SAF could cause deforestation of the planet or limit food availability to meet the demand necessary to satisfy aviation needs. But Csonka stressed, "the aviation enterprise is clearly in tune with our need to be sustainable" and is working to develop various means that are regionally appropriate. This includes expansion into areas such as waste use.

Another area of criticism, he acknowledged, is the use of the 50/50 blend, meaning half is still fossil fuel. But, Csonka added, researchers are eyeing possibilities to "needing less blending or even zero blending. We're doing the work right

now, just like we did 10 years ago with the building block fundamentals, to determine how we get to 100 percent blending and we already know we have several pathways to do that."

Other key concerns CAAFI and other industry stakeholders are hoping to address surround cost. One area is at the refinery level. "We are exploring how we can utilize existing refinery infrastructure to co-process bio-crudes to keep the investment costs of these facilities reasonable," he said.

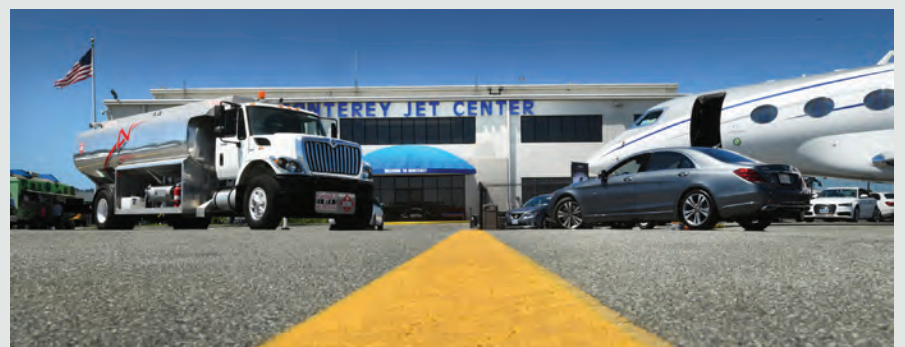
As the prevalence and demand build for biofuel, he cautioned about people looking past its use. "Others talk about better solutions in the 2035 to 2050 timeframe," Csonka noted, adding he is concerned that there is "a risk of kicking the can down the road and not addressing improvements we can make today through SAF."

The industry is addressing challenges to get SAF to market in a reasonable timeframe, he concluded. ■

## Two more California FBOs to offer permanent SAF supplies

Two more FBOs in California—Monterey Jet Center and Signature Flight Support Oakland—will soon offer permanent supplies of sustainable aviation fuel (SAF) from Neste, company v-p for North America Chris Cooper said at the virtual NBAA Flight Operations Conference on February 24. This will effectively double the U.S. locations where business jet operators can reliably uplift SAF, a drop-in fuel that can reduce aircraft greenhouse gas emissions by up to 80 percent.

SAF is currently available full-time at Signature Flight Support San Francisco International (SFO) and London Luton (LTN), as well as Signature Select FBO Sun Air Jets at Southern California's Camarillo Airport (CMA) and Jet Aviation Van Nuys. Since the same Neste supply pipeline feeds SFO and Oakland (OAK), Signature can easily integrate SAF into its FBO there. Brian Batty, Signature's director of fuel operations, said permanent SAF supplies will soon be at



Monterey Jet Center and Signature's Oakland FBO are joining the SAF supply chain.

OAK, with more locations to follow in the U.S. and Europe this year.

Meanwhile, Neste and Avfuel have partnered to provide FBOs in the latter's network with consistent SAF supplies. Monterey Jet Center will be the first Avfuel-branded FBO to do so under this collaboration, with the first SAF load expected in March. Avfuel manager of alternative fuels Keith Sawyer said this will then be

expanded to other FBOs in its network.

Neste's Cooper explained that the concentration of permanent SAF supplies at California FBOs has to do with that state's green fuel incentives, which help make SAF more price competitive with conventional jet-A. To help expand SAF supply to facilities elsewhere in the U.S., Sawyer urged aircraft operators contact their state representatives to enact biofuel incentives. **C.T.**



Congress is considering legislation that would boost the development of advanced air mobility flight operations in the U.S.

# New bills to step up federal coordination of AAM flying

by Charles Alcock

Legislation seeking to boost the development of advanced air mobility (AAM) in the U.S. is now progressing in both the House and Senate with bipartisan support. The proposed bills, “Advanced Air Mobility Coordination and Leadership Act,” call on Transportation Secretary Pete Buttigieg to establish an inter-agency working group to coordinate efforts to develop a complete AAM ecosystem to support widespread operations of new eVTOL aircraft.

The House bill, H.R.1339, was introduced in late February by representatives Sharice Davids (D-Kansas) and co-sponsored by Garrett Graves (R-Louisiana). A corresponding bill, S.516, was proposed this week with the backing of Sen. Jerry Moran (R-Kansas) and Sen. Kyrsten Sinema (D-Arizona).

“American aviation is entering a new era of innovation and growth, and industry leaders should have a seat at the table as the federal government creates programs to advance the development of this technology and sets safety and operation standards,” Moran said in introducing the bill.

In addition to the Department of Transportation, the proposed working group would include representatives from the FAA and NASA, along with the Departments of Defense, Energy, Commerce, and Homeland Security. Manufacturers of eVTOL aircraft would be invited to join the group, as would organizations involved in providing services such as pilot training and ground handling, as well as aircraft operators and maintenance providers, unions representing pilot and air traffic controllers, state, local and tribal agencies, first responders, environmental groups, and energy companies.

The bills call for the working group to be established within 120 days of

legislation being enacted, and ready to start its deliberations 60 days later. The group would be expected to complete a review and examination of a wide-ranging set of factors needed to support AAM development and to report on proposals within 180 days after the completion of this work. This implies a timeline extending to around the fourth quarter of 2022.

Under the legislation, the group would look at steps to mature AAM aircraft operations beyond initial operations; safety

and security involved with air traffic management concepts involving AAM; federal policies that can be leveraged to advance AAM; necessary infrastructure to support the development of AAM; and benefits associated with such development.

The legislation has drawn the support of several key aviation industry groups, including NBAA, the General Aviation Manufacturers Association (GAMA), Aerospace Industries Association, the Vertical Flight Society, Helicopter Association International, American Association of Airport Executives, and Airports Council International. In Kansas, backing also came from aerostructures manufacturer Spirit AeroSystems and Wichita State University.

GAMA president and CEO Pete Bunce said the legislation has the potential to facilitate new transportation options, create jobs and economic activity, and advance environmental sustainability. “The Advanced Air Mobility Coordination and Leadership Act goes well beyond the good work the FAA is doing to certify and build the operational regulatory framework to introduce electric aircraft into the National Airspace System,” Bunce said, adding such inter-agency and industry coordination would “help realize the enormous potential and broad societal benefits of this rapidly developing and transformative aviation sector.”

“On-demand AAM provides a path for the U.S. to maintain its position as the world leader in civil aviation, and there are significant opportunities for general aviation and our highly skilled workforce, which is why we support this important legislation,” added NBAA president and CEO Ed Bolen. ■

## Medical passport simplifies vacc tracking

ID-ME has launched a Covid-19 vaccine passport that resides on iOS and Android smartphone digital wallets. The company previously developed the service to store medical emergency information in an easily managed and secure system. So far, the vaccine passport has been tested with six air carriers.

Short for “identification, medical emergency,” ID-ME stores personal information such as vaccine status, allergies, and medications. For Covid-19 vaccine confirmation, the user takes a photo of the vaccine document, which is then verified by a third party.

Anyone can sign up for ID-ME for \$1 per month or \$10 per year, and all the information is stored in the digital card. While the smartphone’s wallet can display the vaccine passport information, users also receive an email with a PDF document that displays a scannable QR code that can be used in place of the digital wallet. ID-ME can provide a credit card-type card for an additional fee, including white-label

branding for organizations that want to offer ID-ME to their members or employees.

Unlike some other vaccine passport systems, the ID-ME card does not require internet access to verify the information and it isn’t connected to health care providers, according to ID-ME founder Ric Webb, who is also the founder of Southern California-based OC Helicopters. “What if you lose phone communication while trying to board?” he asked, posing a scenario where proof of vaccine might be needed for a trip and a different type of vaccine passport relies on internet access. An individual can store other family members’ information on their ID-ME card as well, to help in situations where a member might have a hard time manipulating a smartphone.

“This simple Covid-19 vaccine passport will help get our country moving again,” Webb said. “It is a natural addition to the ID-ME service...and we believe that this addition can assist people with their jobs, travel, and peace of mind.” **M.T.**

## News Briefs

### Surf Air Acquiring Ampaire

Surf Air Mobility is acquiring hybrid-electric aviation pioneer Ampaire in a deal worth more than \$100 million. The private air travel company aims to have hybrid aircraft available by 2024 for customers booking its scheduled and on-demand services. Ampaire co-founder Kevin Noertker will be president of a new Surf Air division called AMP. Ampaire is working to convert several aircraft types to hybrid-electric propulsion, building on recently completed flight tests with its Electric EEL Cessna 337. It believes the first of these programs, which likely will also include the De Havilland Twin Otter and Cessna Grand Caravan, could be certified by the end of 2023.

### New Million Air Facility Opens in El Paso

Million Air opened its new FBO last month at El Paso International Airport (ELP). The location—the fifth Million Air in Texas and 32nd for the network—includes a 10,000-sq-ft terminal with an aircraft porte-cochere, 20,000 sq ft of hangar space, and expansive ramp space capable of supporting any aircraft type. Amenities in the terminal are a refreshment bar cafe, pilot lounge, snooze rooms, flight-planning room, and a multimedia conference room.

### Jet It Grows Footprint with Canadian Expansion

Fractional operator Jet It has aligned with Skyservice Business Aviation for aircraft management and operations to support Jet It’s expansion in Canada. The North Carolina-based company also has hired Canadian aviation industry veteran Jeremi Austin to lead sales and operations there. With 10 HondaJets now in its fleet, Jet It said it expects to have its first Canadian-registered HondaJet operating in the coming months. With the expansion, the company is offering a C\$2,200 (\$1,731) hourly rate with no re-position fees, fuel surcharge, or landing fees. Through its fractional program, owners can purchase one-tenth to half of an aircraft and have an aircraft available to them for an entire day and only pay for occupied time.

### LAS Renamed Harry Reid International Airport

Visitors to Las Vegas soon will no longer arrive at McCarran International Airport, as the Clark County Commission unanimously voted to rename the airport after former Senate majority leader and Nevada native son Harry Reid. Since 1948, the airport had carried the name of the late Senator and fellow Nevadan Patrick McCarran, who served in Congress for more than two decades bracketing World War II. While a strong advocate for aviation as a sponsor of the Civil Aeronautics Act of 1938 and the Federal Airport Act of 1945, McCarran’s personal views on racism and overt actions prompted a movement to change the airport’s name. The airport will retain its LAS identifier.

# GAMA urges increased international cooperation

by Kerry Lynch

The General Aviation Manufacturers Association (GAMA) is pushing international regulators to strengthen cooperation, concerned that political, budgetary, and pandemic-related complexities are straining those efforts. GAMA president and CEO Pete Bunce said his members have seen some of this collaboration pull back somewhat, particularly in the area of certification and validation projects.

International regulators have become more hands-on in certification approaches, he told *AIN*. “We are seeing increased involvement, technical involvement in programs that we did not see before,” he said.

This comes against the backdrop of the certification concerns raised during and after the investigations of the Boeing Max crashes. During a European Parliament committee discussion on the EASA recertification, EASA Director-General Patrick Ky had indicated plans to “increase our level of involvement [and] our level of independent review of U.S. projects to build our own safety assessments.”

These remarks concerned House Republican leaders to the point where they reached out to Transportation Secretary Pete Buttigieg, saying the comments could suggest an undermining of the U.S.-EU bilateral aviation safety agreement.

Calling international harmonization one of the association’s top priorities, GAMA chairman Nicolas Chabbert, who is senior v-p of Daher’s aircraft division and CEO of Daher Aircraft and Kodiak Aircraft, stressed the importance of collaboration between international regulators. “We cannot just take one piece and isolate it,” he said Wednesday during GAMA’s State of the Industry press conference. “It is all together. We need to continue to have a very strong relationship and commitment from both FAA and EASA for continued cooperation and collaboration using this bilateral.”

Bunce conceded that some of the pulling back “is probably directly attributable to the political pressure that we’ve seen in the fallout from the Max crashes.” But he stressed that this doesn’t just involve U.S. and European aviation authorities. This has been experienced with others as well.

The long-time GAMA chief also noted that the collaboration concerns are not solely an issue of the Max fallout. Many

other factors are playing a role, including reduced budgets that come as aviation businesses have been unable to keep up with certain payments to regulatory agencies during the pandemic. Bunce noted that this has been the case with EASA.

Further, the pandemic itself had served as a deterrent for certain services with international operation restrictions and health concerns.

However, he was optimistic that the major regulatory agencies remain committed to working together, pointing to the ongoing work of the Certification Management Team (CMT) that involves collaboration between the FAA, EASA, Brazil’s ANAC, and Transport Canada. Although, he noted that Canadian participation has been hampered somewhat by turnover more recently.

Bunce added that he expects the UK will also take a seat at that table as it continues to build up its civil aviation authority outside of EASA.

Also encouraging were discussions his members had with both FAA and EASA officials during the GAMA board meetings this week. These officials told GAMA members that one of the prime ways to solve this is to work through this CMT process, Bunce added.

Key to making progress is transparency, he added. “There is no way any government regulating body can have the expertise that is resident within industry. The more transparent that our members are to the testing process, all the processes that they go through, the more the regulator learns, and the more trust is built not only with that regulator, but when we bring in all the regulators. It speeds validation.”

GAMA members have agreed with this. “Transparency and true partnership with the agency is very important,” said Chabbert, whose company now has aircraft in production in both the U.S. and Europe.

Colin Miller—Gulfstream Aerospace’s senior v-p of innovation, engineering, and flight—told reporters earlier in February that his company has been “watching and learning” from the certification lessons of the 737 Max and working closely in collaboration with the FAA. But he emphasized that a fundamental part of Gulfstream’s certification strategy has been to be “completely visible” in every test.

Michael Amalfitano, president and CEO of Embraer Executive Jets, said this collaboration has been critical for a company like Embraer. “We understand the challenges of multiple certifications,” but noted that by bringing in multiple authorities early—“from pre-design to final certification”—the company has been able to almost simultaneously certify aircraft in Brazil, the U.S., and Europe.

And while the pandemic has brought complexities with certification, it has brought a benefit: the advent of the use of remote technology to aid certification efforts. “We believe very strongly that this can be built into processes.”

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# U.S. government indicts title, trust company owner

by Matt Thurber

The indictment of a well-known owner of an aviation title company on various charges raises an important issue regarding the responsibility borne by owner trustees when it comes to helping a non-U.S. citizen purchase an aircraft and register it in the U.S.

Debra Lynn Mercer-Erwin, owner of Wright Brothers Aircraft Title (WBAT) and Aircraft Guaranty Corp. (AGC), was arrested in Oklahoma on Dec. 18, 2020, and was subsequently moved to Texas. On February 24, a U.S. grand jury indictment was unsealed in the case of the U.S. against Mercer-Erwin; her daughter Kayleigh Moffett, who was an officer of the companies; and six others. The indictment includes drug charges, money laundering, export violations, and aircraft registration violations.



Debra Lynn Mercer-Erwin, owner of Wright Brothers Aircraft Title

According to the indictment, AGC acted as trustee and registered “thousands” of aircraft on behalf of foreign owners, which by itself is legal. For some unexplained reason, the indictment felt it necessary to point out that the aircraft were registered “in Onalaska Texas, an East Texas town without an airport.” Whether or not the registered address has an airport has no bearing on how trustee-registered aircraft are handled, but this seemingly extraneous information caught the attention of reporters at WFAA TV in Dallas, which wrote and produced stories about AGC and WBAT that resulted in an investigation by federal prosecutor Ernest Gonzalez and Mercer-Erwin’s subsequent arrest and the indictment.

The problem wasn’t that AGC acted as a trustee but that “defendants circumvent United States laws and regulations by placing N numbers in the hands of drug traffickers and prohibited foreign nationals,” according to the indictment.

Specifically, the indictment alleged: “First, the defendants violate FAA and Department of Commerce regulations to register aircraft with the United States while concealing the aircraft’s true ownership and exportation. Second, when law enforcement seizes a registered aircraft laden with drugs, the defendants deregister or otherwise transfer ownership

of the aircraft. Finally, the defendants participated in a series of bogus aircraft sales transactions in order to conceal the movement of illegally obtained funds.”

## Trustee Responsibility

No matter who is involved in the purchase of an aircraft via a trustee, the FAA considers the trustee the owner of the aircraft. The owner is thus responsible for regulatory compliance. The responsibility held by owner-trustees for regulatory compliance is not new; the FAA pointed that out in a policy clarification in 2013, clearly outlining what it expects of aircraft owners that are also trustees for the purposes of helping a non-U.S. citizen buy an aircraft and register it in the U.S.

“The FAA does not consider the status of the trustee as the owner of the aircraft under a trust agreement as having any differing effect on its responsibilities for regulatory compliance issues compared to other owners of a U.S.-registered aircraft,” the agency wrote. “The FAA has determined that there is nothing inherent in the status of a trustee owner of a U.S.-registered aircraft that would affect or limit its responsibilities for ensuring compliance with applicable laws and regulations. The FAA is not aware of any basis for treating one type of owner—such as a trustee under a non-citizen trust—differently from any other owner of a civil aircraft on the U.S. registry when considering issues of regulatory compliance.”

The investigation involved the Department of Commerce, Bureau of Industry and Security, Office of Export Enforcement, and Department of Homeland Security.

The indictment cited 22 allegedly “offending aircraft transactions,” many of which involved drug smuggling by aircraft registered with the defendant’s trust company, AGC.

One example is as follows: “On or about October 5, 2012, N305AG was registered to AGC. That same day, a Declaration of International Operation was filed by AGC for this aircraft. On or about September 11, 2018, Kayleigh Moffett filed an FAA Registration renewal. On or about January 27, 2020, N305AG was seized in Guatemala with approximately 1,700 kilograms of cocaine. The aircraft was taken into Guatemalan custody, where it has remained ever since. On or about January 29, 2020, news reports published the seizure. Two days later, on or about January 31, 2020, Kayleigh Moffett transferred ownership of the aircraft to Arrendadora SA de CV, a foreign company. AGC and its co-conspirators did not make any export filings for this transaction. On or about

February 6, 2020, an open-source video of N305AG flying out of the Guatemalan jungle went viral. On or about February 20, 2020, Moffett filed a bill of sale with the FAA and asked to deregister the aircraft.”

The indictment goes on to highlight AGC’s “attempts to shirk its responsibilities by delegating regulation obligations to the foreign national.” As the FAA has repeatedly pointed out, the lessee, in this case, AGC, “is responsible for operating the aircraft in accordance and compliance with all laws, ordinances, and regulations relating to the possession, use, operation, or maintenance of the aircraft, including but not limited to, Federal Aviation Regulations.” The FAA goes on to note: “Lessee warrants it will not use the aircraft for an illegal purpose.”

## Ponzi Program?

A further allegation in the indictment accuses WBAT of a “Ponzi Scheme” whereby Mercer-Erwin, Moffett, and Federico Andres Machado devised a fraudulent way to earn more money. The indictment alleges that they encouraged investors to deposit money into WBAT’s escrow account typically used for aircraft transactions. But unlike a normal transaction where a loan is used to pay the seller for the aircraft, loans were sought to cover the buyer’s refundable deposit. Then the deposit money from the lender went into WBAT’s escrow account. No aircraft transaction happens because the airplane either doesn’t exist or is not for sale, according to the indictment. “WBAT transfers the refundable deposit into accounts designated by the fraudulent buyer to be used for other purposes, and not for the purchase of the designated aircraft,” it reads. “WBAT

is compensated for these fraudulent transactions with money taken from the escrow account as well.”

Finally, the fake buyer gets another loan from a different lender, again for the purchase of another fake aircraft. “This loan pays for the principal and interest owed to the previous lender for the previous aircraft transaction involving WBAT and the fraudulent buyer,” according to the indictment, which includes a long list of transactions where this occurred during 2016 and 2017.

An unknown number of aircraft and dollars are tied up in stalled WBAT and AGC transactions, and not much information is available on what is happening with them. According to a letter sent to members from International Aircraft Dealers Association (IADA) executive director Wayne Starling on February 23, “Generally speaking, the U.S. government has halted a significant amount of the activities of each and either of these companies. While both companies continue to maintain active websites, neither company is currently conducting business.”

For those affected by this situation, IADA warned that owners of aircraft in which AGC holds the title are stuck “because the U.S. government has a general freeze on these activities.” For funds and documents that might be stuck in escrow with WBAT, the letter explained, “we are advised that the U.S. government may be making some allowance for moving funds out. If you are currently affected by this situation, we recommend you contact one of our other member-companies that handle aircraft title, legal, or escrow services in Oklahoma City for advice.” ■

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## GAMA urges int’l cooperation

Bunce agreed with that assessment. He noted that while competitive, the OEM chiefs often will roll up their sleeves and work together on major issues, as they have during this pandemic. They have shared ideas on the use of remote technologies. “We’ve been able to use this new virtual technology, to be able to have them witness compliance and do an inspection.”

GAMA is looking at ways to codify some of these activities and enable more inspections to be conducted remotely.

“It is very disruptive for any manufacturer to have a steady stream of audits, multiple different entities coming into your factory facilities every week or every month for paperwork compliance and things like that. If we can do it virtually, it saves the regulator money and travel costs, and it saves companies time and energy,” he said.

But this extends beyond paperwork. He pointed to flight tests, where video technologies in the cockpit and real-time telemetry enable all the authorities to witness the same flight. “I do believe that this pandemic has provided us some opportunities to leverage later on.”

But all of this circles back to having the collaboration with the authorities and among the authorities.

“Our lifeblood is being able to have regulators work with one another to be able to produce a product in one part of the world and be able to have it used, operated, or integrated into a manufactured product in another part of the world,” Bunce said during the GAMA State of the Industry virtual event. “We’ve got to have bilateral safety agreements with those that have demonstrated their safety competency between nations.” ■



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## Falcon 6X takes first flight

The maximum range of the 6X carrying eight passengers and three crew at long-range cruise speed of Mach 0.80 is 5,500 nm and at Mach 0.85 that drops to 5,100 nm. Mmo is Mach 0.90 and the maximum altitude is 51,000 feet.

A new feature in the 6X design facilitates short-field performance—the fly-by-wire flight control system’s use of electrically driven flaps and flaperons. This allows the flaperons to act as both flaps (increasing lift) and ailerons (roll control) and are a first for a business jet. With the control surfaces working in tandem, lift-over-drag augmentation improves steep approach visibility, control, and comfort and enables a low approach speed of 109 ktas at typical landing weights. Takeoff distance at sea level and mtow is 5,480 feet.

The 6X flight deck features the latest version of the Honeywell Epic-based EASy III avionics, with four 14.1-inch displays, Honeywell’s IntuVue RDR-4000 radar, and the FalconEye head-up display with combined vision system (overlaid synthetic vision and enhanced vision system imagery). FalconEye is standard in the 6X and was developed with Elbit Systems.

To enhance 6X maintenance, the jet is the first Falcon fitted with the FalconScan advanced diagnostic system. FalconScan “monitors and reports on 100,000 maintenance parameters,” according to Dassault. ■

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## Excel Eagle underway

Hay said for an individual Excel operator to do to his or her airplane what the Excel Eagle program does would cost them \$200,000 to \$300,000 more than what it would cost to buy an Excel Eagle. “Our airplane is absolutely turnkey,” Hay explained. “You buy it. You come in and fly it away. You don’t have to do anything except that.”

In all, Meyer hopes to eventually turn over one Excel a month. As it stands, the process on the first Excel Eagle has taken several months to complete and it probably won’t be until late April or early May before the first one is ready for delivery. “It’s a process that

will take us the better part of three to four months certainly on the first two or three airplanes,” Meyer said.

Meyer acknowledged that some potential Excel Eagle clients could be deterred by the high time on the Excel airframes coming from NetJets, which he said on average are 12,000 to 13,000 hours. But he notes that those airplanes have been professionally maintained while serving NetJets owners,

often at a Citation Service Center. What’s more, the Excel was structurally and fatigue tested to 75,000 flight hours—the same requirements that Airbus and Boeing aircraft are tested to within the Part 25 transport category. “So 13,000 hours is in fact meaningless in terms of fatigue and structure,” he said. “But it is a factor in having Textron involved to do the special inspections.”

Still, based on CitationPartners’ research

and meetings with potential customers, Meyer thinks now is a good time to unveil the program because the demand for pre-owned Excels is strong and it looks to become stronger in part from Covid-19. “Among the very few positive aspects from our business of the pandemic is that we believe that the business aircraft industry will grow because a lot of people are not going to fly on the airlines,” he said. ■

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# Hera Aviation tackles flying, family caregiver issues

by Matt Thurber

When Jessica Webster was 12 years old, a chance encounter at an airshow launched her career as a pilot and at the same time taught her a valuable lesson about how one man with a gracious and welcoming attitude could open the doors to an incredible career for a young girl. Years later another man slammed that door shut on Webster, who was a pregnant professional pilot, perpetuating mythical objections for rejecting her upgrade to captain and demonstrating that, even in these modern times, the playing field for women in aviation is not level.

However, it was the latter situation that made Webster realize that her assumptions about how far women had come in aviation were questionable, and so she decided to do something about it and founded Hera Aviation Group.

From the beginning, Webster wanted Hera Aviation to be a non-profit resource. The group helps companies figure out how to make aviation more equitable for caregivers, both women and men. She doesn't want what happened to her to happen to others and figured that there are companies that want to do the right thing but might need some help and guidance.

The event that propelled Webster's interest in an aviation career happened at an East Coast airshow. Her father and grandfather loved aviation and would bring home pamphlets for the airshows that seemed to occur every summer weekend. "Those pamphlets were to me like the Target toy magazine for Christmas," she recalled. She would avidly read about the aircraft on display so she knew what to see at each show.

On this particular weekend, the Blue Angels were flying, and Webster made a beeline for a U.S. Navy Lockheed P-3 Orion submarine chaser. While she was reading the description and looking over the P-3, her father and grandfather were talking to the Navy crew standing on the wing. "I was daydreaming, wondering what that would be like [to stand on the wing]," she said, and then the Navy commander asked, "What's your name? Do you want to come and watch the airshow with us?"

"I was gone like the roadrunner, like smoke, I didn't even look at my dad," she recalled. "No sooner did he invite me, I was standing on the wing of the P-3 with all the crew, being welcomed in, being included. It seemed like there were sonic booms, we were so close, I could smell the afterburners of the Blue Angels flying over us."

Many years later, while recounting the other event that defined her career when she was passed over for upgrade to captain, Webster said, "I thought of how amazing that moment felt of being with that P-3 crew, not feeling different, and how it gave me hope and drive and shaped

my fuel to become a pilot. It was pretty poignant and powerful for me."

## Learning To Fly

Webster learned to fly at Beverly Regional Airport north of Boston, washing airplanes in exchange for lessons. Then she earned a bachelor's degree and commercial and flight instructor certificates and taught at Daniel Webster College in Nashua, New Hampshire. After moving to the UK, she earned her ATPL and got hired at an FBO in Bristol, which led to flying Piper Navajo Chieftains in the challenging weather in Europe on cargo, medical missions, and passenger charter flights. "I flew with some incredible people and learned and loved it," she said.

After returning to the U.S., Webster got a job in 2008 with a small, family-owned company, flying a Beechcraft Premier 1A on contract. "I love business aviation very much," she said. "I feel I was born for it."

Everything was going well; she was flying regularly, both in the Premier 1A and eventually for a different company flying an Eclipse 500 as a contract charter pilot. Her Eclipse training captain recommended she be upgraded to captain, and she became pregnant with her first child. After maternity leave for her son's birth, Webster returned to work, but something was different.

"Unfortunately, the conversation changed," she recalled. "Nobody wanted to talk to me about it. It was awkward. The moment that was Hera's genesis was when I was talking with that captain on a trip." She brought up the training slot for her captain upgrade. "He got very white, his face fell, and he looked like, 'I don't want to have this conversation.' Then he said, 'I think you need to talk to them.'"

Webster will never forget the contrast between the joy she felt when the P-3 crew welcomed her into their world at age 12 then years later the fear and disappointment she experienced when she realized that motherhood was going to derail her career.

"I had worked so hard," she said. "I'm a professional. I've always excelled in my position and never had problems on the flight deck or issues with crewmembers. I could not understand what I'd done wrong. But it wasn't what I did, it was how I chose to grow my family that was the catalyst. I was devastated."

Finally, when she called the company to ask bluntly why she wasn't still on the upgrade path, she learned what the leaders really thought: "The conversation didn't go as I'd hoped. They said, 'We love you, you're great, we hope you continue to stay with us. You're a great pilot, however, you have a son at home and you're a mom now and your baby needs you and we can't take the risk.'"



Jessica Webster's career led to flying as a contract pilot in jets like this Premier 1A and then she founded Hera Aviation to help aviators deal with family and career issues.

"I remember that. I could hear my heartbeat in my ears. I could feel the ache. I advocated the best I could: 'I've been with you guys for years, I ask that you reconsider, this is the value I bring, I've never missed a trip or been sick, passengers request me. This is important to my career, to my progression.' They didn't reconsider. That was it. I got off the phone and cried.

"That's the truth. Few male pilots would even have that conversation. It's not a judgment, it's a fact. That one moment changed my whole career. That changed my resources, my access, and attempted to change my self-value, my core values. It put in question what type of aviator I was. Nobody should have to do that. Now we have the opportunity to make that different for the next caregiver mother walking through this journey."

Webster continued flying as a contract pilot in the Premier 1A, but realized that she was "woefully misinformed" about her chosen industry. She had thought that if she worked hard and did her job well, she wouldn't be subject to discrimination just because she was female. "The imperative to my career was that I continue to grow professionally while being a mother," she said.

## Formation of Hera

In 2015, an opportunity presented itself, a Women in Aviation International scholarship for a Bombardier Learjet 45 type rating. Webster applied, writing a heartfelt essay. She won the Bombardier-sponsored scholarship and in mid-2016, six months pregnant with her second child, traveled to Dallas for the intensive training and earned the pilot-in-command Learjet 45 type rating along with her ATP certificate.

"It was an incredible experience," she said, especially meeting the chief instructor, a woman who also had a young child at home. "She was extremely well respected and doing great, and that fueled my hope again that we should not be all painted with one brush."

After her daughter was born, Webster did some contract flying in a Learjet 45 along with the Premier 1A until the

pandemic took hold in early 2020. This spurred her to follow through on her ideas on how to make business aviation more equitable for women. "There are no support facilities in place to help them, and that's why I decided to bring together an incredible group of women to form Hera."

The first step was to learn by listening to others about the issues facing women in aviation. "I was surprised," she said. "I had this altruistic view of where our industry was. I knew I was one of 5 percent that identified as female in my industry. I know there is bias but didn't know there was that type of bias."

Another revelation was that despite all the great programs in place to help promote women in aviation, the percentage of aviators who are female has scarcely budged in many years. "I don't have all the answers, but I knew I could make an impact. I know about caregiving and know how to solve problems the industry is having. That's why I decided to move forward with Hera."

Hera's mission is "to create positive change for women and primary caregivers in aviation." This includes working with individuals, businesses, and the industry, Webster explained. "That's how you effect cultural change."

For individuals, Hera helps arrange mentorships to help people with career growth, training, and re-entering the aviation industry, as well as support for caregivers like Webster who are balancing parenthood and a career.

While many companies are aware of these issues, Hera can help them figure out how to help their employees by "engaging and actively participating in a solution," she explained. "We provide solutions for these companies to pivot their leadership and philosophies from this espoused value. To enact that value, there need to be processes in place."

The benefit of this effort is not just that individuals can keep working in their desired career, but it also helps companies support a more diverse and dedicated workforce, which is ultimately more

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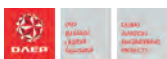
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# FBO Survey 2021

Report by Curt Epstein, charts and data by Dave Leach

For most, 2020 cannot fade into memory fast enough. The tendrils of the Covid pandemic reached virtually every person and every business in every country in the world, but some industries such as travel were especially constricted by an ever-changing mosaic of government restrictions intended to combat the virus's spread.

While private aviation fared better than its commercial carrier brethren, it still has yet to rebound to pre-Covid levels in most locations. A year ago, global business aviation usage declined by more than 65 percent compared to April 2019, according to industry data provider JetNet. For North America, it was off by 68 percent year-over-year. Yet in contrast to the airlines, business

aviation activity has steadily increased and in December, spurred by a surge in charter activity as passengers faced reduced commercial availability and concerns over flying with large groups, it climbed back to within 3 percent worldwide and 5 percent in North America. For 2020, worldwide private aviation finished nearly 18 percent off the pace set the previous year, an impact that was felt by the FBO industry.

In its annual FBO Fuel Sales Survey, Aviation Business Strategies Group (ABSG) noted 67 percent of FBO respondents reported a year-over-year decrease in fuel sales from 2019 and that the top concern was the effects of the pandemic on the economy, transient aircraft traffic,

and keeping their service teams intact.

“Putting 2020 in context, the last time FBOs suffered through similar declines was during the Great Recession [2008-2010] when it took about six years to recover back to where we were at the 2007 peak,” said Mark Chambers, managing partner for industry consultant Aviation Resource Group International (ARGI).

Though corporate travel has remained far below normal levels, charter and fractional shares have picked up the slack, with many new customers entering the private aviation arena for the first time. “The industry saw another new tranche of customers enter the private aviation market from the front of the [Part ]121 cabin,

who had likely been on-the-fence prior to Covid,” said Douglas Wilson, president and senior partner of FBO Partners. “The value proposition changed for them when Covid struck as the cost differential was immediately justified to gain a greater locus of control over their health.”

Among the FBOs that AIN spoke with this year as part of its annual survey report, most indicated that traffic ramped up in the second half of 2020 and has stayed strong through the beginning of this year.

Given those parameters, the needle has swung to it being a seller's market for FBO owners, unlike the aftermath of the 2008 financial meltdown. “The current recovery from 2020 looks different in our industry since the benefits of private travel are being spotlighted and shifting more passengers from airline terminals to FBOs,” Chambers told AIN. “This has heightened the interest on the buy side.”

“What's truly changed on the [mergers and acquisitions] side is that the resiliency of business aviation to exogenous threats like Covid have demonstrated that FBOs behave more like infrastructure from an investment perspective, bringing a new class of investors,” explained Wilson. “It's no longer just mid-market private equity driving change, infrastructure firms are getting in too.” Indeed, currently at play are the two biggest names in the industry: Signature Flight Support and Atlantic Aviation. Efforts to acquire Signature—the world's largest FBO chain—sparked a bidding war, which as of press time has attracted a \$4.7 billion offer, while Macquarie Infrastructure Corp. (MIC) which owns Atlantic, has resumed its Covid-interrupted efforts to sell the company, with approximately 70 U.S. locations.

In addition to affecting traffic levels, the pandemic required FBO operators to respond in other ways. Gone went bowls of candy and bountiful refreshment bars, replaced in many locations by pre-packaged, single-portion snacks. Plastic screens went up at CSR counters, while seating areas in lobbies and lounges were reconfigured to promote social distancing. Staff were required to wear masks while customers, if not mandated by state rules, were encouraged to do so. Some FBOs instituted temperature check protocols for each staffer as they began their shift. New cleaning regimens were adopted as NATA introduced its Safety 1st Clean: a voluntary, self-certifying program built around best practices as recommended by the U.S. Centers for Disease Control and Prevention, all in an attempt to protect their staff and reassure their customers.

Against this backdrop, AIN once again asked its readers to rate the FBOs they visited in five categories: Line Service, Passenger Amenities, Pilot Amenities, Facilities, and CSRs. It is not enough to specialize in just one or two categories, as some locations that earned the highest overall score in a category did not place in the top 10 percent of FBOs in this year's survey. To reach the top rungs, a location must excel in all five categories. ■

## MOST IMPROVED FBOs OVER THE PAST 12 MONTHS

FBO	AIRPORT CODE	AIRPORT	OVERALL AVERAGE	OVERALL 2021	CHANGE FROM LAST YEAR
HILL AIRCRAFT	KFTY	FULTON COUNTY AIRPORT-BROWN FIELD	4.33	4.12	0.21
NORTHEAST AIR	KPWM	PORTLAND INTERNATIONAL JETPORT	4.58	4.41	0.17
PROVO AIR CENTER	MBPV	PROVIDENCIALES	4.37	4.21	0.16
CUTTER AVIATION	KABQ	ALBUQUERQUE INTERNATIONAL SUNPORT	4.48	4.33	0.15
SIGNATURE FLIGHT SUPPORT	KMKE	GENERAL MITCHELL INTERNATIONAL	4.36	4.21	0.15
SHELTAIR	KLGA	LA GUARDIA	3.94	3.80	0.14
CUTTER AVIATION	KDVT	PHOENIX DEER VALLEY	4.34	4.21	0.13
ALLIANCE AVIATION SERVICES	KAFW	FORT WORTH ALLIANCE	4.47	4.35	0.12
GLACIER JET CENTER	KGPI	GLACIER PARK INTERNATIONAL	4.50	4.38	0.12
ROSS AVIATION	KTRM	JACQUELINE COCHRAN REGIONAL	4.40	4.28	0.12
SHELTAIR	KJFK	JOHN F KENNEDY INTERNATIONAL	4.18	4.06	0.12
GARY JET CENTER	KGYG	GARY/CHICAGO INTERNATIONAL	4.24	4.13	0.11
ATLANTIC AVIATION	KPDX	PORTLAND INTERNATIONAL	4.45	4.35	0.10
JET AVIATION	KDAL	DALLAS LOVE FIELD	4.28	4.18	0.10
SIGNATURE FLIGHT SUPPORT	KSAN	SAN DIEGO INTERNATIONAL	3.88	3.78	0.10
ATLANTIC AVIATION	KHOU	WILLIAM P HOBBY	4.31	4.21	0.10

\*FBOs with same change are listed in alphabetical order



## FBO SURVEY RULES AND METHODOLOGY

This report on AIN's FBO survey covers fixed-base operations in the Americas.

### History

AIN has been conducting surveys since 1981, asking about the service that FBOs provide their customers and reporting the results from these annual surveys. Initially, we sent out a paper survey questionnaire by mail to qualified subscribers in the U.S.—pilots, flight attendants, and dispatchers—the people who use or make arrangements with FBOs. In later years, qualified subscribers in the remainder of North America and the rest of the world were added to the survey.

In 2006 we moved the FBO survey online. We have continued to add FBOs each year and now offer respondents a comprehensive list of 4,500 FBOs worldwide.

### The Survey

The FBO Survey site allows subscribers to keep a list of personalized FBOs and from this list they can easily change or affirm a prior rating and leave an updated comment.

The scores in this report and on our website reflect the cumulative average of scores from 2014 through today. Only the most recent rating of an FBO is counted on a per-user basis and only FBOs that have received 20 or more ratings are eligible for their scores to be published. We did see slightly reduced feedback this year due to the COVID-19 pandemic as many readers informed us they had not flown nearly as much as they had during the prior survey period. Partly because of this we moved the rating threshold from 30 to 20 after confirming that the results are still statistically significant.

From April 1, 2020, until Feb. 10, 2021, we asked subscribers to update and give new ratings for FBOs they had visited in the preceding 12 months. We contacted readers via email and announcements in our e-newsletters. The bulk of this promotion took place from Dec. 1, 2020 through Feb. 10, 2021.

The FBO survey site asks readers to evaluate FBOs they visited the previous year in five categories: line service; passenger amenities; pilot amenities; facilities; and customer service representatives (CSRs). For each of these categories, the participant is asked to assign a number from 1 to 5, 1 being the lowest and 5 being the highest.

### Observations

Each year we review ratings to ensure their accuracy. On our new site we have a system to flag, review, and, if necessary, remove ratings identified as dubious by factors such as email address, IP address, and concentration of scores.

### Score Calculations

An FBO's overall average is calculated by adding all the individual category ratings received by that FBO and dividing the resulting sum by the total number of all category ratings received by the FBO. In other words, if a particular FBO was evaluated by 50 people (and assuming that all 50 evaluators gave that FBO a rating in each of the five categories), then the FBO would receive a total of 250 category ratings. These 250 category ratings are added together and then the sum is divided by 250 to arrive at the overall average for this particular FBO.

Overall averages are calculated using the cumulative average of all ratings given from 2014 through the present. This year's results will show an FBO's increase or decrease versus that FBO's cumulative rating from one year ago.

## REMINDER

**DON'T WAIT**—AIN's FBO survey is now open for year-round feedback. It takes only a minute, and you can do it while waiting for passengers, on the shuttle bus to/from the hotel, or any other time that is convenient for you. Log on to [www.ainonline.com/fbosurvey](http://www.ainonline.com/fbosurvey) to rate your experiences at the FBOs you visit.

## TOP RATED FBOs IN THE AMERICAS (BY OVERALL AVERAGE)

FBO	AIRPORT CODE	AIRPORT	OVERALL AVERAGE	CHANGE FROM LAST YEAR	
AMERICAN AERO	KFTW	FORT WORTH MEACHAM INTERNATIONAL	4.76	0.00	Top 5%
PENTASTAR AVIATION	KPTK	OAKLAND COUNTY INTERNATIONAL	4.76	0.01	Top 5%
SHELTAIR	KTPA	TAMPA INTERNATIONAL	4.75	0.01	Top 5%
HENRIKSEN JET CENTER	KEDC	AUSTIN EXECUTIVE	4.74	0.03	Top 5%
JET AVIATION	KPBI	PALM BEACH INTERNATIONAL	4.73	-0.01	Top 5%
WILSON AIR CENTER	KMEM	MEMPHIS INTERNATIONAL	4.73	-0.02	Top 5%
BASE OPERATIONS AT PAGE FIELD	KFMY	PAGE FIELD	4.71	0.03	Top 5%
HENRIKSEN JET CENTER	KTME	HOUSTON EXECUTIVE	4.71	N/A	Top 5%
GLOBAL SELECT	KSGR	SUGAR LAND REGIONAL	4.70	-0.01	Top 5%
WESTERN AIRCRAFT	KBOI	BOISE AIR TERMINAL/GOWEN FIELD	4.70	0.03	Top 5%
BANYAN AIR SERVICE	KFXE	FORT LAUDERDALE EXECUTIVE	4.69	0.02	Top 5%
HERITAGE AVIATION	KBTW	BURLINGTON INTERNATIONAL	4.68	0.05	Top 5%
SHELTAIR	KFLL	FORT LAUDERDALE/HOLLYWOOD INTERNATIONAL	4.68	0.01	Top 5%
STUART JET CENTER	KSUA	WITHAM FIELD	4.68	0.02	Top 5%
BUSINESS JET CENTER	KDAL	DALLAS LOVE FIELD	4.67	-0.02	Top 10%
MERIDIAN TETERBORO	KTEB	TETERBORO	4.67	-0.01	Top 10%
SHELTAIR	KJAX	JACKSONVILLE INTERNATIONAL	4.67	0.03	Top 10%
ATLANTIC AVIATION	KCRQ	MC CLELLAN-PALOMAR	4.66	0.03	Top 10%
FARGO JET CENTER	KFAR	HECTOR INTERNATIONAL	4.66	-0.01	Top 10%
SHELTAIR	KORL	ORLANDO EXECUTIVE	4.66	0.05	Top 10%
WILSON AIR CENTER	KCHA	LOVELL FIELD	4.65	-0.04	Top 10%
AERO-ONE AVIATION	KDHN	DOTHAN REGIONAL	4.64	N/A	Top 10%
ATLANTIC AVIATION	KMKC	CHARLES B. WHEELER DOWNTOWN	4.64	-0.02	Top 10%
MILLION AIR	KADS	ADDISON	4.64	0.00	Top 10%
MODERN AVIATION	KAPA	CENTENNIAL	4.64	-0.01	Top 10%
TEXAS JET	KFTW	FORT WORTH MEACHAM INTERNATIONAL	4.64	0.02	Top 10%
JET CENTER AT SANTA FE	KSAF	SANTA FE MUNICIPAL	4.63	N/A	Top 20%
MONTEREY JET CENTER	KMRY	MONTEREY PENINSULA	4.63	-0.03	Top 20%
SHELTAIR	KSAV	SAVANNAH/HILTON HEAD INTERNATIONAL	4.63	0.06	Top 20%
ATLANTIC AVIATION	KMTJ	MONTROSE REGIONAL	4.62	-0.04	Top 20%
DEL MONTE AVIATION	KMRY	MONTEREY PENINSULA	4.62	-0.01	Top 20%
GLOBAL AVIATION	KHIO	PORTLAND-HILLSBORO	4.62	N/A	Top 20%
SKYSERVICE	CYYZ	LESTER B. PEARSON INTERNATIONAL	4.62	-0.05	Top 20%
WILSON AIR CENTER	KCLT	CHARLOTTE/DOUGLAS INTERNATIONAL	4.62	0.01	Top 20%
CARVER AERO (Formerly Advanced Air)	KCBF	COUNCIL BLUFFS MUNICIPAL	4.61	N/A	Top 20%
MERIDIAN HAYWARD	KHWD	HAYWARD EXECUTIVE	4.61	N/A	Top 20%
MILLION AIR	KHPN	WESTCHESTER COUNTY	4.61	0.06	Top 20%
ROSS AVIATION	KLGB	LONG BEACH /DAUGHERTY FIELD	4.61	0.00	Top 20%
SHELTAIR	KDAB	DAYTONA BEACH INTERNATIONAL	4.61	0.01	Top 20%
SIGNATURE FLIGHT SUPPORT	KSTP	ST PAUL DOWNTOWN HOLMAN FIELD	4.60	0.04	Top 20%
EMBRAER FBO	SDCO	SOROCABA	4.59	-0.01	Top 20%
MCKINNEY AIR CENTER	KTKI	MCKINNEY NATIONAL AIRPORT	4.59	N/A	Top 20%
NATIONAL JETS	KFLL	FORT LAUDERDALE/HOLLYWOOD INTERNATIONAL	4.59	0.04	Top 20%
RECTRIX	KSRQ	SARASOTA/BRADENTON INTERNATIONAL	4.59	-0.04	Top 20%
SHELTAIR	KPIE	ST PETERSBURG-CLEARWATER INTERNATIONAL	4.59	0.08	Top 20%
VAIL VALLEY JET CENTER	KEGE	EAGLE COUNTY REGIONAL	4.59	-0.04	Top 20%
CUTTER AVIATION	KPHX	PHOENIX SKY HARBOR INTERNATIONAL	4.58	0.03	Top 20%
MILLION AIR	KIND	INDIANAPOLIS INTERNATIONAL	4.58	-0.02	Top 20%
MILLION AIR	KSAT	SAN ANTONIO INTERNATIONAL	4.58	0.02	Top 20%
NORTHEAST AIR	KPWM	PORTLAND INTERNATIONAL JETPORT	4.58	0.17	Top 20%
SIGNATURE FLIGHT SUPPORT	KSDL	SCOTTSDALE	4.58	-0.05	Top 20%
SWIFT AVIATION SERVICES	KPHX	PHOENIX SKY HARBOR INTERNATIONAL	4.58	0.00	Top 20%

FBOs with same overall average are listed in alphabetical order

## 4.76 American Aero FTW

Fort Worth Meacham International Airport (FTW), Fort Worth, Texas



While it has occupied its permanent facility for less than five years, American Aero FTW has made its name known in the Metroplex, scoring in the top 5 percent of the **AIN** FBO Survey each year since 2017 and repeating from last year with a share in the highest overall ranking, according to **AIN** readers.

Since its beginning in 2012, safety has been the cornerstone of the company, as it was the first to achieve Stage 1 and Stage 3 registration under the International Standard for Business Aviation Handling (IS-BAH). “Safety is a byproduct of competencies that go beyond even IS-BAH Stage 3,” said American Aero vice president Bob Agostino. “It is a daily discipline ingrained in our culture, from the newest employee to the highest executive.”

The company is also well versed in the art of customer service, with its staff undergoing Ritz-Carlton training. “We are the first and last people our guests see when they visit this area,” noted general manager Angela Thurmond, adding if they are aware of a particular item preferred by a customer, the staff will make sure to have it on hand when they arrive. “We are ambassadors for North Texas and we take that job very seriously.” That dedication earned the location its highest score this year in the CSR category (4.86).


The Signature Select-badged FBO occupies a 34-acre leasehold at FTW, with 255,000 sq ft of hangar space capable of sheltering the latest top-of-line business jets. It expects to break ground soon on an additional 70,000 sq ft of aircraft storage, and it increased its Avfuel-branded fuel storage last year to 70,000 gallons of jet-A and 33,000 gallons of avgas with the addition of a 10,000-gallon jet-A tank and two 10,000-gallon avgas tanks.

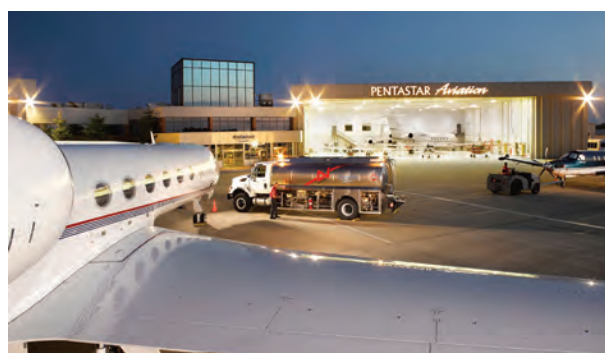
The 8,600-sq-ft terminal features an array of technologies and amenities such as self-tinting glass windows, white noise speakers embedded in the lobby walls along with sound-dampening materials to provide a tranquil environment, a fully soundproofed snooze room, shower facilities, a crew dining room with china service, a well-stocked refreshment bar, 25-seat A/V-equipped conference room, and even a high-speed dishwasher for aircraft service items. It offers 80 covered parking spaces to protect cars from the intense Texas sun.

## 4.76 Pentastar Aviation

Oakland County International Airport (PTK), Pontiac, Michigan

Sharing the top seat in this year’s **AIN** survey is Pentastar Aviation. The location, one of six FBOs at Michigan’s Oakland County International, traces its existence back nearly six decades, starting out as the flight department for the Chrysler Corporation. It eventually extended its

SOUTHEAST				
FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>ATLANTA</b>				
EPPS AVIATION		KPDK	4.39	0.04
HILL AIRCRAFT		KFTY	4.33	0.21
SIGNATURE FLIGHT SUPPORT		KPDK	4.20	0.02
ATLANTIC AVIATION		KPDK	4.14	-0.10
SIGNATURE FLIGHT SUPPORT		KFTY	3.95	-0.08
<b>BOCA RATON/POMPANO BEACH</b>				
SHELTAIR		KPMP	4.55	N/A
SIGNATURE FLIGHT SUPPORT		KBCT	4.43	-0.06
ATLANTIC AVIATION		KBCT	4.17	-0.13
<b>CHARLESTON</b>				
SIGNATURE FLIGHT SUPPORT		KCHS	4.55	0.03
ATLANTIC AVIATION		KCHS	4.33	-0.04
<b>CHARLOTTE</b>				
WILSON AIR CENTER		KCLT	4.62	0.01
<b>CHATTANOOGA</b>				
WILSON AIR CENTER		KCHA	4.65	-0.04
<b>DAYTONA BEACH</b>				
SHELTAIR		KDAB	4.61	0.01
<b>FORT LAUDERDALE</b>				
BANYAN AIR SERVICE		KFXE	4.69	0.02
SHELTAIR		KFLL	4.68	0.01
NATIONAL JETS		KFLL	4.59	0.04
JETSCAPE		KFLL	4.25	0.06
SIGNATURE FLIGHT SUPPORT		KFLL	4.15	-0.06
<b>FORT MYERS / NAPLES</b>				
BASE OPERATIONS AT PAGE FIELD		KFMY	4.71	0.03
PRIVATE SKY AVIATION SERVICES		KRSW	4.29	-0.06
NAPLES AVIATION		KAPF	4.26	-0.05
<b>JACKSONVILLE</b>				
SHELTAIR		KJAX	4.67	0.03
<b>MEMPHIS</b>				
WILSON AIR CENTER		KMEM	4.73	-0.02
SIGNATURE FLIGHT SUPPORT		KMEM	4.02	0.05



services to other jet operators, and two decades ago it was purchased by local scion Edsel B. Ford II, the great grandson of the legendary Henry Ford, to pursue his passion for aviation. A full-service FBO in every sense of the term, the company and its 163 onsite employees offer everything from aircraft management and charter, to 24-hour maintenance and interior refurbishments. It even has its own in-house kitchen, FiveStar Gourmet, which supplies catering to aircraft operators as well as meals to airport workers and customers.

### Top Rated FBOs in the Americas by Region

SOUTHEAST				
FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>MIAMI</b>				
FONTAINEBLEAU AVIATION		KOPF	4.43	0
ATLANTIC AVIATION		KOPF	4.39	0.09
SIGNATURE FLIGHT SUPPORT		KMIA	4.24	0
SIGNATURE FLIGHT SUPPORT		KOPF	4.15	-0.04
<b>NASHVILLE</b>				
SIGNATURE FLIGHT SUPPORT		KBNA	4.09	0.04
ATLANTIC AVIATION		KBNA	4.07	-0.05
<b>NORTHWEST FLORIDA</b>				
SHELTAIR		KECP	4.55	-0.04
LYNX FBO DESTIN		KDTS	4.52	-0.01
MILLION AIR		KTLH	4.21	0.03
<b>ORLANDO</b>				
SHELTAIR		KORL	4.66	0.05
ATLANTIC AVIATION		KORL	4.52	-0.02
ATLANTIC AVIATION		KMCO	4.48	-0.03
SIGNATURE FLIGHT SUPPORT		KMCO	4.34	-0.03
<b>RALEIGH/DURHAM</b>				
TAC AIR		KRDU	4.12	-0.1
SIGNATURE FLIGHT SUPPORT		KRDU	3.89	-0.03
<b>TAMPA / ST. PETERSBURG</b>				
SHELTAIR		KTPA	4.75	0.01
SHELTAIR		KPIE	4.59	0.08
SHELTAIR		KSPG	4.44	N/A
SIGNATURE FLIGHT SUPPORT		KTPA	3.89	-0.06
<b>SAVANNAH</b>				
SHELTAIR		KSAV	4.63	0.06
<b>SARASOTA</b>				
RECTRIX		KSRQ	4.59	-0.04
<b>WEST PALM BEACH / STUART</b>				
JET AVIATION		KPBI	4.73	-0.01
STUART JET CENTER		KSUA	4.68	0.02
ATLANTIC AVIATION		KSUA	4.42	0.07
SIGNATURE FLIGHT SUPPORT		KPBI	4.41	-0.02
ATLANTIC AVIATION		KPBI	4.36	-0.05

The sprawling 22-acre complex includes 130,000 sq ft of hangar space that shelters 21 aircraft ranging from an Eclipse to a Boeing BBJ and 10 acres of reinforced ramp space. It has a pair of terminals with the main 5,000-sq-ft building offering passenger lounges, multimedia-equipped conference rooms, and the FiveStar Café. Unique among FBOs, the 10,000-sq-ft two-story satellite Stargate terminal is specially equipped to handle large charter flights such as sports teams, with its own jet bridge, baggage carousel, and departure lounge.

The Avfuel location, which also serves as a DCA Approved Gateway for flights into Washington Reagan National Airport under the DASSP, has achieved IS-BAH Stage 1 registration and is certified under NATA’s Safety 1st Clean Program for Covid mitigation.

“Our team is always looking for ways to exceed the needs and expectations of our customers,” said Ford. “The trained professionals at Pentastar Aviation appreciate the value of our clients’ time and remain focused on optimizing their efficiency and productivity when utilizing our services.”

New FBO  
Terminal  
Coming  
This Year!



RENDERING OF NEW FBO TERMINAL

# McKinney Air Center

McKinney, TX (KTKI) | A Premier Avfuel Network FBO

Conveniently located within the DFW Class-B airspace and near well-known North Texas cities, all travelers benefit from expeditious travel in the air and on the ground when reserving with nationally-recognized McKinney Air Center. This is especially true for those attending the Byron Nelson golf tournament at TPC Craig Ranch this May—only a 15-minute drive from this full-service FBO. Learn more about available services and amenities at [FlyTKI.com](http://FlyTKI.com).

- 7,002' Runway
- GPU/Power Cart
- U.S. Customs
- International Trash Disposal
- Maintenance & Avionics on Site
- Climate-Controlled Hangar
- Open 7 Days/Week
- Available After Hours
- Quick-Turn Service
- Lavatory Service
- Rental Cars on Site
- Expert Concierge

**Avfuel Contract Fuel and AVTRIP Available**

*Powering your flight with more than just fuel. Learn more at [avfuel.com](http://avfuel.com).*



## 4.75 Sheltair

Tampa International Airport (TPA), Tampa, Florida

A perennial top scorer in the **AIN** FBO Survey for virtually its entire 16-year existence, Sheltair Tampa was among the highest scorers this year in the line service (4.78), passenger amenities (4.75), pilot amenities (4.70), and facilities (4.77) categories, making it one of only three FBOs to score 4.7 or higher in every category. With Tampa's Raymond James Stadium the venue for this year's Super Bowl, despite the attendance restrictions imposed due to Covid and the hometown Buccaneers in the game, the FBO staff was still kept busy handling scores of private aircraft. Located directly adjacent to the stadium, passengers could be shuttled to an airport side gate, which allowed them to be dropped off without having to use the local streets. That urbanized location also helps in other ways with an upscale shopping district and fine dining restaurants just across the street from the Avfuel-supplied FBO.

The IS-BAH Stage 2-registered location features an 11,000-sq-ft terminal with a 13,000-sq-ft aircraft arrivals canopy to protect passengers from Florida's alternately intense sunshine or rain and a land-side porte cochere. A renovation on the two conference rooms will be completed shortly.



Sheltair's 150,000 sq ft of hangar space—capable of sheltering aircraft up to a Global 7500—is home to 46 turbine-powered aircraft, but that is not enough. In the second quarter of the year the company will finally break ground on a \$20 million, Covid-delayed expansion that will add another 75,000 sq ft of hangar, 17,000 sq ft of office space, new ramp, and a gated parking lot for use by the champion Buccaneers and the NHL's Lightning teams and their charters.

"Our greatest strength is our ability to flex to our customers' needs," general manager Clayton Lackey told **AIN**. "Sheltair senior management has strongly supported us in customizing service locally. This has led to consistently exceptional results over the years."

## 4.74 Henriksen Jet Center

Austin Executive Airport (EDC), Austin, Texas

There are not many privately-owned business aviation airports in the U.S. but at the pinnacle, according to **AIN**'s readers, sits Austin Executive Airport and its Henriksen Jet Center, which ranked in the top 5 percent in our FBO survey for the fourth straight year. Celebrating its 10th anniversary this year, the facility earned the top score (4.83) in the passenger amenities category for the past four years as well. The 22,500-sq-ft terminal, which suffered damage during the spate of winter storms that plagued Texas, features an airy two-story, glass-sheathed lobby, with an Olympus engine from the former Concorde jetliner on

display as a focal point along with a fully-restored 1914 Indian motorcycle in a glass case. Among the amenities are a pilot lounge with quiet rooms equipped with the latest in massage chairs, shower facilities, a luxurious theater room with stadium seating, a 12-seat A/V-equipped conference room, and a 15,000-sq-ft aircraft arrivals canopy, which can accommodate a BBJ-class aircraft while lowering the temperature by more than 30 degrees versus the exposed ramp baked by Texas's unrelenting summer heat.



The Phillips 66-branded location, which is staffed 24/7 every day, has 144,000 sq ft of hangar space to house its 30 based jets and 23 based turboprops, with a 14,000-sq-ft community hangar currently under construction. When completed, it will allow some of the smaller turboprops to be relocated and make room for jets in the larger hangars, according to Jodie Kaluza, who manages not only the FBO but the entire airport. She noted that she is seeing "a ton of inquires of new aircraft coming to the area," which is a hot spot for company relocations and real estate.

"We compete against three big chain FBOs at the major airport [AUS]," Kaluza told **AIN**. "We focus on attention to detail and relationships that a small, non-big chain facility can provide. Every customer is important to us and we try to show it in our services every day."

## 4.73 Jet Aviation

Palm Beach International Airport (PBI), West Palm Beach, Florida



Jet Aviation is a global FBO operator with more than 30 locations including eight in the U.S., and its lone Florida facility in West Palm Beach has continually impressed **AIN**'s readers, with its highest score tally this year being a 4.80 in the CSR category. According to general manager Nuno Da Silva, his 43-person staff with an average tenure of 20 years is what sets the IS-BAH Stage 2-registered, Air Elite FBO Network location apart from its competitors. "We are a safety first, service and solutions-oriented team, backed by literally centuries of experience," he told **AIN**. "We drive customer loyalty by delivering a recognizable, elevated customer service offering and by making it easy to do business with us. We don't believe in the word 'no', and always find a solution."

### Top Rated FBOs in the Americas by Region ROCKY MOUNTAIN

FBO	AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>ALBUQUERQUE</b>			
CUTTER AVIATION	KABQ	4.48	0.15
<b>BOISE</b>			
WESTERN AIRCRAFT	KBOI	4.70	0.03
JACKSON JET CENTER	KBOI	4.44	0.03
<b>BOZEMAN</b>			
YELLOWSTONE JETCENTER BY SIGNATURE	KBZN	4.54	-0.01
JET AVIATION	KBZN	4.27	N/A
<b>COLORADO SPRINGS</b>			
CUTTER AVIATION	KCOS	4.55	N/A
COLORADO JETCENTER	KCOS	3.96	0.06
<b>DENVER</b>			
MODERN AVIATION	KAPA	4.64	-0.01
DENVER JETCENTER	KAPA	4.49	-0.02
SIGNATURE FLIGHT SUPPORT	KDEN	4.42	-0.02
SIGNATURE FLIGHT SUPPORT	KAPA	4.20	-0.06
SIGNATURE FLIGHT SUPPORT	KBJC	4.07	-0.04
TAC AIR	KAPA	4.07	-0.07
<b>GLACIER</b>			
GLACIER JET CENTER	KGPI	4.50	0.12
<b>GRAND JUNCTION</b>			
WEST STAR AVIATION	KGJT	4.43	-0.02
<b>JACKSON HOLE</b>			
JACKSON HOLE AVIATION	KJAC	3.69	-0.08
<b>COLORADO MOUNTAINS</b>			
ATLANTIC AVIATION	KMTJ	4.62	-0.04
VAIL VALLEY JET CENTER	KEGE	4.59	-0.04
ATLANTIC AVIATION	KRIL	4.25	0.03
TELLURIDE REGIONAL AIRPORT	KTEX	4.18	0.06
ATLANTIC AVIATION	KASE	4.10	0.02
<b>PHOENIX/SCOTTSDALE</b>			
CUTTER AVIATION	KPHX	4.58	0.03
SIGNATURE FLIGHT SUPPORT	KSDL	4.58	-0.05
SWIFT AVIATION SERVICES	KPHX	4.58	0.00
ROSS AVIATION	KSDL	4.39	0.06
CUTTER AVIATION	KDVT	4.34	0.13
<b>PUEBLO</b>			
FLOWER AVIATION	KPUB	4.40	0.07
<b>SALT LAKE CITY</b>			
TAC AIR	KSLC	4.46	0.00
ATLANTIC AVIATION	KSLC	4.20	N/A
<b>SANTA FE</b>			
JET CENTER AT SANTA FE	KSAF	4.63	N/A
SIGNATURE FLIGHT SUPPORT	KSAF	3.82	0.01
<b>SUN VALLEY</b>			
ATLANTIC AVIATION	KSUN	4.47	-0.05
<b>TUCSON</b>			
ATLANTIC AVIATION	KTUS	4.36	0.02

The main 18,000-sq-ft, two-story terminal, which is staffed 24/7, has served since the company began operations there in 1985, and is slated to undergo a renovation project starting this summer. The building includes an executive lounge, conference room, business center, pilot lounge with snooze room and showers, flight planning area, and refreshment bar offering treats such as freshly-squeezed lemonade, warm cookies, tropical-flavored slushies, and local favorite Rich's ice cream.

This past fall saw the completion of a major expansion project in conjunction with sister company Gulfstream, which included a shared 9,000-sq-ft environmentally friendly terminal and 42,000-sq-ft hangar. This pushes the 22-acre facility—home to more than 50 jets and turboprops—to more than 200,000 sq ft of shelter capable of handling aircraft up to BBJs. The project also added an additional 65,000 sq ft of ramp and 10,000 sq ft of office space.

## 4.73 Wilson Air Center

Memphis International Airport (MEM), Memphis, Tennessee

Wilson Air Center, a small chain with four locations in Tennessee, Texas, and North Carolina, has long been a standout in the AIN FBO Survey, particularly its flagship location in Memphis, which celebrates its 25th anniversary this year.

The company knows quite a bit about hospitality with late patriarch Kemmons Wilson being the founder of the Holiday Inn hotel chain. “We are known for our outstanding customer service and attention to detail,” said David Peacock, general manager of the Titan-branded Memphis facility. “Our team will go above and beyond to meet a customer’s request.” To emphasize that, Peacock quipped the company has but three rules: “Take care of the customer,” just repeated two more times. That commitment to help was reflected in the 4.81 score the location’s CSRs earned this year.

The 5,700-sq-ft terminal, which underwent a renovation over the past year, includes a passenger lounge, business center, conference rooms, pilot lounge with snooze room, and refreshment bar featuring local favorite Blue Bell ice cream year-round. A separate 730-sq-ft VIP handling area with ensuite bathroom is aimed at professional and collegiate sports teams.

Active aircraft are sheltered under the 26,000-sq-ft canopy, where they are greeted upon arrival and seen off during departure by a “hotel style” concierge.

The entire facility, which has 35 NATA Safety 1st-trained employees and is open 24/7, occupies nearly 18 acres at MEM. It offers 108,000 sq ft of heated hangar space, which can accommodate aircraft up to a Bombardier Global 6000 and is home to 28 jets and turboprops.



## 4.71 Base Operations at Page Field

Page Field (FMY), Fort Myers, Florida

The service provider known as Base Operations at Page Field is celebrating its 10th anniversary in its permanent building this year. Even after a decade it earned the airport-operated location—the lone FBO on the field—one of the highest overall scores this year (4.81) in the facilities category.



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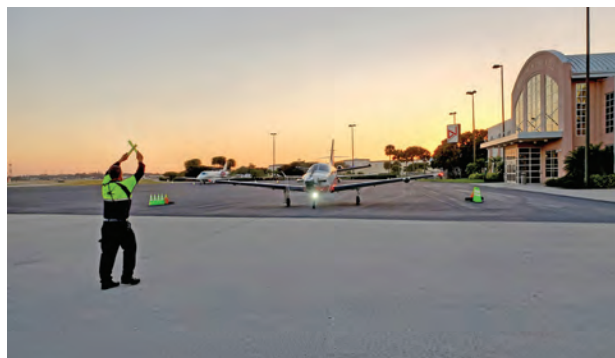
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With Page Field serving as a major military pilot training base during World War II, the 20,000-sq-ft, two-story terminal is decorated with memorabilia and vintage photos of the airfield and the aircraft that were deployed there during that crucial period. “Our area has a fascinating history, and many of our guests enjoy diving into it when they have a few minutes to spare,” general manager Jonathan Buff told **AIN**. A replica P-51 Mustang hangs in the lobby atrium, while just outside, a restored vintage AT-6 trainer sits on display, protected from the elements by a canopy.

The terminal includes a pilot lounge with shower facilities, game room with pool table and retro video game machines, flight planning area, 12-seat conference room and 50-seat training/seminar room (both A/V equipped), and the Exchange gift/pilot shop.



The FBO complex occupies 15 acres on the airport with ramp-side vehicle access and 67,000 sq ft of hangar space able to shelter aircraft up to a Gulfstream G650. Currently the airport notes 61 jets, 22 turboprops, and five turbine-powered helicopters are based on the field. To serve them, the Avfuel-supplied FBO just renewed its entire fuel truck fleet with new units equipped with electronic meters, giving it the ability to monitor orders in real time through its current software. Other improvements over the past year are a new, larger Lektro tug for towing duties, updated recliners in the soundproofed snooze room and a state-of-the-art coffee machine which produces custom brews.

## 4.71 Henriksen Jet Center

Houston Executive Airport (TME), Houston, Texas

While its older sibling in Austin has been a staple at the top rungs of the **AIN** FBO survey for the past several years, this year the Henriksen Jet Center at privately owned Houston Executive Airport has come into its own with its first top 5 percent finish. Both locations are Paragon Aviation Group members and, as in Austin, the company owns both the airport and the FBO. Not to be outdone by its sister, the Houston location also earned the highest overall score this year in one of the five ranking categories: pilot amenities. The 23,300-sq-ft terminal which opened in 2013 and shares a similar layout with the Austin facility, is staffed 24/7/365. It includes 8,000 sq ft of tenant office space, as well as a two-story lobby with an authentic Ferrari 333SP



race car on display, floor-to-ceiling windows overlooking the ramp, crew suite with theater room, shower facilities, a pair of snooze/quiet rooms, kitchenette and dining area, flight planning room, 10-seat A/V-equipped conference room, refreshment bar, and concierge. A complimentary valet parking garage is available to customers, and at nearly 33,000 sq ft the FBO has what is believed to be the world’s largest aircraft canopy, sheltering three quarters of an acre, with a center height of 53 feet.

The FBO, which is home to 144 aircraft including 38 jets and 22 turboprops, houses them in more than 167,000 sq ft of hangar space. A new 23,400-sq-ft hangar, which will encompass 3,200 sq ft of office space and a service area for an aircraft management tenant as well as provide an additional 12,000 sq ft of community aircraft storage, is under construction. One of the benefits to owning the airport is having 1,200 acres of land under its control for any future development, according to Andrew Perry, executive director of both Houston and Austin Executive airports. “Not many FBOs or airports have that ability,” he said.

## 4.70 Global Select

Sugar Land Regional Airport (SGR), Houston, Texas

Further dispelling the notion that airport-owned and -operated FBOs are necessarily mediocre is Global Select, which has served Houston-area customers for the past 15 years. A usual top finisher in the **AIN** FBO Survey, the immaculately-maintained location earned the highest overall score in the Facilities category in this year’s survey at 4.86, and also garnered top-three placement in the Passenger Amenities (4.75) and Pilot Amenities (4.78) categories. The 20,000-sq-ft terminal offers a 3,000-sq-ft passenger lobby/lounge with a café serving breakfast, lunch, and snacks; a Texas-themed gift shop; a trio of conference rooms seating between six and 24 people; a crew suite larger than some entire FBO terminals with theater room, shower facilities, snooze rooms, relaxation room with massage chairs, and kitchen; business center; crew hotel shuttle; and on-site U.S. Customs.



“The beautiful terminal and the amazing crew suite make the crew happy to spend the day with us,” said airport service representative Denise Beckwith. “They look forward to their stay here when there is a long layover.”

It currently has nearly 82,000 sq ft of corporate hangar space, which can accommodate aircraft up to a Gulfstream G650, and is home to 44 jets, 13 turboprops, and a pair of helicopters. While one 40,000-sq-ft hangar will be removed as part of a \$30 million project to relocate the 8,000-foot taxiway, the airport has started construction on a similar-sized \$6 million replacement, which was designed to stylistically echo the terminal with stone-work, stucco, and arching windows and is expected to be completed by the end of the year. That is in addition to a new privately built and leasable seven-hangar complex that is under construction.

The Titan-branded FBO has a staff of 22 and normally operates from 5 a.m. until 11 p.m. daily.

## Top Rated FBOs in the Americas by Region

### WEST

FBO	AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>ANCHORAGE</b>			
ROSS AVIATION	PANC	4.29	0.00
<b>HONOLULU</b>			
AIR SERVICE HAWAII	PHNL	4.45	0.04
SIGNATURE FLIGHT SUPPORT	PHNL	4.25	0.01
<b>LAS VEGAS</b>			
SIGNATURE FLIGHT SUPPORT	KLAS	4.40	0.03
ATLANTIC AVIATION	KLAS	4.29	-0.01
HENDERSON EXECUTIVE AIRPORT	KHND	4.15	0.03
<b>LOS ANGELES</b>			
ROSS AVIATION	KLGB	4.61	0.00
MILLION AIR	KBUR	4.50	0.03
ATLANTIC AVIATION	KSNA	4.37	0.00
CASTLE & COOKE AVIATION	KVNY	4.35	0.04
CLAY LACY AVIATION	KVNY	4.27	0.09
<b>PALM SPRINGS</b>			
ATLANTIC AVIATION	KPSP	4.43	0.07
ROSS AVIATION	KTRM	4.40	0.12
DESERT JET CENTER	KTRM	4.34	N/A
SIGNATURE FLIGHT SUPPORT	KPSP	4.28	-0.04
<b>PORTLAND</b>			
GLOBAL AVIATION	KHIO	4.62	N/A
ATLANTIC AVIATION	KPDX	4.45	0.10
<b>SAN DIEGO</b>			
ATLANTIC AVIATION	KCRQ	4.66	0.03
SIGNATURE FLIGHT SUPPORT	KSAN	3.88	0.10
<b>SAN FRANCISCO/OAKLAND</b>			
MONTEREY JET CENTER	KMRY	4.63	-0.03
DEL MONTE AVIATION	KMRY	4.62	-0.01
MERIDIAN HAYWARD	KHWD	4.61	N/A
SIGNATURE FLIGHT SUPPORT	KOAK	4.25	-0.03
ATLANTIC AVIATION	KSJC	4.20	0.02
<b>SEATTLE</b>			
MODERN AVIATION	KBFI	4.23	-0.01
SIGNATURE FLIGHT SUPPORT	KBFI	4.14	0.01

## 4.70 Western Aircraft

Boise Air Terminal/Gowen Field (BOI), Boise, Idaho

While it achieved the exact same score as last year, Idaho’s Western Aircraft has parlayed that consistency from a top 10 percent finish in last year’s **AIN** FBO Survey to a top 5 percent finish this year. A member of the Greenwich AeroGroup, it earned top scores in the Passenger (4.77) and Pilot Amenities (4.71) categories, finishing second



overall in the former. “Our services are what you would expect from the most luxurious, nationally-recognized FBO chains,” general manager Dan Milender told *AIN*. “What’s unusual is that you’re not going to find the price tag that’s typically associated with them.”

The full-service, Avfuel-branded location occupies 18 acres at the airport, which is located just 15 minutes from downtown Boise. The 3,800-sq-ft terminal features a pilot lounge with a pair of new snooze rooms and shower facilities, eight-seat A/V-equipped conference room, flight planning area, passenger lounge with refreshment bar, courtesy cars and shuttles, plane-side vehicle valet, concierge, and even an onsite notary. It is currently staffed from 6 a.m. until 9 p.m. with after-hours callout available.

With 18 based turbine-powered aircraft ranging from a Falcon 2000 to a flock of Pilatus PC-12s, the facility has nearly 77,000 sq ft of useable hangar space, but under construction is a 93,000-sq-ft structure, which will provide another 53,000 sq ft of aircraft shelter along with 40,000 sq ft of shops and office space by the end of the second quarter. “Our new hangar expansion will more than double our MRO operating space, as well as provide more space for transient aircraft,” said Milender.

In business for the past 64 years, the company has 200 employees on site and also offers a Part 145 repair station with a dedicated mobile AOG response team. In addition, it is an authorized Piper and Pilatus dealer.

## 4.69 Banyan Air Service

Fort Lauderdale Executive Airport (FXE), Fort Lauderdale, Florida.

There are full-service FBOs and then there are one-stop FBOs that cater to virtually every need of an aircraft owner or pilot, and among them is the “Beast of Southern Florida,” Banyan Air Service, which offers an entire ecosystem of aviation services. With its sprawling campus occupying 110 acres at Fort Lauderdale’s dedicated GA airport, Banyan is home to more than 150 based turbine aircraft, a number that is “growing by the day” according to Jon Tonko, the company’s director of FBO services. To shelter them, the facility, which is open 24/7,

manages more than one million square feet of hangar and office space, including the new Sheltair-built Northside complex, which opened last November, adding 160,000 sq ft of hangars and a 9,500-sq-ft satellite terminal.

The 14,000-sq-ft main terminal, which just underwent an interior refresh during the Covid-induced lull in traffic, features a two-story, Key West-themed atrium, including a waterfall, 800-gallon saltwater aquarium, and 30-foot-high palm trees; a café with rampside views; three pilot lounges; a trio of conference rooms; business center; and



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one of the largest pilot shops in the world, all of which combined to give the FBO its top-10 score in the Facilities category (4.78).

Additional services include Part 145 aircraft maintenance, avionics, parts department, paint shop, and aircraft sales.

Due to its location, the IS-BAH Stage 1 facility which has a staff of 170, is a gateway to the Caribbean, offering travel assistance and documentation services for the Bahamas and other island destinations. The Avfuel-branded FBO is also well known throughout Central and South America with operators in those areas scheduling their maintenance at Banyan to coincide with trips to the U.S.

“Whether you fly a J-3 or a Global Express, you can expect a warm welcome, a big smile, and professionals with a passion to serve you above and beyond your expectations,” Tonko told AIN.

## 4.68 Heritage Aviation

Burlington International Airport (BTV),  
Burlington, Vermont



Employee-owned Heritage Aviation, the lone service provider at Vermont’s Burlington International Airport, which serves the state’s most populous city, improved its score from last year enough to move from the top 20 percent into the top 5 percent in AIN’s FBO survey this year, bringing home the highest score for the northeast region in the process.

With its facility the largest in the state, the company was an early adopter of sustainability, building to the LEED Gold standard, with solar panels, a wind turbine, extensive use of natural lighting, rainwater reclamation and a green roof, all of which help reduce its environmental footprint.

Through the upgrading of the location’s refueler fleet, a recently added feature is paperless fuel ticketing, which has proven to be invaluable given the social distancing requirements due to the Covid pandemic.

Debuting in 2010, the 25,400-sq-ft terminal includes an executive lounge; a pair of A/V-equipped conference rooms, each seating up to 15; theater room; snooze rooms; a full gym with showers; flight planning room; Avanti self-serve food market; and a rooftop patio, which put the company in the top 10 rankings in both the Pilot Amenities and Facilities categories this year.

The Phillips 66-fueled location has 61,000 sq ft of heated ultra-long-range jet-capable hangar space, which houses a dozen turbine-powered based aircraft. According to CEO Matthew Collins, the FBO was facing a crunch on aircraft shelter and received permit approval to enlarge one of its existing hangars by 17,500 sq ft, but those plans were sidetracked by the pandemic-induced downturn, with an intent to resume them when the market recovers.

As well, the company which is working towards IS-BAH registration, has 65 employee-owners and offers Part 145 maintenance, aircraft maintenance management, and an avionics shop. It is normally staffed from 5 a.m. until 10 p.m. seven days a week, with onsite U.S. Customs available from 8 a.m. until 8 p.m.

## 4.68 Sheltair

Fort Lauderdale/Hollywood International Airport (FLL), Fort Lauderdale, Florida



Sheltair Fort Lauderdale is the Florida-based chain’s flagship among its 23 locations and its second to reach the top 5 percent of this year’s AIN FBO Survey. Established in 1988, the nearly 60-acre facility, the largest of the four service providers at FLL, as well as the CAA preferred FBO, is an official gateway to the Bahamas, offering pre-clearance services along with 24-hour U.S. Customs adjacent to its 51,000-sq-ft terminal. The location is also an authorized departure point for flights into Washington Reagan National Airport under the TSA’s DASSP.

The IS-BAH Stage 2-registered FBO, which has a staff of 60 and is operational 24/7, earned its highest survey score this year in the Facilities and CSR categories (4.72). Over the past year, the company has performed renovations on its pilot lounge, snooze rooms, and flight planning area and plans to continue that process this year on the lobby. Among its offerings are onsite Jet Runway Express deli/café; duty-free gift shop; two conference rooms; refreshment bar; fitness center with sauna, showers, and locker room; concierge; courtesy shuttle; and crew cars. It also offers complimentary aircraft cabin cleaning.

In addition to its adult human customers, the facility caters to children through its Junior Aviators program and four-legged visitors with its Pet Pawtner offerings.

With more than 320,000 sq ft of hangar space, the Avfuel-branded FBO is home to a flock of aircraft that includes 85 jets and 15 turboprops. While it normally sees a lot of transient traffic from South America, due to Covid-related travel restrictions, that business has been severely impacted, according to general manager Dana Fales, who added the company’s philosophy is “to soar above and beyond, creating a new standard for aviation products and services.”

## 4.68 Stuart Jet Center

Martin County Airport/Witham Field (SUA),  
Stuart, Florida




Continuing the list of exceptional Florida FBOs is Stuart Jet Center, which has been owned and/or operated for more than four decades by the Capen family.


The company, which began operation in 1978, certainly benefits from its 43-member professional staff,

### Top Rated FBOs in the Americas by Region

#### SOUTH

FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>AUSTIN/SAN ANTONIO</b>				
HENRIKSEN JET CENTER		KEDC	4.74	0.03
MILLION AIR		KSAT	4.58	0.02
ATLANTIC AVIATION		KAUS	4.31	-0.03
SIGNATURE FLIGHT SUPPORT - NORTH TERMINAL		KSAT	4.26	0.02
SIGNATURE FLIGHT SUPPORT		KAUS	4.15	-0.05
<b>DALLAS/FORT WORTH</b>				
AMERICAN AERO		KFTW	4.76	0.00
BUSINESS JET CENTER		KDAL	4.67	-0.02
MILLION AIR		KADS	4.64	0.00
TEXAS JET		KFTW	4.64	0.02
MCKINNEY AIR CENTER		KTKI	4.59	N/A
ALLIANCE AVIATION SERVICES		KAFW	4.47	0.12
<b>HOUSTON</b>				
HENRIKSEN JET CENTER		KTME	4.71	N/A
GLOBAL SELECT		KSGR	4.70	-0.01
MILLION AIR		KHOU	4.55	0.02
JET AVIATION HOUSTON		KHOU	4.43	-0.04
ATLANTIC AVIATION		KIAH	4.34	0.04
ATLANTIC AVIATION		KHOU	4.31	0.10
<b>LITTLE ROCK</b>				
TAC AIR		KLIT	4.11	0.03
<b>NEW ORLEANS</b>				
FLIGHTLINE FIRST		KNEW	4.36	N/A
ATLANTIC AVIATION		KMSY	4.23	0.02
SIGNATURE FLIGHT SUPPORT		KNEW	4.21	-0.03

#### CARIBBEAN

FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
PROVO AIR CENTER		MBPV	4.37	0.16
ODYSSEY AVIATION		MYNN	4.36	-0.04
JET NASSAU		MYNN	4.08	N/A
EXECUJET ST MAARTEN		TNCM	3.68	-0.01

earning the second-highest score overall from AIN’s readers this year in the Line Service category (4.88), as well as placing in the top 10 for Customer Service (4.85). “We ask that our team always goes above and beyond and never says no,” said general manager Jeff Capen. “Under-promise and over-deliver, while always offering exceptional, quality, safe service with a smile.”

Occupying 54 acres at Witham Field, including 15 acres of lighted ramp, the company, open every day from 6 a.m. to 10 p.m., recently razed a small hangar to make way for a \$3.5 million, 30,000-sq-ft hurricane-rated hangar with adjoining offices. When completed this summer, it will raise the hangar space at the facility to 460,000 sq ft. It is currently home to 32 turbine-powered aircraft, ranging from a Piper M600 turboprop to a Bombardier Global 7500.

The 10,000-sq-ft terminal received a new 12-seat A/V-equipped conference room over the past year, and plans this year call for renovations to the restrooms, line service office, crew kitchen, and pilot lounge. The 14-seat meeting/training room will also receive A/V equipment. Other amenities include a flight planning area, snooze room, concierge, business center, courtesy car and van, valet parking, and complimentary vehicle detailing. Since 2019 U.S. Customs has been available on the field.



## 4.67 Business Jet Center

Dallas Love Field (DAL), Dallas, Texas



Tops among the five FBOs at Dallas Love Field is Business Jet Center, which earned a top 5 score this year in the Passenger Amenities category (4.73). The company's three-story, 33,000-sq-ft terminal sits on a 53-acre leasehold and offers a trio of conference rooms, as well as a large meeting/event room. As part of its well-stocked refreshment bar, the location, a member of the Paragon Aviation Group, is the first to offer the Elkay Smartwell water machine, which allows users to customize their drinking water by flavor, carbonation, and added minerals. The terminal also has three crew lounges and three snooze rooms, each with its own private restroom and shower, a game room, and a large aircraft canopy.

Home to 72 aircraft including 61 jets and five turboprops, the Phillips 66-branded complex has more than 250,000 sq ft of hangar space with plans to break ground on an additional 49,000 sq ft of aircraft storage in the second quarter of the year, according to managing partner Mike Wright.

## 4.67 Meridian

Teterboro Airport (TEB), Teterboro, New Jersey



The highest-rated FBO in the metro-New York area this year is Meridian, which traces its Teterboro roots to 1946. The family owned FBO garnered top 10 scores in the Pilot Amenities (4.67) and CSR (4.83) categories. "We are known for outstanding customer service," said Betsy Wines, v-p of customer experience. "Our philosophy is to make our customers feel welcomed, well-cared for, and confident they made the smart choice in choosing Meridian."

Last year the company completed a renovation of the first floor of its 30,000-sq-ft terminal, which features a theater room, kitchen, flight planning room, health club with lockers and showers, two conference rooms, business center, pilot lounge with pool table, and snooze rooms.

Open 24/7 with a staff of 77, its 106,000 sq ft of hangar space, capable of sheltering ultra-long-range business jets, is home to 14 turbine aircraft.

## 4.67 Sheltair

Jacksonville International Airport (JAX), Jacksonville, Florida

The Sheltair FBO chain made a strong showing in this year's survey. Modeled after the company's flagship facility in Fort Lauderdale, its Jacksonville location includes a 20,000-sq-ft two-story terminal with pilot lounge and snooze rooms, two conference rooms, fitness center with showers, flight planning/weather room, concierge, shuttle service, and complimentary aircraft interior cleaning. Over the past year, the company performed a refreshment on the downstairs lobby area, with the upstairs planned for this year. "Customers often comment about our atmosphere and how engaging and welcomed they feel when they first walk through the door," said general manager Kirk Svoboda. "Our team's goal is anticipating guests' needs."



Having achieved IS-BAH Stage 2 registration, the Avfuel-supplied location is working towards Stage 3. It currently has 40,000 sq ft of hangar space, which shelters nine jets and a turboprop, with more space available for further development.

## 4.66 Atlantic Aviation

McClellan-Palomar Airport (CRQ), Carlsbad, California

Of its 67 locations in the U.S., Atlantic Aviation's facility at San Diego-area McClellan-Palomar Airport topped its list this year, according to AIN readers. Its highest category score (4.78) was for its CSRs. "We start from the standpoint of considering our customers as members of our family and treating them with the care and respect we would want for our own family members," regional director Abby Boudon told AIN. "We are focused on giving personalized service to each guest, so this feels like a familiar stop every time."


The facility, which has been in operation since 2006, includes a 10,000-sq-ft terminal with an airy double-height glass lobby; pilot lounge and en suite restroom with shower; and a pair of A/V-equipped conference rooms, one of which has a balcony overlooking the ramp and the Pacific Ocean beyond.

According to Boudon the FBO's 223,000 sq ft of hangar space is currently well above capacity.



### Top Rated FBOs in the Americas by Region

#### MIDWEST

FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>DES MOINES</b>				
ELLIOTT AVIATION		KDSM	4.45	-0.09
<b>FARGO</b>				
FARGO JET CENTER		KFAR	4.66	-0.01
<b>KANSAS CITY</b>				
ATLANTIC AVIATION		KMKC	4.64	-0.02
SIGNATURE FLIGHT SUPPORT		KMKC	3.91	0.04
<b>LINCOLN</b>				
SILVERHAWK AVIATION		KLNK	4.44	N/A
DUNCAN AVIATION		KLNK	4.23	N/A
<b>MINNEAPOLIS/ST. PAUL</b>				
SIGNATURE FLIGHT SUPPORT		KSTP	4.60	0.04
SIGNATURE FLIGHT SUPPORT		KMSP	4.51	-0.03
ST PAUL FLIGHT CENTER		KSTP	4.35	-0.06
PREMIER JET CENTER		KFCM	4.30	-0.02
ELLIOTT AVIATION		KFCM	4.10	N/A
<b>OMAHA</b>				
CARVER AERO (Formerly Advanced Air)		KCBF	4.61	N/A
TAC AIR		KOMA	4.24	-0.08
<b>ST LOUIS</b>				
AERO CHARTER		KSUS	4.56	N/A
MILLION AIR		KSUS	4.48	0.07
TAC AIR		KSUS	4.36	-0.09
SIGNATURE FLIGHT SUPPORT		KSTL	3.80	-0.11
<b>WICHITA</b>				
SIGNATURE FLIGHT SUPPORT		KICT	4.40	N/A
YINGLING AVIATION		KICT	4.38	0.05

#### GREAT LAKES

<b>BATTLE CREEK</b>				
DUNCAN AVIATION		KBTL	4.35	N/A
<b>CHICAGO</b>				
J. A. AIR CENTER		KARR	4.56	-0.08
ATLANTIC AVIATION		KPWK	4.53	0.03
ATLANTIC AVIATION		KMDW	4.38	0.01
SIGNATURE FLIGHT SUPPORT		KPWK	4.37	-0.06
DUPAGE FLIGHT CENTER		KDPA	4.35	0.05
<b>CINCINNATI</b>				
SIGNATURE FLIGHT SUPPORT		KLUK	3.92	-0.06
<b>CLEVELAND</b>				
ATLANTIC AVIATION		KCLE	3.87	-0.11
<b>COLUMBUS</b>				
LANE AVIATION		KCMH	4.19	-0.09
SIGNATURE FLIGHT SUPPORT		KCMH	3.87	N/A
<b>DETROIT</b>				
PENTASTAR AVIATION		KPTK	4.76	0.01
<b>INDIANAPOLIS</b>				
MILLION AIR		KIND	4.58	-0.02
FIRST WING JET CENTER		KTYQ	4.23	0.04
SIGNATURE FLIGHT SUPPORT		KIND	4.23	-0.07
<b>LEXINGTON/LOUISVILLE</b>				
TAC AIR		KLEX	4.49	0.01
ATLANTIC AVIATION		KSDF	4.19	0.02
<b>MADISON</b>				
WISCONSIN AVIATION		KMSN	4.31	0.06
<b>MILWAUKEE</b>				
SIGNATURE FLIGHT SUPPORT		KMKE	4.36	0.15

## 4.66 Fargo Jet Center

Hector International Airport (FAR) Fargo, North Dakota



Having just celebrated its 25th anniversary, Fargo Jet Center, the lone service provider at FAR, has spent many of those years in the top rungs of the AIN FBO Survey. The complex, a popular tech stop on both domestic and international routes with 24-hour U.S. Customs, earned its highest category score this year for Line Service (4.73).

On its 25-acre leasehold, the Paragon Aviation Group member has 90,000 sq ft of heated aircraft storage, with groundbreaking on 50,000 sq ft of new hangar/office/shop space expected mid-year. The Avfuel-branded FBO offers a wide variety of amenities, from five A/V-equipped conference rooms, to valet parking, to full-service concierge, but perhaps none is as heartfelt as the muffins baked in-house every morning.

“We review every touchpoint we have with a customer to find even the smallest areas for improvements,” said v-p of marketing Darren Hall. “In today’s FBO, it’s the attention to the smallest of details that contribute to making a big impression.”

## 4.66 Sheltair

Orlando Executive Airport (ORL), Orlando, Florida



Sheltair Orlando is the fourth of the company’s 17 locations in Florida to rank highly in this year’s FBO survey. It earned its highest score in Line Service (4.72). The FBO just upgraded its fuel farm with a new 20,000-gallon jet-A tank and new piping and filtration systems.

Sheltair also completed the buildout on the fourth floor of its 30,214-sq-ft terminal, adding another 5,500 sq ft of office space. Further infrastructure improvements will see the addition of 56 vehicle parking spaces to the 134 currently available.

The facility offers nearly 300,000 sq ft of hangar space capable of sheltering the latest flagship business jets and is home to 28 turbine aircraft. Like its siblings, it is IS-BAH Stage 2 registered and offers free aircraft interior cleaning.

“Our dedicated staff here strive to ensure all our customers receive the highest level of service to start what we call ‘The Orlando Experience’ in the best and most positive way possible,” said general manager Eddie Dussault.

## 4.65 Wilson Air

Lovell Field (CHA), Chattanooga, Tennessee

Wilson Air Center Chattanooga celebrates its 10th anniversary this year and like its larger Memphis sister earned high recognition from AIN readers. The facility was the first FBO to earn LEED Platinum status for its energy efficiency and its 9,000-sq-ft terminal features a pilot lounge with snooze rooms and relaxation room, two large A/V-equipped conference rooms, and refreshment bar featuring local favorites Moon Pies and RC Cola.

The facility, the lone FBO on the field, offers 80,000 sq ft of aircraft shelter, including a recently opened 25,000-sq-ft hangar with 3,800 sq ft of office space, and is home to 40 jets and turboprops.



“I believe it is important to know what our customers expect of us and to deliver this with consistency,” general manager Glenn Rivenbark told AIN. “In a customer’s eyes, we are only as good as we were on their last visit, therefore consistency is very important.”

## 4.64 Aero-One Aviation

Dothan Regional Airport (DHN), Dothan, Alabama


A newcomer to the top ranks of the AIN FBO Survey, Aero-One Aviation is the sole service provider at DHN. It earned its highest score in the Line Service category (4.73). “Our quick turns are truly quick,” said general manager Scott Capehart. “Our automated trucks send tickets to post at the desk as soon as fueling is complete, which allows guests to pay for the fuel and depart without waiting for a paper ticket to arrive.”

A member of the World Fuel Service-sponsored Air Elite Network, the FBO has 26 based turbine aircraft in its more than 130,000 sq ft of hangar space. While its 5,000-sq-ft terminal, dating to 1965, is older than many on




### Top Rated FBOs in the Americas by Region

#### NORTHEAST

FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>ALBANY</b>				
MILLION AIR		KALB	4.47	-0.04
<b>BALTIMORE</b>				
SIGNATURE FLIGHT SUPPORT		KBWI	4.10	0.09
<b>BOSTON</b>				
RECTRIX		KBED	4.33	N/A
JET AVIATION		KBED	4.26	-0.02
SIGNATURE FLIGHT SUPPORT		KBED	4.02	0.05
SIGNATURE FLIGHT SUPPORT		KBOS	3.58	-0.06
<b>BURLINGTON</b>				
HERITAGE AVIATION		KBTW	4.68	0.05
<b>HARTFORD</b>				
SIGNATURE FLIGHT SUPPORT		KBDL	4.31	N/A
TAC AIR		KBDL	4.07	N/A
<b>LONG ISLAND</b>				
SHELTAIR		KFOK	4.56	0
SHELTAIR		KISP	4.55	0.03
SHELTAIR		KFRG	4.41	0.01
ATLANTIC AVIATION		KFRG	4.23	-0.04
<b>MAINE</b>				
NORTHEAST AIR		KPWM	4.58	0.17
BANGOR AVIATION SERVICES		KBGR	3.93	0
<b>NEW YORK CITY</b>				
MERIDIAN TETERBORO		KTEB	4.67	-0.01
MILLION AIR		KHPN	4.61	0.06
JET AVIATION		KTEB	4.47	-0.01
SIGNATURE FLIGHT SUPPORT - SOUTH TERMINAL		KTEB	4.38	-0.03
SIGNATURE FLIGHT SUPPORT		KMMU	4.25	-0.01
<b>PHILADELPHIA</b>				
ATLANTIC AVIATION		KPHL	4.04	0.05
ATLANTIC AVIATION		KPNE	3.59	N/A
<b>PITTSBURGH</b>				
ATLANTIC AVIATION		KPIT	4.55	0.05
<b>WASHINGTON D.C.</b>				
SIGNATURE FLIGHT SUPPORT		KDCA	4.43	-0.04
APP JET CENTER		KHEF	4.28	-0.01
JET AVIATION		KIAD	4.26	-0.04
SIGNATURE FLIGHT SUPPORT		KIAD	4.23	-0.03

#### CANADA

FBO		AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>CALGARY</b>				
SKYSERVICE		CYYC	4.49	0.02
<b>MONTREAL</b>				
SIGNATURE FLIGHT SUPPORT		CYUL	4.50	0.00
SKYSERVICE		CYUL	4.41	0.03
<b>TORONTO</b>				
SKYSERVICE		CYYZ	4.62	-0.05
SIGNATURE FLIGHT SUPPORT		CYYZ	3.52	-0.20

this list, the company works diligently to keep it updated ahead of the construction of a new, larger building, the start of which was derailed by the pandemic. Along with a newly painted interior, it offers two seating areas, a recently renovated pilot lounge, the Prop & Rotor Café, a conference room, and office space.

## 4.64 Atlantic Aviation

Charles B. Wheeler Downtown Airport,  
(MKC) Kansas City, Missouri



The second Atlantic Aviation facility to crack the top 10 percent of FBOs this year in AIN's survey is the company's Kansas City facility which has long held a spot in the top ranks of the FBO survey. Its 30,000-sq-ft main terminal, which just celebrated its 10th anniversary, earned the location its highest score for Facilities (4.71). It features a large fitness center with locker rooms and showers, three A/V-equipped conference rooms, pilot lounge with a trio of hotel room-like snooze rooms, café, a garage, and covered parking.

Occupying 9.5 acres at MKC, the facility has maxed out its leasehold with 57,000 sq ft of hangar space that is currently 150 percent above capacity, noted general manager Ben Moore. The newest hangar also includes a private satellite terminal for the exclusive use of based customers and a U.S. Customs facility.

The company recently invested in a new deicing truck for the location, and it has been getting a workout this winter, according to Moore.

## 4.64 Million Air Dallas

Addison Airport (ADS), Dallas, Texas



While the Million Air FBO chain has grown to 30 locations throughout the Americas, the Dallas facility at Addison Airport was the first to carry that name back in 1984 and it is still owned by the Mary Kay family. Its two-story, 18,000-sq-ft terminal, which sits on more than six acres of ramp, features a wide range of amenities including a theater room, gym, pilot lounge, snooze room, flight planning area, on-site catering, and luxury crew cars. Home to more than 50 jets and turboprops, it has nearly 200,000 sq ft of hangar space, which can accommodate aircraft up to a Gulfstream G650. The Avfuel-branded location, which is in the process of obtaining IS-BAH registration, has more than 130 employees, including its charter operation.

"Coupled with a focus on safety and service, we have successfully created a lasting culture that is remembered by our guests and brings them back to us," said general manager Jeff Zimmerman.

### TOP FBOs BY CATEGORY-AMERICAS

FBO	AIRPORT CODE	AIRPORT	LINE SERVICE
JET CENTER AT SANTA FE	KSAF	SANTA FE MUNICIPAL	4.91
STUART JET CENTER	KSUA	WITHAM FIELD	4.88
NATIONAL JETS	KFLL	FORT LAUDERDALE/HOLLYWOOD INTERNATIONAL	4.82
GLOBAL AVIATION	KHIO	PORTLAND-HILLSBORO	4.80
MONTEREY JET CENTER	KMRY	MONTEREY PENINSULA	4.80
WILSON AIR CENTER	KHOU	WILLIAM P HOBBY	4.79
GLACIER JET CENTER	KGPI	GLACIER PARK INTERNATIONAL	4.78
MCKINNEY AIR CENTER	KTKI	MCKINNEY NATIONAL AIRPORT	4.78
SHELTAIR	KTPA	TAMPA INTERNATIONAL	4.78
FBO	AIRPORT CODE	AIRPORT	PASSENGER AMENITIES
HENRIKSEN JET CENTER	KEDC	AUSTIN EXECUTIVE	4.83
WESTERN AIRCRAFT	KBOI	BOISE AIR TERMINAL/GOWEN FIELD	4.77
GLOBAL SELECT	KSGR	SUGAR LAND REGIONAL	4.75
SHELTAIR	KTPA	TAMPA INTERNATIONAL	4.75
BUSINESS JET CENTER	KDAL	DALLAS LOVE FIELD	4.73
WILSON AIR CENTER	KMEM	MEMPHIS INTERNATIONAL	4.73
AMERICAN AERO	KFTW	FORT WORTH MEACHAM INTERNATIONAL	4.72
BASE OPERATIONS AT PAGE FIELD	KFMY	PAGE FIELD	4.72
PENTASTAR AVIATION	KPTK	OAKLAND COUNTY INTERNATIONAL	4.72
ATLANTIC AVIATION	KMKC	CHARLES B. WHEELER DOWNTOWN	4.68
FBO	AIRPORT CODE	AIRPORT	PILOT AMENITIES
HENRIKSEN JET CENTER	KTME	HOUSTON EXECUTIVE	4.82
GLOBAL SELECT	KSGR	SUGAR LAND REGIONAL	4.78
HENRIKSEN JET CENTER	KEDC	AUSTIN EXECUTIVE	4.77
WESTERN AIRCRAFT	KBOI	BOISE AIR TERMINAL/GOWEN FIELD	4.71
AMERICAN AERO	KFTW	FORT WORTH MEACHAM INTERNATIONAL	4.70
PENTASTAR AVIATION	KPTK	OAKLAND COUNTY INTERNATIONAL	4.70
SHELTAIR	KTPA	TAMPA INTERNATIONAL	4.70
JET AVIATION	KPBI	PALM BEACH INTERNATIONAL	4.69
HERITAGE AVIATION	KBTV	BURLINGTON INTERNATIONAL	4.67
MERIDIAN TETERBORO	KTEB	TETERBORO	4.67
FBO	AIRPORT CODE	AIRPORT	FACILITIES
GLOBAL SELECT	KSGR	SUGAR LAND REGIONAL	4.86
HENRIKSEN JET CENTER	KEDC	AUSTIN EXECUTIVE	4.83
BASE OPERATIONS AT PAGE FIELD	KFMY	PAGE FIELD	4.81
HENRIKSEN JET CENTER	KTME	HOUSTON EXECUTIVE	4.79
BANYAN AIR SERVICE	KFXE	FORT LAUDERDALE EXECUTIVE	4.78
PENTASTAR AVIATION	KPTK	OAKLAND COUNTY INTERNATIONAL	4.78
SHELTAIR	KTPA	TAMPA INTERNATIONAL	4.77
HERITAGE AVIATION	KBTV	BURLINGTON INTERNATIONAL	4.75
WILSON AIR CENTER	KMEM	MEMPHIS INTERNATIONAL	4.75
FBO	AIRPORT CODE	AIRPORT	CSRs
SIGNATURE FLIGHT SUPPORT	KSTP	ST PAUL DOWNTOWN HOLMAN FIELD	4.90
JET CENTER AT SANTA FE	KSAF	SANTA FE MUNICIPAL	4.89
AIR SERVICE HAWAII	PHNL	HONOLULU INTERNATIONAL	4.86
AMERICAN AERO	KFTW	FORT WORTH MEACHAM INTERNATIONAL	4.86
PENTASTAR AVIATION	KPTK	OAKLAND COUNTY INTERNATIONAL	4.85
STUART JET CENTER	KSUA	WITHAM FIELD	4.85
BEAVER LAKE AVIATION	KROG	ROGERS MUNICIPAL-CARTER FIELD	4.83
MERIDIAN TETERBORO	KTEB	TETERBORO	4.83
EPPS AVIATION	KPDK	DEKALB-PEACHTREE	4.82

FBOs with same score are listed in alphabetical order

## 4.64 Modern Aviation

Centennial Airport (APA), Denver, Colorado



Young FBO chain Modern Aviation made a big splash in late 2018 when it purchased the perennially highly rated XJet facility at Denver-Centennial Airport.

The facility received its highest recognition this year in the CSR category (4.75). “We train our team to anticipate our customers’ needs rather than reacting to them, creating an unmatched customer experience,” explained general manager Kyle Quinn.

The Titan-fueled FBO, which is open 24/7/365, has a 20,000-sq-ft terminal with passenger lounge, conference room, pilot lounge, snooze room, office space, and a climate-controlled auto spa where customer vehicles are detailed and stored until they are valeted out to the ramp to meet the arriving aircraft. Home to 22 based aircraft, the complex has 50,000 sq ft of hangar space capable of accommodating the latest ultra-long-range business jets.

All that will soon change as Modern is about to embark on a major \$20 million expansion of the facility, which will more than double its hangar space, add three acres of ramp, and see the construction of a new 7,000-sq-ft terminal. According to Quinn, upon completion in the fourth quarter of 2022, the current terminal will be renovated for rentable executive office space.

## 4.64 Texas Jet

Fort Worth Meacham International Airport (FTW), Fort Worth, Texas

Private aviation travelers to Dallas-area FTW are certainly safely cared for with both service providers there achieving IS-BAH Stage 3 registration. In operation for more than four decades, Texas Jet tallied its highest scores in the Line Service (4.76) and CSR categories (4.78). “We pride ourselves on reading customers’ minds and offering them what they need before they even have a chance to ask us,” customer service manager Holly Hopkins told AIN. “They are pleasantly surprised when we tell them there are no ramp, security, or facility fees.”

The FBO sits on a 22-acre leasehold, with a 7,000-sq-ft terminal that offers a fitness center with showers,



**BRAZIL**

FBO	AIRPORT CODE	2021 OVERALL AVERAGE	CHANGE FROM LAST YEAR
<b>SAO PAULO</b>			
EMBRAER FBO	SDCO	4.59	-0.01
WORLD-WAY AVIATION	SDCO	4.51	N/A
LIDER AVIACAO	S BSP	3.75	-0.05

### ABOVE & BEYOND

PERSON	FBO	AIRPORT CODE
Aaron Pedersen	PREMIER JET CENTER	KFCM
Alexandra Camargo	FONTAINEBLEAU AVIATION	KOPF
Amanda Ewers	JET CENTER AT SANTA FE	KSAF
Amy Brothers	WILSON AIR CENTER	KCHA
Bernie Spencer	SHELTAIR	KDAB
Brandy Bailey	SHELTAIR	KECP
Carlos Robbins	BANYAN AIR SERVICE	KFXE
Charley Benjamin	CHANTILLY AIR JET CENTER	KHEF
Danica Day	TAC AIR	KAPA
Danny Luna	MILLION AIR	KBUR
Hannah Newell	ALLIANCE AVIATION	KAFW
Holly Hopkins	TEXAS JET	KFTW
Janette Licastro	MILLION AIR	KHPN
Jenna Emerizy	MCKINNEY AIR CENTER	KTKI
Jenny Deitschman	MERIDIAN HAYWARD	KHWD
Jessi Rowden	CUTTER AVIATION	KABQ
Jimmy Thate	SIGNATURE FLIGHT SUPPORT	KPBI
Johanna Echeto	SHELTAIR	KORL
Jonathan Garms	WILSON AIR CENTER	KHOU
José Cabrera	SIGNATURE FLIGHT SUPPORT	KBCT
Josie DaCosta	SKYSERVICE	CYYZ
Kathy Cortez	PENTASTAR AVIATION	KPTK
Katie Bink	ATLANTIC AVIATION	KMTJ
Kawai Lopez	MONTEREY JET CENTER	KMRY
Kelly Deeds	CARVER AERO	KCBF
Mary Botts	ATLANTIC AVIATION	KHOU
Melissa Thompson-Shollenbarger	MILLION AIR	KADS
Odette Miqui	SHELTAIR	KFLL
Pat Walter	SIGNATURE FLIGHT SUPPORT	KMSP
Rebecca Reses	SHELTAIR	KTPA
Rob Davis	GATEWAY AVIATION SERVICES	KIWA
Sara Zarate	AMERICAN AERO	KFTW
Shannon Auty	AERO-ONE AVIATION	KDHN
Terrell Jaspersen	SWEETWATER AVIATION	KRKS
Venus Koenig	SHELTAIR	KJAX
Ysabella Tetley	HENRIKSEN JET CENTER	KTME
Yulyanna Silva	BUSINESS JET CENTER	KDAL

two crew lounges, conference rooms, and a lobby with a refreshment bar, ice cream cooler, and koi pond. The facility has a dozen crew cars available, along with covered vehicle parking.

Home to 97 turbine aircraft, the Phillips 66-branded facility has 480,000 sq ft of hangar space. “Texas Jet is very optimistic about the future of business aviation and especially the future of Fort Worth,” said president Reed Pigman. “That’s why we added 65,000 sq ft of hangar space in 2020 and have broken ground on a 39,000-sq-ft hangar to be completed late 2021.”

## Concerning Covid

For this year’s AIN FBO Survey, we asked highly-rated service providers how they addressed the Covid situation. All instituted new protocols and amended existing processes in efforts to safeguard their employees and customers, following are some examples:

*“We stayed up to date on changing local and federal guidelines daily. We created Wilson Air Center face masks, which were given to all employees as well as offered to customers who were in need. In addition, we made conscious efforts to minimize points of contact such as providing snacks that were individually wrapped, removing all lobby magazines, and placing a buffer at our front desk to respect the six-foot social distancing. We also provided ample hand sanitizer stations and increased our daily cleanings of all lobby areas and touch points. One tool that was very instrumental in our cleaning was the electrostatic sprayer that allowed us to spray down all our lobby furniture to ensure the safety of our guests.”*

— David Peacock, Wilson Air Center Memphis

*“All employees are required to take their temperatures before the start of their shift and must wear a mask before entering the terminal building. We bought two UV lights that we rotate through our facilities and invested in an ionizing sprayer. There are hand sanitizing stations throughout the lobby and signs promoting social distancing. Line crew ask if assistance is needed with luggage and if it is okay to handle it. They sanitize the equipment and their workspace regularly. In our crew suite, we created a process that allows visitors to use [snooze] rooms and still keep the areas sanitized. After the rooms are used, a [CSR] will disinfect the area.”*

— Elizabeth Rosenbaum, Sugar Land Regional Airport

*“Hours and staffing were adjusted to accommodate increased demand while maintaining a safe environment for customers and employees. We stayed on top of changing CDC advisories and implemented new internal protocols as warranted, achieving NATA Safety 1st Clean certification early on. Gloves and masks are worn when staff deliver luggage, vehicles, or other items to customers. We added a full-time custodian and brought back amenities such as fruit, popcorn, and cookies, freshly prepared and wrapped with care.”*

— Jonathan Buff, Base Operations at Page Field

*“We were early adopters of CDC recommendations and NATA’s “Safety 1st Clean” program, [which] is regularly audited, and all employees are held accountable for adherence and administration. Most notably, last summer we began an in-house Covid testing program administered by a medical doctor who now leases an office space at the FBO. This allows us to test employees, their families, select vendors, customers, and customers’ pilots as needed.”*

— Jeff Zimmerman, Million Air Dallas

*“Protective barriers were installed at the front desk and masks are mandated. We also stepped up our cleaning for the gym, crew cars, and snooze rooms [and] once used, it must be thoroughly cleaned and disinfected before it is returned to service. Social distancing has been a challenge for our employees, but we have spread out workstations. If an employee does call out of work, their direct supervisor fills out a Covid questionnaire that describes symptoms and any close contact that employee may have had in the last 48 hours.”*

— Matthew Collins, Heritage Aviation

**AIN**  
WEBINAR



# Mitigating 5G Interference with NextGen Infrastructure

According to a recent RTCA report, terrestrial 5G telecom systems are poised to cause interference issues with existing avionics. This can cause serious safety concerns for aircraft equipped with radar altimeters and other vulnerable products. Solutions to this problem exist, and we will be highlighting these during an educational webinar on 5G interference concerns in the NextGen airspace presented by subject matter experts in avionics manufacturing, installation, and regulatory perspectives.

**April 28, 2021**  
**1:30 – 2:30pm ET**

Please join us for this important discussion on April 28 as **AIN** Editor-in-Chief Matt Thurber moderates this webinar with **Nathan Hernandez**, Business Development Sales Manager, Southeast Aerospace; **Dr. David Redman**, Director, Aerospace Vehicles Systems Institute and RTCA Committee Member; and **Ashley Ring**, VP, Sales & Marketing, FreeFlight Systems.



**Nathan Hernandez**  
Business Development  
Sales Manager  
Southeast Aerospace



**Ashley Ring**  
VP, Sales &  
Marketing  
FreeFlight Systems



**Dr. David Redman**  
Director, Aerospace  
Vehicles Systems Institute  
RTCA Committee Member

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# Bell nears milestones with 525, 505 helos

by Jerry Siebenmark

About six years after the first flight of Bell's newest and largest civil helicopter, the 525 Relentless, its development and flight test certification program is nearing an end. "Generally speaking, the plan is to complete testing required for certification in the first half of this year," Bell 525 senior program specialist Brendan Lanigan told *AIN*. "We're actually running out of tests to perform. So that's exciting for those of us that have been involved in the program for quite some time."

However, development of the 16-passenger super-medium helicopter hasn't been easy, with the fatal in-flight breakup of the 525 flight test vehicle 1 in July 2016 as well as the introduction of new technology such as fly-by-wire in a helicopter that will be certified under Part 29. "In the Part 29 helicopter world, fly-by-wire wasn't considered in those regulations," Lanigan said. "There's a lot of new ground that had to be charted."

Lanigan declined to speculate on when FAA type certification for the twin-engine rotorcraft might happen. As of mid-March, the 525 flight test program had accumulated a little more than 1,800 flight test hours.

In addition to fly-by-wire, other features of the 525 include Garmin G5000



Bell expects to wrap up certification flight testing of the 525 Relentless super-medium helicopter in the first half of this year.

avionics that are "very intuitive to use," Lanigan explained. "Garmin is an expert in human factors...so we really used their expertise on the human factors side for the avionics to try to make an intuitive interface. There was a lot of effort to make this avionics system easy to use."

Another of the 525's special features is the addition of a reduction gearbox outside of the main transmission, which reduces RPMs and eliminates the need for high-speed components in the main transmission. A "triplex" of redundant systems including electrical and hydraulic also increases the safety of the 525.

Despite waning demand in the oil and gas sector for new offshore helicopters, Lanigan noted Bell has accounted for that and sees demand for the 525 in other sectors such as military, utility, and VIP. "The 525 was designed to be a multi-mission helicopter from day one," he said.

He added that there still is an opportunity in the oil and gas space because the super-medium and heavy helicopters

used in that sector quickly get to a point where they reach high flight hours and need replacement. Also, the renewable energy market, specifically offshore wind farms, will need air transport for people and equipment as that sector grows.

On the light single end of the civil market, Bell is seeing "fairly strong demand" in all regions of the world for its 505 Jet Ranger X, Bell 505 marketing manager Matt Jayne told *AIN*. The company is approaching its 300th delivery of the 505, which is operating in or about to be delivered in 57 countries.

First type certificated in Canada in late 2016 followed by FAA and EASA certification a year later, the \$1.5 million 505 has found its strongest demand around the "private, corporate market," followed by utility, flight tour, and public safety operators, Jayne said. "It's become like the all-purpose utility vehicle in the sky."

The largest fleet operator is Horizon Flight Academy in Abu Dhabi, which operates 12 Bell 505s. ■

# Used helicopter market attains shaky hover

by Mark Huber

For the first six months of 2020, it seemed that used helicopter prices were plummeting faster than a Maltese cliff diver.

The numbers coming out of 2020's second quarter were abysmal. Soaring insurance rates, the global pandemic, and oil prices that collapsed to a record negative \$37.63 per barrel—yes, people were paying you to take their oil—by April threw the worldwide commercial rotorcraft market into a miasma of unprecedented gloom.

"It's the worst helicopter market in 40 years," Jason Kmiecik, president of aircraft pricing specialist HeliValue\$, said last summer. "It's a bad time for everybody." Overall helicopter flight hours dropped by 30 percent save for firefighting,

which enjoyed record demand in 2020.

Fortunately, the truly bad time didn't last, but it is still firmly a buyer's market. By Q3 2020, there were indications of recovery. And by year-end the numbers had improved enough that Aero Asset was characterizing the market as "resilient."

The used helicopter market recovered enough in the second half of last year to outperform dismal 2019 unit sales volumes, concluded the Toronto-based consultancy in its year-end 2020 market analysis. "Overall, 2020 preowned retail sales volume (number of units) rose by 10 percent year-over-year and 2020 saw the most retail transactions in the last four years."

Aero Asset said supply rose 8 percent year-over-year and the overall absorption rate was fairly constant, contracting to 20.5 months from 21 months in 2019. Altogether, 143 used helicopters sold last year worth \$516 million out of 245 offered for sale valued at about \$1 billion.

The rebound was led by a sharp increase in both the prices and sales volumes for Sikorsky S-92 and Airbus H225 heavy twins, many of which had been parked after their values collapsed to near-scrap prices as demand evaporated with the contraction of the offshore energy market. Many of those helicopters have now returned to service, albeit with new owners and missions.

For all of 2020, 18 heavies changed hands—compared with just 10 in 2019—representing 12 percent of all units sold in 2020 and 20 percent of the aggregate transaction value for the entire used helicopter market. Their sale prices averaged \$5.1 million.

► continues on page 36

## News Update

### CHC To Buy Babcock Int'l

Offshore helicopter service provider CHC Group announced a conditional agreement to acquire Babcock International Group's oil and gas aviation business. This Aberdeen, Scotland-headquartered Babcock division provides offshore oil and gas crew transport in the UK, Denmark, and Australia. It operates 30 aircraft and employs approximately 500.

Subject to pre-closing conditions, the deal is expected to complete in the second quarter.

### Airbus Helicopters Planning 2022 First Flight for Racer

Airbus Helicopters is pushing off the first flight of its compound Racer—which stands for rapid and cost-efficient rotorcraft—to 2022. A company spokesman said the delay was the result of "the slowdown of several production lines caused by the pandemic."

When initially announced in 2017, Airbus said Racer would begin flights in 2020. Despite the delays, the program has already achieved significant milestones, including passing critical design review in 2019 and more recently the manufacturing of long-lead items. Assembly of major subassemblies started last year, and Airbus Helicopters expects to launch final vehicle assembly in "the coming weeks."

The Racer is designed to cruise nearly twice as fast as a conventional helicopter, with cruise speeds up to 220 knots.

### USHST Seeks Light Helo SAS

The U.S. Helicopter Safety Team (USHST) has unveiled a recommended practices document for developing stability augmentation systems and autopilots in light helicopters. "If light helicopters operating under visual flight rules could be enhanced to meet some of the instrument flight rule stability requirements, many loss-of-control accidents could be avoided," said Nick Mayhew, USHST industry co-chair.

Larger Part 29 transport category helicopters have had systems for more than 30 years that enhance safety during IMC and low-visibility operations. Those systems typically have been too heavy and complex for light helicopters. However, new technology could provide a solution for light helicopters.

### Deliveries Drop for Leonardo

Although unit deliveries plunged 29 percent last year, Leonardo Helicopters posted a 1.3 percent revenue decline and 11.1 percent reduction in earnings—to \$4.75 billion and \$455 million, respectively—versus 2019. Leonardo attributed the results to its continued strong military and government programs, which accounted for nearly two-thirds of its revenues. For the year, Leonardo delivered 111 helicopters, compared with 156 in 2019.

# People Make The Difference

Leonardo is committed to delivering the highest quality of Customer Support, advanced service solutions and a comprehensive range of training programs – ensuring mission success; anytime, anywhere.

A global network of over 90 Service Centers, 14 Logistic Support Centers, 5 Domestic Training Academies, 8 Authorized Training Locations and a team of over 1,800 support and training professionals are dedicated to ensuring Customer satisfactions; 24/7, 365.

Leonardo is investing in performance and infrastructure to strengthen network collaborations and expand its portfolio of digital flight and support service solutions, providing state of the art technology for the operation and maintenance of Customer helicopters, offering the best service and support.

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# Kopter resumes flight tests with SH09 prototype

by Mark Huber

Kopter has restarted the flight test program for its new SH09 helicopter. Having struggled with technical issues and multi-year delays since its first flight in 2014, the Leonardo group company resumed flying in January. Its sole flying SH09 turbine single P3 prototype has been refitted with a new main rotor head design, a new main gearbox with an extended mast, new flight controls configuration, and Garmin G3000H avionics. Kopter plans to add minor aerodynamic improvements to the cowling before test aircraft PS (pre-series) 4 joins the program in the third quarter of this year, followed by the PS5 prototype “some months later.”

However, the program has a long way to go before certification, and the Swiss company, acquired by Leonardo last year, still has a variety of commercial and distribution issues to work through as well as the industrialization of components. The retrofitted P3 aircraft flew 25 hours between mid-January and early March, with the test pilots reporting handling much improved.

The full flight test program is expected to require another 500 hours in the air and will use aircraft PS4 and PS5 for the majority of those activities. For now, flight testing is focusing on expanding the flight and CG load envelopes.



Kopter plans to add another pre-series SH09 to the flight test program in the third quarter, followed by the next prototype a few months later.

At present, Kopter does not expect any changes to previously-announced performance targets for the eight-passenger aircraft, including 140-knot maximum cruise speed and 430-nm maximum range. The company declined to provide an updated order book tally, but previously said it had landed “preliminary” sales contracts for 70 aircraft, including options, and 100 letters of intent. Announced U.S. customers to date include Metro Aviation for air ambulance and helitour operators Papillon and Paradise.

The Leonardo acquisition drove a decision to assemble production SH09 aircraft at that company’s plant at Vergiate in northern Italy, but development work is still based at Kopter’s facilities in Switzerland at Wetkizon (engineering and support) and Mollis (prototype assembly, maintenance, and flight test). The company will also retain a research and development office in Germany.

As of now, Kopter will be Leonardo’s center of excellence for new light helicopters and a technology incubator for hybrid and electric propulsion. In a summary of

its 2020 annual report, Leonardo said the acquisition of Kopter provided it with a turnkey solution to enter a new helicopter market segment, strengthen leadership in its core businesses, and develop new competencies to boost future development toward more disruptive technologies.

The fate of Kopter’s lease on the former Bell Helicopter plant in Lafayette, Louisiana, remains to be determined as does a formal role for Leonardo’s Philadelphia plant. Approximately 300 employees are currently working on the SH09 program.

Meanwhile, the process of integrating Kopter into Leonardo continues. While Kopter remains a legally separate entity based in Switzerland, Leonardo executive Marco Viola was appointed its new CEO in September. Viola had been previously charged with integrating the \$185 million purchase of Kopter. Before its purchase by Leonardo, Kopter had been controlled by Cyprus-based Lynwood, the holding company of Russian billionaire Alexander Mamut. Lynwood reportedly invested \$270 million in the company. ■

## ■ Erickson to fly optionally-piloted Air Crane

Erickson plans to make the first flight of its optionally-piloted S-64F+ Air Crane next year, with customer deliveries of the new helicopter variant to begin as early as 2024, the company announced February 23. The aircraft will be equipped with all-composite main rotor blades that Erickson certified late last year, as well as Sikorsky’s Matrix optional pilot technology and new turboshaft engines with Fadec. A head-up display might also be available for the F+ in concert with Erickson’s new aerial water cannon.

A senior Erickson executive said the high/hot performance of the F+ will be improved over the current production model. The new composite main rotor blades alone will increase the payload at 25 deg C and 8,000 feet by 88 percent—offering an additional 755 pounds—while climb rate at max gross weight and

2,000 feet will rise 69.2 percent, from 1,300 fpm to 2,200 fpm. These numbers will be improved further with the new engine, he said.

Erickson will seek both military and civil customers for the new helicopter, which it plans to be certifiable for Part 135 operations and capable of external lifts up to 25,000 pounds. The company began dropping hints about the F+ last year, saying it would be available as an upgrade kit to legacy aircraft while projecting a need for 50 to 100 new airframes. Now repurposing Vietnam-era Sikorsky CH-54 airframes for its new-production aircraft, Erickson said it would soon deplete those and need to begin manufacturing new aircraft from scratch. To that end, Erickson has recently upgraded its manufacturing capabilities with 3D printing and digital data. **M.H.**



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## Preowned helo market shaky

Meanwhile, the medium twin sale price averaged \$4.6 million and accounted for 40 percent of the used market’s value and 30 percent of units sold, with the Leonardo AW139 leading the way. Light singles and twins held steady, representing 58 percent of all units sold. Aero Asset forecasts that the used market will continue to improve in 2021.

The reduced demand for new helicopters does not seem to be buoying the used market to any great degree. For the year the major producers of civil helicopters all reported down numbers, both in terms of deliveries and new orders.

For helicopter services companies, offshore wind continues to hold promise for helicopter service growth and perhaps \$1 billion worth of new aircraft, according to a study from Air & Sea Analytics. However, that growth will be gradual between now and 2030.

Like offshore energy, the future of the U.S. air ambulance market is opaque. Long-term, the industry’s current business model is not sustainable—with some 70 percent of transports either Medicare or Medicaid patients whose rides are reimbursed by the government at rates that are on average 72 percent below costs, costs that have increased due to increased Covid precautions and protocols.

The parapublic sector also appears poised to take a hit. Police aviation programs have always been low-hanging fruit for municipal budget-cutters, but recent calls to “defund the police,” as well as Covid-induced local revenue shortfalls, are putting new pressures on law enforcement helicopter programs. Cuts to police helicopter programs are under consideration from Ocean City, Maryland, to San Diego, California.

Helitourism holds the unfortunate distinction of being the most egregiously impacted sector by the pandemic, being either forced to suspend operations by state authorities or doing so out of necessity as tourists evaporated. ■





ForeFlight's new runway analysis service is available on the iPad and iPhone and in the Dispatch flight planning tool.

## ForeFlight adds turbine aircraft runway analysis

by Matt Thurber

The latest version of the ForeFlight electronic flight bag app includes a new runway analysis feature, which is available to Performance-level subscribers as a paid add-on service. Runway analysis launched with six Cessna Citation models, but ForeFlight is adding more jets and eventually turboprops as well.

Runway analysis allows pilots to fly with the maximum payload possible while meeting terrain- and obstacle-clearance requirements in case of loss of one engine during the takeoff phase of flight. Airlines have long used runway analysis engine-out procedures (EOPs) to allow dispatchers to calculate the highest possible maximum takeoff weight for specific runways while meeting minimum climb, available runway length, and obstacle clearance and other requirements. Runway analysis has increasingly become part of normal operations in business aviation, with analysis companies providing EOPs for many airports globally. While EOPs generally include straight-out takeoff and climb procedures, some EOPs may be designed to match airport departure procedures or standard instrument departures (SIDs). Other EOPs may dictate a different departure path that must be used in case of an engine-out emergency.

ForeFlight's runway analysis incorporates flight manual constraints such as brake energy and tire speed limits as well as minimum climb gradient, runway length, and obstacle clearance. A team of ForeFlight geographic information system and performance experts has developed EOPs for a variety of airports starting in the U.S., and these will be expanded worldwide. The EOPs are in compliance with recommendations in FAA Advisory Circular 120-91A and its ICAO counterpart.

The first jets to be enabled in the ForeFlight app for runway analysis are the Citation Mustang, M2, CJ3/3+, CJ4, and XLS+. The runway analysis is per-model for individual users (\$600 per year) or for a group of pilots for larger operations, bundled packages are available. Each aircraft's configuration and weight-and-balance information is incorporated, although owners and operators probably already have keyed in this information if they've been using ForeFlight previously. ForeFlight Dispatch users have the same access to the new runway analysis features, and it is available on the iPad and iPhone versions of ForeFlight.

To access runway analysis, a user needs to create a flight in the "Flights" tab. If runway analysis is available for the selected departure and arrival airports and the airplane is enabled, a "Takeoff" and "Landing" button will appear in the departure and destination fields, respectively.

After setting the fuel policy and passenger/cargo weights, pressing the "Takeoff" button shows the "Takeoff Analysis" page with all the information for departing, along with variables that the user can change. At the top is a summary of the takeoff information, including maximum takeoff weight (mtow), field length,  $V_1$ / $V_R$ / $V_2$ / $V_{ENR}$ , level-off altitude, and the reason for the mtow limitation (for example, brake temperature, structural weight, obstacles, etc.). The allowable mtow is shown so the pilot can quickly try different payloads or switching runways or EOPs to see if that allows a higher mtow.

The user can choose to use the current or forecast weather or input weather information manually. ForeFlight automatically adjusts the fuel load if the weight limit is exceeded or offers a runway with more favorable winds. These automatic

features help simplify the decision-making process, according to ForeFlight.

Two types of landing information are available. The first is for an emergency return to the departure airport, and this includes the landing weight, actual runway distance,  $V_{APP}$ , and  $V_{REF}$ . The second is for the destination airport and includes the same information. In both cases, the pilot can select variables, such as surface condition and landing factor, and manually input weather information. The calculations happen instantly, enabling rapid testing of different scenarios and optimization for the existing conditions, including changes in aircraft configuration.

For takeoff, users have a choice of three EOPs. The first is a Jeppesen EOP, which is based on VOR and DME navigation. These were developed a while ago for airlines and might not be suitable for business aircraft with modern GPS avionics. (Jeppesen and ForeFlight are sister companies, both owned by Boeing.) Most runways have straight-out EOPs, but because of terrain- and obstacle-clearance requirements, at many airports payload capacity will be limited for these procedures. The other EOPs are the RNAV procedures developed by the ForeFlight GIS team, and these use GPS waypoints to define the route to fly in case of engine failure after takeoff.

When using an EOP to maximize takeoff weight, pilots must follow that EOP to maintain the required clearance from obstacles and terrain. Not all EOPs follow the same routing as SIDs or the flight-planned departure. But the ForeFlight team, according to aircraft performance engineer Michael Vogt, when possible tries to match SIDs to make flying the EOP simpler and avoid the need to program an alternate flight plan in case of engine failure. "The crew will probably have the SID programmed into the FMS," he explained. "If they do have a failure, then they can quickly adapt to the EOP by flying the first portion of the departure, which may match the SID."

In the EOP section of the takeoff information, the three EOPs are shown, and clicking on each one shows the mtow limitation and the exact procedure to fly.

One option for takeoffs is to add custom obstacles, which require entering the distance from and height above the departure end of the runway.

Once the pilot is done entering the data and is satisfied with the performance information, pressing the Summary button delivers a document with all the information about the takeoff and landing. This can be shared via email or text, printed, saved, or marked up. The summary includes charts showing the three EOPs and landing analysis for each runway. The EOPs are shown for three different temperatures in case that changes after planning the flight. The landing analysis considers both zero wind and 10 knots of tailwind for each runway at the destination, with both the normal and factored landing distances. ■

## News Update

### Gogo Delays 5G Network Deployment

Business aviation connectivity provider Gogo is delaying deployment of its 5G air-to-ground (ATG) network by one year, to 2022, due to a microchip shortage, according to Gogo president and CEO Oakleigh Thorne. The upgrade will replace the 3G/4G architecture currently used in its ATG network and increase connectivity speeds to more than 50 Mbps.

"As is true of many projects in the telecom and satellite space, our schedule has slipped, primarily because of a supply chain delay for one particular microchip," he said. "And we now expect to deploy the network in 2022 instead of 2021."

The good news, Thorne said, is that customers with Avance systems installed on their aircraft—now more than 1,700—will be able to take advantage of the 5G network with a software upgrade. In addition, these upgrades will be made even easier when Gogo enables on-air software updates this year.

According to Thorne, Gogo's Avance L3 and L5 systems installed on a range of business aircraft are also able to run self-diagnostics "and it reports them remotely, allowing us to often fix issues before the customer even notices an issue has occurred."

### SmartSky Preps To Launch Air-to-ground Service

SmartSky Networks has now amassed more than 200 granted patents as the company prepares for commercial launch of its air-to-ground broadband connectivity service by November, according to CEO Dave Helfgott. These patents cover the company's network architecture, including its beam-forming technology and seamless handover capability that are key to its service, as well as those for hardware, digital solutions, and "future technology," he said.

While acknowledging the company missed previous estimates for service launch, Helfgott told *AIN* that he has righted the ship since he joined in October, retiring all risk and fixing a supplier issue. "The network is now built out and the last piece of network hardware upgrades—radio heads—are slated to be installed this summer."

He also said that its three data centers are up and running, while an 11-site corridor with the new radio heads installed on transmitting towers in Florida will begin final testing in April. Following these tests, the new radio heads will be rolled out to its full network.

According to Helfgott, a final investment round is imminent that will fully fund the company to commercial service launch. He added that SmartSky has STCs for installations in several midsize and large-cabin business jet models and will expand this effort to include more business aircraft, including light jets and turboprops.



Boeing 737 Maxes sit in storage in Moses Lake, Washington, in October 2019.

# Transportation IG sees continuing problems at FAA

by Gregory Polek

Federal investigators have concluded that weaknesses in the FAA's certification and delegation processes hindered its oversight of the certification of the Boeing 737 Max 8, according to a DOT inspector general's report published in late February. The report found that the agency's limitations in the FAA's guidance and certification processes led to a "significant misunderstanding" of the Maneuvering Characteristics Augmentation System (MCAS), the flight control system identified as contributing to the two accidents.

Although the IG report also said the FAA addressed many of the deficiencies outlined in a June 2020 interim report, it concluded that "it is not clear" that the FAA's current oversight structure and processes can effectively identify future safety concerns within the Boeing Organization

Designation Authority (ODA) structure.

"First, FAA's certification guidance does not adequately address integrating new technologies into existing aircraft models," noted the report. "Second, FAA did not have a complete understanding of Boeing's safety assessments performed on MCAS until after the first accident."

The report further indicates that the FAA has not yet adopted a risk-based approach to ODA oversight, and engineers in the FAA's Boeing oversight office continue to face "challenges" in balancing certification and oversight responsibilities. Meanwhile, the Boeing ODA process and structure do not ensure enough independence of ODA personnel, it concluded.

The report lists 14 recommendations to improve the certification process and oversight of the Boeing ODA. The FAA

concluded and provided appropriate actions and planned completion dates, the report added.

The latest IG document builds on a timeline report issued last June that found Boeing failed to submit certification documents to the FAA on modifications to the 737 Max jet's MCAS, including significantly increasing the system's ability to lower the aircraft's nose automatically under certain conditions. Although FAA flight-test personnel knew of the change, "key" agency certification engineers and personnel responsible for approving the level of airline pilot training told the IG's office they did not.

The report blamed weaknesses in the FAA's processes and guidance for its engineers' deficient knowledge during the certification that limited their ability to judge the safety of the aircraft.

"For decades, FAA has maintained an admirable safety record," concluded the IG's office. "However, the lessons of the Boeing 737 Max demonstrate the need for a more holistic approach to both certification and FAA's safety oversight of manufacturers. To its credit, FAA is taking significant action to correct identified weaknesses."

Still, "much work remains" to address weaknesses in the FAA's certification guidance and processes and to improve its communication with manufacturers and within the agency, it added.

"In addition, FAA has not yet taken sufficient steps to ensure it best targets its ODA oversight to the highest-risk areas," noted the report.

For example, the FAA's ODA program does not prevent conflicting duties of ODA unit members, and preventing interference with ODA unit members "remains a concern," the report concluded. ■

## Wideroe goes electric with Tecnam's P-Volt

Scandinavian regional airline Wideroe last month committed to introducing Tecnam's new all-electric P-Volt aircraft into commercial service on scheduled routes starting in 2026. Rolls-Royce Electrical is developing a propulsion system for the nine-passenger aircraft, which is based on Tecnam's existing P2012 Traveller piston twin-engine model.

Italy-based Tecnam and Rolls-Royce's new electric propulsion division announced plans to develop the P-Volt in October 2020. Since 2018, the companies have worked on a program to convert the four-seat P2010 aircraft to hybrid-electric propulsion using the H3PS1 propulsion system developed jointly by Rolls-Royce and Rotax.

Rolls-Royce established its Electrical division in 2019, following the aero engines group's acquisition of the Siemens eAircraft business. In the same year, Rolls-Royce and Wideroe started a joint research project to evaluate options for introducing electric aircraft.

The P-Volt's short takeoff and landing capability make it suitable for services to the many small airports that Wideroe serves across Norway. Prior to the Covid pandemic, the airline operated 400 daily flights at 44 airports, with around three-quarters of the routes stretching less than 275 km (172 miles). The Norwegian government is pressing for the introduction of electrified aircraft on domestic flights from 2030 to meet its objective of an 80 percent reduction in emissions by 2040.

Wideroe has not specified exactly how many of the P-Volt aircraft it will buy as the program's launch operator, but chief executive Stein Nilsen indicated that it might start taking deliveries in 2025. Its fleet consists of a mix of larger 40 Bombardier Dash 8 twin turboprops and three Embraer E190-E2 twin-jets. The company has not said how many of those aircraft it will retain for longer routes and services into larger airports but it plans to deploy the P-Volt mainly for flights in the



Wideroe will use Tecnam's all-electric P-Volt aircraft to serve smaller regional airports in Norway starting in 2026.

north of Norway and along the country's long west coast.

A pair of 375-hp Lycoming TW0540C1A engines power the existing P2012 whose range just exceeds 1,000 miles. The P-Volt's range will likely be shorter, but Tecnam hasn't yet confirmed that aspect of its performance.

The announcement came just hours after Rolls-Royce reported a 2020 loss of £3.2 billion (\$4.5 billion), almost entirely due to the effect of the Covid pandemic on its commercial aircraft engines business. In 2019, it achieved a profit of £583 million. **C.A.**

## News Update

### Mesa Eyes European Market

Phoenix-based Mesa Air Group and UK aviation consultancy Gramercy Associates have agreed to form a joint venture to launch a passenger and cargo operation in Europe, Mesa said in a statement. The companies plan to apply for an air operator certificate (AOC) in the European Union using Bombardier CRJ900 regional jets to establish a capacity purchase agreement or ACMI (aircraft, crew, maintenance, and insurance) operation by the end of this year.

Under the agreement, Mesa would own 49 percent of the partnership once the companies gain the needed AOC.

Gramercy Associates is led by former Tiger Airways and Bmbaby CEO Tony Davis.

Mesa's previous effort to expand internationally ended in 2009, when it sold its 49 percent stake in China's Kunpeng Airlines to joint venture partner Shenzhen Airlines, less than two years after announcing plans to launch the operation with CRJ200s.

### KLM Takes First Embraer E2

KLM took delivery of its first Embraer E195-E2 for its KLM Cityhopper regional subsidiary last month. The first E2 delivery to KLM—via lessor ICBC Aviation Leasing—brings the total number of Embraer jets in the KLM Cityhopper fleet to 50.

KLM signed a lease deal with ICBC covering 10 of the 25 airplanes on firm order and another with Aircastle for 15. The Dutch airline recently exercised options on four of the airplanes, all coming from Aircastle's existing orderbook.

KLM cites the airplane's 31 percent reduction in carbon emissions per seat compared with KLM Cityhopper's first-generation E190s as a key attribute of the aircraft. Meanwhile, the airplane generates less noise than planned future ICAO limits and its noise footprint covers a 60 percent smaller area than its predecessor—what Embraer called a critical measure given Amsterdam Schiphol Airport's strict noise abatement rules.

### Air Cargo Demand Returns to Pre-Covid Levels

Global traffic figures for January showed that air cargo demand surpassed levels registered in January 2019, marking a complete recovery from the effects of the Covid-19 crisis, the International Air Transport Association reported last month. January figures also showed strong month-to-month growth over December 2020 levels, increasing more than 3 percent on robust manufacturing output, said IATA.

Global demand, measured in cargo tonne-kilometers (CTKs), finished 1.1 percent ahead of January 2019, led by particularly strong gains in North America and Africa. Meanwhile, the recovery in global capacity, measured in available CTAs, reversed due to further capacity cuts among passenger flights.



Narrowbodies such as the Airbus A320neo will account for 90 percent of AerCap's new-technology aircraft fleet if its deal to buy Gecas clears regulatory approval.

## GE reaches \$30 billion deal to sell Gecas to AerCap

by Gregory Polek

General Electric has reached an agreement to sell its Gecas leasing division to AerCap in a \$30 billion deal that stands to profoundly change the competitive balance of the global aircraft leasing business, the companies confirmed last month.

Under the terms of the transaction, GE will receive some \$24 billion in cash, 111.5 million ordinary shares equal to a 46 percent ownership of the combined company, and \$1 billion paid in AerCap notes and/or cash upon closing. In return, GE will transfer \$34 billion of Gecas's net assets,

including its engine leasing and Milestone helicopter leasing businesses, to AerCap. Current Gecas purchase obligations will transfer to AerCap, and Gecas's more than 400 employees also will transfer to AerCap upon completion of the transaction.

While AerCap said it expects the deal to close by this year's fourth quarter, GE estimated the deal will close in nine to 12 months, subject to regulatory approvals. GE will retain the right to nominate two directors to newly created seats on the AerCap board.

AerCap has secured \$24 billion in financing commitments from its banking group to support the closing of the transaction.

Once complete, the deal would result in AerCap's portfolio increasing from some 1,050 to more than 2,000 owned and managed aircraft. The combined portfolio will also include 900 owned and managed engines and 300 owned helicopters. The deal marks the fourth such acquisition for the Irish leasing company since it bought Debis AirFinance in 2005. AerCap then acquired Genesis Leasing in 2009 and ILFC in 2013.

"Gecas is a highly attractive business and this transaction continues our strong track record of capital allocation," said AerCap CEO Aengus Kelly. "As the recovery in air travel gathers pace, this transaction represents a unique opportunity that we believe will create long-term value for our investors. This business combination will also strengthen our longstanding partnership with GE Aviation, which we look forward to working with closely in the future."

Narrowbody aircraft will account for some 60 percent of the combined fleet, said AerCap. New-technology aircraft—namely the Airbus A320neo and A350 and Boeing 737 Max and 787—will account for 56 percent of AerCap's in-service fleet and the combined company expects that proportion to grow to 75 percent by 2024. The combination results in an order book of 493 new-technology aircraft, of which narrowbodies will account for more than 90 percent.

On the engine side, CFM56s and Leaps account for the "vast majority" of the in-service fleet, said Kelly. "This business is expected to be around 5 percent of assets, but it adds much more than that in terms of relationships, expertise, and product offerings," he explained. ■

## DOT clears Breeze for takeoff

The U.S. Department of Transportation last month cleared David Neeleman's latest airline venture, Breeze Airways, to launch operations with up to 22 large aircraft. The Salt Lake City-based company has already taken delivery of its first of 15 Embraer E190s leased from Nordic Aviation Capital and a pair of E195s subleased from another Neeleman-established airline, Brazil's Azul. A revised agreement with Airbus called for first delivery of an order for 60 Airbus A220-300s this August.

Originally planning to launch service to midsize city pairs lacking scheduled service by the end of last year, Breeze delayed the launch until mid-2021 due to Covid-19 considerations.

The airline expects its initial scheduled operations to connect the Atlantic Coast, the southern U.S., Texas, and the Midwest. Plans call for Breeze to begin flying an A220 from the Atlantic Coast to California in October 2021. The airline will conduct line maintenance at its facility in Islip, New York, and has contracted with Embraer in Nashville, Tennessee, for heavy maintenance. The airline began maintenance and dispatcher training last September.

Breeze marks the fifth airline startup for Neeleman, perhaps best known for founding New York-based JetBlue. Other notable board members include Air Lease Corporation lead director Robert Milton and former ILFC chief executive Henri Courpron. **G.P.**

## Norwegian Air founder launches long-haul LCC

by Cathy Buyck

Norwegian Air Shuttle founder Bjørn Kjos has not lost confidence in the long-haul low-cost business model despite his former venture's retreat to a small, short-haul airline as it struggled to overcome a too-rapid expansion, too much debt, and Covid-19. Kjos, 74, last month emerged as a 15 percent investor in Norse Atlantic Airways, a new Oslo-based airline that will offer low-cost transatlantic services later this year, along with other former Norwegian Air Shuttle executives, including Bjørn Kise.

Kise participated in the founding of Norwegian Air Shuttle in 1993 and served as chairman from 2010 to 2019. Both Kise and Kjos, which at that time were Norwegian Air Shuttle's largest shareholders,

stepped down in May and July 2019, respectively. Kjos, a former fighter pilot, held the role of CEO for 17 years and built the company from a small domestic operation with 130 employees and four aircraft to a global LCC with more than 11,000 employees and 162 aircraft. Norwegian Air Shuttle now operates under the equivalent of U.S. Chapter 11 bankruptcy protection procedure in Ireland and Norway.

Norse Atlantic Airways plans to launch flights between Europe and the U.S. in December using Boeing 787s. "We now have a once-in-a-lifetime opportunity to build a brand-new airline from scratch," CEO, founder, and majority shareholder Bjørn Tore Larsen said in a statement. "As the world reopens, the public needs an



Norwegian Air Shuttle founder Bjørn Kjos is a 15 percent investor in new low-cost carrier Norse Atlantic Airways.

innovative, low-cost intercontinental airline with modern, more environmentally friendly and fuel-efficient aircraft." He stressed the company secured Dreamliners "at very good terms." The airline plans to lease the aircraft, which would feature a "high cabin utilization." Norse Atlantic Airways did not immediately respond to questions from AIN about fleet size and whether the 787s are former Norwegian aircraft. Larsen also maintained close ties with Norwegian Air Shuttle as co-founder

of OSM Aviation, which provided crew to the airline.

The route network will initially span popular transatlantic destinations such as New York, Los Angeles, Miami, London, Paris, and Oslo. The airline also plans to expand with destinations in Asia as more 787s enter the fleet, it stated, emphasizing, however, that it would base growth decisions "exclusively" on demand and profitability. "International tourism has been hit hard by the pandemic, and the market for intercontinental flights is currently almost gone," said Larsen. "But a new era is coming as the global vaccine program is completed. People will once again go on vacation, visit friends and family, and travel for business. Norse Atlantic Airways will be there to offer attractive and affordable flights to the leisure traveler and the cost-conscious business traveler."

The company will be listed on Euronext Growth on the Oslo Stock Exchange in April, backed by investors who have already secured shares valued at more than \$24 million. ■



More than 2,100 Gulfstream jets are powered by Rolls-Royce engines, including the G650.

### Rolls-Royce Opens Savannah Engine Support Facility

Rolls-Royce recently opened a customer support facility in Savannah, Georgia, that is adjacent to the new Gulfstream Service Center East. Rolls-Royce's 62,000-sq-ft facility will support Gulfstream and its customers and includes an on-site customer support office, areas for on-wing services, repair, and power-plant completion, as well as a warehouse.

Named the Rolls-Royce Raines Building in recognition of Georgia aviation pioneer Hazel Jane Raines, the new facility represents the decades-long relationship between the engine maker and airframer that dates back to 1958. Rolls-Royce's BR710 and BR725 engines power the G550 and G650, respectively, as does its Pearl 700 for the new G700. In all, Rolls supports more than 2,100 Gulfstream jets worldwide. The engine manufacturer noted many of those aircraft are enrolled in its Corporate-Care and CorporateCare Enhanced engine maintenance programs.

### C&L Launches Aircraft Maintenance Apprenticeships

Regional and business jet MRO group C&L Aviation Services is launching an aircraft maintenance apprenticeship program, following its registration with the U.S. Department of Labor. Students accepted into the program will be paid as apprentices while receiving on-the-job training aimed at preparing them to sit for FAA Airframe and Powerplant certification examination. C&L will start its first class with six students, followed by a second class of six beginning this fall. Apprentices will work and receive their instruction at C&L's 200,000-sq-ft MRO facility in Bangor, Maine.

### Ruag Completes MRO Sale to General Atomics Europe

General Atomics Europe this week completed its acquisition of Ruag Aerospace Services, Ruag International's business jet and military helicopter MRO business in Oberpfaffenhofen, Germany. The deal, announced last October, includes the production of

the Dornier 228 utility twin turboprop and 420 employees but not the Ruag Aerostructures operation at Oberpfaffenhofen that employs 800 workers. The sale by Zurich-based Ruag International comes as part of a plan approved in March 2019 to realign its business.

### Man Indicted for False Aircraft Parts Certification

A Southern District of Florida grand jury indicted David Alexander Barcena for falsely certifying that a variety of aircraft parts were airworthy and able to be installed on commercial aircraft, according to the U.S. Department of Transportation's (DOT) inspector general. Specifically, the indictment alleges that between December 2016 and May 2017 Barcena certified commercial aircraft parts such as anti-icing valves, a hydraulic reservoir assembly, and a landing gear actuator as ready for service. The indictment further alleges that he used falsified FAA airworthiness approval tags for the parts. Barcena obtained the tags from a defunct Part 145 facility where he was employed as a chief inspector, according to the DOT inspector general.

### Dassault Taps TAG Hong Kong for Falcon 7X/8X Servicing

Dassault Aviation has appointed TAG Aviation Hong Kong as an authorized service center (ASC) for the Falcon 7X and 8X, complementing Dassault's other regional ASCs. For nearly a decade, TAG Aviation has offered MRO services in Hong Kong and Macau. Engineering and grooming teams at those locations provide maintenance and cleaning services that include internal and external aircraft cleaning, MicroShield 360 disinfectant, and Permaguard paint protection, as well as regional mobile repair services.

### Duncan Adding Satellite Repair at New Chantilly Air FBO

Duncan Aviation is opening a satellite repair station at Chantilly Air's new FBO at Manassas Regional Airport in Northern Virginia, 30 miles from

downtown Washington, D.C. The new repair station joins Duncan's network of 19 satellite repair stations as well as its three full-service maintenance facilities. Chantilly Air's facility includes 60,000 sq ft of new hangar space.

### Jet MS Adds Completions/ refurbishes with RAS Group Buy

Jet MS, a base and line maintenance provider for business and regional aircraft, has acquired RAS Group, a UK-based holding company of RAS Completions and RAS Interiors, which as the names imply offer aircraft interior repairs, manufacturing, and exterior paint refinishing for business, VIP, and commercial aircraft. Besides adding interiors and completions expertise to JetMS's services, the deal gives it a presence at London Biggin Hill Airport, one of Europe's busiest business aviation airports. Jet MS will also offer base and line maintenance and spare parts trading at Biggin Hill.

### West Star Notches AFAC Approvals in Houston, East Alton

West Star Aviation recently obtained Mexican Civil Aviation Federal Agency (AFAC) repair station recertification for its facilities in East Alton, Illinois, and Houston. The recent approval replaces the certification originally issued by the Mexican Civil Aviation Authority in Mexico (DGAC). Mexico in late 2019 had announced that AFAC would replace DGAC. While most of the DGAC officials moved over to AFAC, the move established an autonomous agency with its own budget. West Star also has Mexican AFAC approval for its repair stations in Chattanooga, Tennessee, and Grand Junction, Colorado.

### UK MRO Provider Oriens Builds on Pilatus Mx Credentials

Oriens Aviation has achieved a number of milestones with the addition of

several maintenance credentials, the UK MRO provider announced. Chief among those milestones is obtaining EASA Part 145 repair station accreditation, as well as becoming an authorized Pilatus PC-24 service center, which builds on its previous authorization from the Swiss airframer to provide maintenance on the PC-12 family of turboprop singles. As a result of its PC-24 credentials, the company recently completed its first annual check on a PC-24 for a UK customer at its London Biggin Hill facility. Oriens noted that, with the EASA accreditation, it will be able to continue to work on European-registered Pilatus aircraft post-Brexit. Many of its PC-12 maintenance customers are from outside the UK. The company has also received approval to service the Williams FJ44 engines that power the PC-24.

### Air Methods Expands Airbus HCare To EC135 Fleet

Air Methods, the largest civil fleet operator of Airbus helicopters worldwide, has signed another HCare maintenance support contract with the OEM, this time to cover its fleet of 80 EC135 light twins. It is the largest Airbus HCare contract signed with any civil customer to date and brings the number of Air Methods helicopters covered by HCare to 111. The U.S.-based air ambulance provider flies more than 70,000 patients annually and operates a fleet of more than 400 aircraft.

### Constant Aviation Marks First 15 Years

Constant Aviation is celebrating its 15th anniversary since its founding at Cleveland Hopkins International Airport. Beginning as a single-hangar operation with a handful of technicians, Constant now employs more than 450 people, operates 276,655 sq ft of hangar space in Cleveland and Sanford, Florida, and has a nationwide aircraft-on-ground (AOG) mobile response network. ■



TAG Aviation has offered MRO services at bases in Hong Kong and Macau for nearly 10 years.



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by David Jack Kenny

**PRELIMINARY REPORTS****Conquest Down in Tennessee****CESSNA 441, FEBRUARY 7, 2021,  
WINCHESTER, TENNESSEE**

A Cessna Conquest II crashed on approach to the Winchester, Tennessee, Municipal Airport, killing the airline transport pilot and commercial pilot on board. The IFR flight from the Thomasville (Georgia) Regional Airport checked in with Bowling Green Approach Control while descending to 4,000 feet msl and was cleared for the RNAV approach to Winchester's Runway 36. Radar contact was lost as it descended through 2,300 feet, typical for coverage in that area. The controller's attempt to contact the pilot three minutes later was unsuccessful, and after several hours the wreckage was found along a 500-foot debris path about six miles south of the airport. Both wings and most of the fuselage were consumed by a post-crash fire.

**Four Casualties in Virgin Islands Helicopter Crash****BELL 206B, FEBRUARY 15, 2021,  
ST. THOMAS, U.S. VIRGIN ISLANDS**

Three family members and a celebrated island pilot were killed when their helicopter crashed during a planned 17-minute sightseeing flight over the island. A fourth passenger listed on the flight manifest was later confirmed not to have been on board. A witness filmed the helicopter fly out over the ocean and back towards the hill where he stood. About six seconds after he began filming, "a puff of dark smoke emanated from the vicinity of the engine compartment." The helicopter abruptly yawed left, then right, and descended into the forest downhill from the witness's location.

The wreckage was located in steep, heavily wooded terrain. The majority of the cockpit, cabin, and flight controls were consumed by fire, which also damaged "the landing skids, main rotor system, main rotor drive system, engine, hydraulic system, and the forward portion of the tail rotor drive system." The impeller inducer showed "evidence of hard body FOD ingestion," and all blades on the fourth-, fifth-, and sixth-stage compressor wheels had been fractured near their root ends and were not found.

The Virgin Islands Daily identified the pilot as Maria Rodriguez, co-owner of Caribbean Buzz Helicopters. The lifelong St. Thomas resident had been named the Helicopter Association International's 2017 Appareo Pilot of the Year in recognition of her tireless efforts in response to Hurricanes Irma and Maria, flying relief missions for 28 consecutive days.

**Six Mexican Officers Killed in Learjet Crash****LEARJET 45XR, FEBRUARY 21, 2021,  
EL LENCERO AIRPORT, XALAPA,  
VERACRUZ, MEXICO**

A Learjet operated by the Mexican Air Force crashed while attempting to take off on a training mission, killing all six of the officers on board. Unconfirmed reports suggest that the jet failed to gain altitude and crashed off the end of the runway, igniting a fire that consumed most of the aft portion of the fuselage. Firefighters and soldiers responded to the scene but were unable to extricate the crew.

The accident occurred just 40 minutes after the 2007-model jet had arrived after an uneventful flight from Mexico City.

**FINAL REPORTS****Compressor Blade Failure Leads To Multiple ADs****CESSNA 208B, NOVEMBER 16, 2016,  
SOLOMON AIRPORT, WESTERN AUSTRALIA**

The ATSB traced the fracture of a compressor turbine blade after just 1.8 hours of operation to the installation of a reworked compressor turbine vane ring whose configuration differed significantly from Pratt and Whitney Canada's (PWC's) specifications. The vane ring had been repaired by Southwest Turbine Inc. (STI) using a procedure approved by the FAA as specification no. STI 72-50-254, which involved replacing much of the part's original structure with a casting manufactured by STI. Testing by the PWC Airfoil Laboratory found that those discrepancies caused airflow distortions that increased vibration of the compressor turbine blades by as much as 200 percent, exceeding design specifications and inducing fatigue cracking that resulted in one blade's separation from the turbine. The engine failure caused by the resulting cascade of internal damage necessitated an emergency landing on an unpaved mine road, which was executed without injury to any of the 11 passengers on board or either of the two pilots.

The accident occurred on the return leg of a charter circuit rotating workers to and from the Solomon Hub mining center. The outbound flight from Karratha, Western Australia landed at about 07:10 local time. The return flight took off at 07:43. Climbing through 4,600 feet over the Hamersley Range, the pilots heard a "loud bang" and "grinding noise" followed by billows of blue and white smoke from the exhaust stack and instrument indications of an engine failure. The pilot-in-command immediately lowered the nose to maintain the best glide speed, determined that the airplane was unlikely to clear the

hills between its present position and the airport, and identified an emergency landing site. The safety pilot activated the Caravan's Spidertracks emergency notification system and broadcast a Mayday on Solomon Airport's advisory frequency, which was received and relayed by a departing Qantas flight. The passengers were evacuated without incident.

STI responded to the investigation findings by ceasing all repairs of compressor turbine vane rings for PT6A-114A engines. Two weeks later, PWC released Service Instruction Letter PT6A-252 warning of potential compressor blade failure in engines with vane rings repaired under "non-PWC approved processes," and on August 19, 2019, Transport Canada issued AD CF-2019-30 requiring replacement of STI-repaired vane rings within 9 months or 240 hours of operation. Canada's Civil Air Safety Authority automatically adopted the AD, and on August 17, 2020, the FAA issued an NPRM advocating adoption of the AD, with public comment period closing on October 1, 2020.

**"High-Risk" Behavior Caused Trimotor Crash****JUNKERS JU 52/3M G4E, AUGUST 4, 2018,  
FLIMS, GRISONS CANTON, SWITZERLAND**

The Swiss Transportation Safety Investigation Board (STSB) found that multiple operational and risk-management deficiencies contributed to the catastrophic crash of the vintage Junkers trimotor on the return flight of a two-day air tour. All 20 people on board, including 17 passengers and a flight attendant as well as the two highly experienced airline transport pilots, perished when the 79-year-old airplane crashed into a high-altitude mountain valley in a near-vertical nose-down attitude. The STSB determined that the pilots, who had more than 40,000 hours of combined flight experience, chose to operate the airplane too close to the ground to allow recovery from an upset and close to stall speed in high-density altitude over steep mountainous terrain in atmospheric conditions conducive to turbulence. The trimotor's center of gravity was aft of rear limits, further compromising controllability, due in part to errors in both the weights and associated arms entered into the operational flight plan.

Detailed reconstructions based on multiple sources including radar tracks, GPS data, and images recorded in flight by passengers showed that during both the previous day's flight from Dübendorf Air Base to Locarno Aerodrome and the accident flight itself, the airplane came within 50 meters (165 feet) laterally of rock faces and as low as 120 meters (400 feet) above mountain passes. Passenger pictures taken just before the crash showed it flying well below the tops of the valley walls; its altitude was subsequently estimated as 125

meters (415 feet) above the Segnes pass.

In the next 20 seconds, it began to descend in a nose-high attitude. The difference between the Junkers' pitch attitude and flight path exceeded 20 degrees before it began an uncommanded left roll that was not arrested by significant right aileron. The pilot flying then put in the left aileron in an apparent attempt to make a left turn. The nose dropped as the bank angle continued to increase and the airplane reached a near-vertical attitude prior to impact. The STSB noted that the Ju 52/3m is a relatively low-performance airplane, with power loading between that of the Cessna 152 and Piper Super Cub.

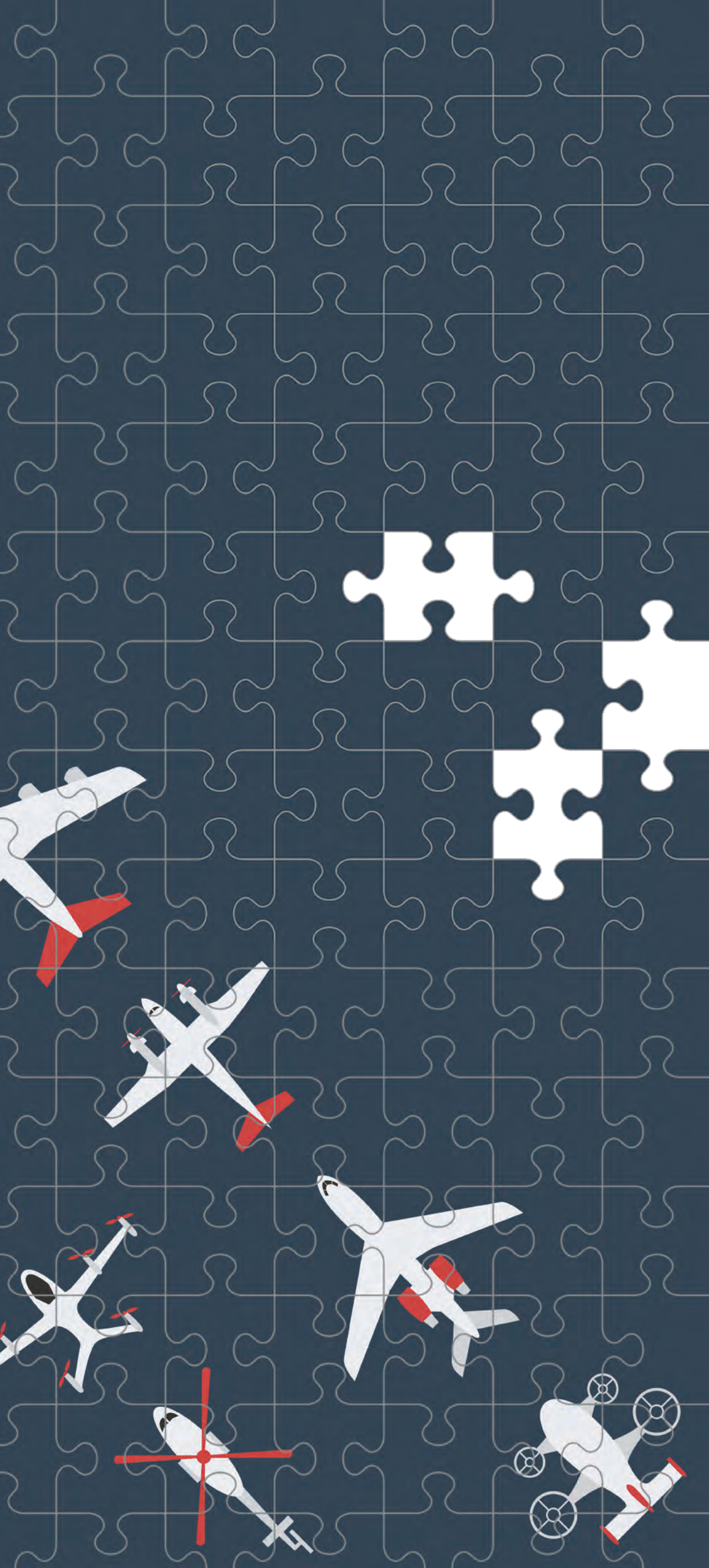
**Loose Hose Connection Brought Down JetRanger****BELL 206B3, MAY 21, 2019,  
107 KM SOUTHWEST OF JABIRU,  
NORTHWEST TERRITORY, AUSTRALIA**

A loss of engine power during a low-altitude wildlife control flight was caused by a loose connector securing the engine reference air line between the power turbine governor and accumulator, causing the engine to roll back to idle during a low-altitude wildlife control flight. The pilot, spotter, and marksman all suffered serious injuries when the helicopter struck a tree during an attempted emergency landing in a small clearing from about 50 feet above ground level.

The power turbine governor had been replaced during maintenance five days and 4.7 flight hours before the accident. Though both ends of all lines connected to the generator are normally loosened to facilitate replacement, the engineer who performed the work told ATSB investigators that this was not necessary and insisted that the reference air line's connection to the accumulator was never touched during the May 16 maintenance. He acknowledged that interruptions and distractions were common at the facility.

The accident occurred 44 minutes into a flight to round up and shoot feral horses (an invasive species in Australia) in Kakadu National Park. After confirming that the throttle was still open, the pilot recognized the situation as an emergency and initiated an autorotation to the nearest clearing. The helicopter landed hard after striking the tree, temporarily knocking the pilot and marksman unconscious. The spotter was able to contact park rangers by radio, and a Royal Australian Air Force C-130 operating nearby located the wreckage after the ELT signal was detected by the Joint Rescue Coordination Centre. A precautionary closure of the fuel supply in Jabiru, the last place the accident helicopter had refueled, delayed the EMS helicopter, and the crew finally reached the hospital in Darwin about nine hours after the accident. ■

The material on this page is based on reports by the official agencies of the countries having the responsibility for aircraft accident and incident investigations. It is not intended to judge or evaluate the ability of any person, living or dead, and is presented here for informational purposes.



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› continued from page 18

## Hera tackles family, career issues

productive. “It’s not that we should just be a globally responsive industry,” she said. “We know that diverse humans have diverse lived experiences and bring that perspective to any team, which increases collaboration, safety, and efficiency. It’s not only our responsibility, it makes sense.”

Webster makes an analogy between the aviation industry’s adoption of crew resource management (CRM) principles and the work that Hera does. At first, the adoption of CRM was a huge cultural change. “Before CRM was largely implemented,” she said, “our flight deck and operations and protocols and procedures were valued very differently. Then smart people got together and said this should be our best practice and this is how we do it. Initially, a lot of people operated from a place of fear. But trailblazers, leaders, innovators, and forward thinkers encapsulated CRM and said, ‘Let’s do this, let’s try.’ What we saw is exactly what I’m talking about. We saw a more harmonized team on the flight deck, and collaboration and safety increased.”

### Persuading Leaders

Hera was formed in 2019 and has received a positive response. “People are ready not just to listen but to try it,” Webster said, although she acknowledges that not all companies are run by progressive leaders. “I’m happy to go into a meeting and someone is saying, ‘Why do we need this?’ I’m good at working with them. We can’t be exclusionary and only work with those who are diverse global thinkers.

“It’s important to remember—our beloved industry needs to represent our community. Half of the population identifies as female and a large number happen to be parents. Those unique experiences and diverse perspectives must be valued in our industry.”

However, Hera is about helping all caregivers, not just women. “By working with individuals, companies, and across the industry we will increase aviation’s ability to accommodate the needs of all caregivers, minorities, and the underrepresented, which serves to benefit everyone.” But still, she added, “data shows that women and minorities are more adversely affected—in both frequency and duration—in their careers by primary caregiving, whether it’s caring for an elderly family member, a sick spouse/partner, or for children.”

An example of an organization that Hera helped is a large global company. “They were able to listen and ask a lot of questions about exactly how they can incorporate a more diverse group, specifically caregivers,” she said. This resulted in discussions among company leadership and incorporation of some of Hera’s ideas on diversity, equity, and inclusion (DE&I)

in their aviation department. “That’s very innovative for a business to be brave enough to allow us to come together,” she said, “speaking with their cohorts, and hearing what their struggles are and working together to navigate this cultural change that we’re helping to facilitate.”

Hera also helped spread the word as a member of the NBAA DE&I working group, including moderating a forum on engaging caregivers at the 2020 VBACE event.

One of Hera’s ongoing efforts is to help companies with flight departments create flexible workforce models that help caregiving aviators manage their lives and careers. The three models include flexible (part-time), contract commitments, and shared crewmember.

None of these changes happen instantly, Webster pointed out, and it might take time and building a relationship with the company’s leaders, including at the flight department, to help them overcome resistance to the idea of supporting caregivers. And it’s important to help these leaders ask the tough questions, about whether the company really is inclusive, and to be willing to listen to those who have a stake in the discussion. “It’s hard to hear tough things from those you see every day,” she said.

Webster wants to make clear that Hera’s job isn’t to judge anyone but to help them. Hera offers an unbiased viewpoint, someone who can listen and help facilitate conversations about DE&I issues.

“What these organizations are doing is being brave and willing to bring in someone who can help facilitate these conversations,” she said, “to help usher questions and help address reality in a supportive way, just like we require on the flight deck.”

She acknowledges that these companies have grown successful by following their leaders’ vision and developing a strong internal culture. But some leaders might feel that “things are going great here, why create a ripple?”

Culture drives the mission, and leaders need to understand that company culture means something different to everyone, she explained. Leaders do understand strategy, “but what I’ve learned is that culture eats strategy for lunch. That is the point of meeting in the early stages. What would they like to see in their organization, what is necessary not to look at, and what is necessary to look at?”

“Hera is not about taking a bullhorn and yelling that diversity is critical. People have been doing that for years. It’s about meeting them where they are and having a conversation about their vision and mission. What Hera can do is not only help them understand from an individual perspective but also understand what leaders can do to transform their culture to be more inclusive, so it becomes welcoming to those things shaped by their vision and mission.

“We’re not here because it’s popular to talk about,” Webster concluded, “we’re here because it’s important.” ■

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**Within 6 Months**

April 6, 2021 and April 21, 2021 **NEW**  
**U.S.: Unmanned Aircraft Systems**

The FAA has delayed by one month the effective date of the final rule, "Operation of Small Unmanned Aircraft Systems Over People," until April 21, 2021, except for certain provisions pertaining to remote pilot certification and qualification, which are delayed until April 6, 2021.

April 14, 2021 **NEW**  
**U.S.: Aircraft Noise Research**

The FAA seeks comments on updated aircraft noise research efforts that would be used to establish future aircraft noise policies. The FAA says it will "carefully consider public and other stakeholder input along with any additional research needed to improve the understanding of the effects of aircraft noise exposure on communities" before it makes any policy determinations on noise policies, including any revised use of the day-night average sound level noise metric. Comments on this notice are due by April 14, 2021.

May 27, 2021 and Aug. 25, 2021 **NEW**  
**EASA: Aging Aircraft Structure**

Incremental deadlines are set for implementing new and revised EASA regulations to address large turbine airplane structural aging risk factors. Design approval holders must develop data to support continuing structural integrity programs. At the same time, operators of covered airplanes need to revise their aircraft maintenance programs to incorporate those data and to address the adverse effects of airframe modifications and repairs.

May 31, 2021  
**EASA: Ditching Survivability**

Improving the ability of occupants to survive a water impact from a helicopter ditching is the subject of a NPA from EASA. The NPA would revise type certification standards for both small (Part CS-27) and large (Part CS-29) rotorcraft by requiring several design improvements. In addition, this NPA also proposes enhancements to certification specifications for new ditching and emergency flotation provisions. Comments are due May 31, 2021.

June 2, 2021  
**U.S.: Aircraft Fuel Truck/  
Farm Fire Standards**

The National Fire Prevention Association (NFPA) has revised its aviation servicing standards to call for the installation of automatic shutdown systems on aircraft fuel trucks and fuel farms. The NFPA standards, typically adopted as requirements by regulatory

agencies, apply to in-service trucks and fuel farms, as well as for new equipment. In-service equipment would need to be retrofitted by June 2, 2021.

June 12, 2021 **NEW**  
**U.S.: Weight and  
Balance Program**

Extensive changes to how aircraft weight and balance calculations are to be made were adopted last year under OpSpec Notice 8900.551 and Advisory Circular AC 120-27F. The compliance effective date is June 12, 2021. The FAA will no longer publish average passenger or baggage weights. Until June 12, operators will have the option to use actual weights or an approved average weight method they have developed. After June 12, operators that have not received amended OpSpecs/MSpecs/LOAs should use actual weights when determining weight and balance.

**Within 12 Months**  
Nov. 25, 2021 **NEW**  
**Canada: ELTs**

Starting on Nov. 25, 2021, Canadian-registered commercial and private aircraft are required to have an emergency locator transmitter that broadcasts simultaneously on the 406 MHz and 121.5 MHz frequencies. Foreign-registered aircraft operating in Canada must have at least one 406 MHz ELT by November 25. Currently, Canadian aviation regulations only require that aircraft operate with one 121.5 MHz ELT.

**Beyond 12 Months**  
Sept. 16, 2022 and Sept. 16, 2023  
**U.S.: UAS Remote ID**

New FAR Part 89 requires that after Sept. 16, 2022, no unmanned aircraft system (UAS) can be produced without FAA-approved remote identification capability. After Sept. 16, 2023, no unmanned aircraft can be operated unless it is equipped with remote ID capability as described in new Part 89 or is transmitting ADS-B Out under Part 91.

Dec. 31, 2022  
**New Zealand: ADS-B Out**

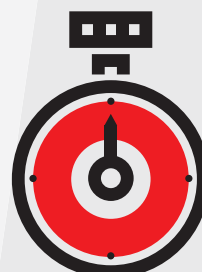
Covid-19 pandemic implications have prompted New Zealand to extend its ADS-B out compliance date for one year from the previous deadline of Dec. 31, 2021. The ADS-B provisions, already mandatory for aircraft flying above 24,500 feet, will apply in the rest of New Zealand's controlled airspace by Dec. 31, 2022.

For the most current compliance status, see: <https://www.ainonline.com/aviation-news/compliance-countdown>

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**Benjamin Murray** was named president and CEO of *Skyservice*. Murray, who joined *Skyservice* late last year initially as president and COO for a transition period before taking on the role of CEO, brings 20 years of business aviation leadership and operational experience to his new role. He was founder of North Star Solutions and previously served as president and CEO of Executive Jet Management and president of aircraft management and charter for Landmark Aviation.

**Joe Park** was promoted to managing partner of *BizJetCPA*. Park, who participates on NBAA's Tax Committee, joined the firm in 2017 after serving with accounting firm Grant Thornton.

*Pam Jets* promoted **Ben Harrow** to president, **Peter Westerberg** to COO, and **Emilio Lopez** to v-p of global services. Most recently v-p of business development for Pam Jets, Harrow has more than a decade of leadership experience and has previously served as a U.S. Special Forces detachment commander. Westerberg has served as a pilot and aviation manager with more than 9,000 hours of civilian flight time in Part 91 and 135 operations, including at some Fortune 50 flight departments. Lopez has served as an aviation manager for several Fortune 500 companies.

**Emlyn David** has joined *Jetscape Business Aviation* at Fort Lauderdale-Hollywood International Airport as a strategic advisor. David, who has 14 years of business and general aviation investment and strategic development experience, previously was CEO at *Skyservice*.

*Ducommun* named **Christopher Wampler** to CFO, controller, and treasurer. Previously acting as interim CFO and treasurer, Wampler has served with *Ducommun* since 2013 and earlier served in controller positions with *Just Fabulous* and *A.O. Smith Electrical Products*.

*PHI Aviation* expanded its commercial team, naming **Cory Latiolais** chief commercial officer, **Travis Latiolais** v-p of commercial and business development, **Chelsea Royall** capture manager, and **Cory Clark** business development analyst. Cory Latiolais has worked in every facet of PHI's business over the past 23 years, most recently as senior v-p of commercial and business development. Travis Latiolais brings a background in managing programs for multiple helicopter operators and OEMs, including *Bristow*, *RLC*, *Airbus Helicopters*, and most recently as v-p at *Pathfinder Aviation*. Royall was recently promoted to her new role that focuses on award and proposal strategies, and Clark joins PHI from *American Airlines*.

**James Hurley** has joined *Talon Air's* executive team. Hurley has served with *Dassault Falcon Jet* since 1988, most recently

leading the U.S. sales force as senior v-p.

*The Air Charter Safety Foundation* added **Richard Morris** of CAE and **Michael Wootton** of *Advanced Air* to its board of governors. Morris, who has served as director of global safety, quality assurance, and compliance for CAE, previously spent six years with *Etiihad Airways*. Wootton is director of operations for *Advanced Air* and had served with companies including *NetJets*, *Basin Aviation*, and *Sierra West Airlines*.

**Max Masterson** was promoted to v-p of sales for *AvAir*. Most recently director of sales, Masterson joined *AvAir* in 2017 as an account executive with nearly six years of sales and marketing experience.

*Deutsche Aircraft* appointed **Nico Neumann** v-p of operations and programs, overseeing a number of aspects of the E328eco. Neumann had previously held a range of operational positions with *328 Support Services*, most recently as director of maintenance and production.

*Eagle Creek Aviation* promoted **Randy Morelock** to v-p of maintenance. Morelock joined *Eagle Creek* in 1998, holding the positions of director of avionics, project manager, and avionics technician. He also served as an avionics technician for the U.S. Marine Corps Light Attack Helicopter Squadron.

*London Biggin Hill* named **Colin Hitchins** head of the airport's corporate social responsibility and sustainability. Hitchins formerly was community engagement manager at *London Biggin Hill*.

*Pula Aviation Services Limited (PASL)* promoted **Jasmine Sohanta** to head of its aircraft sales activities. Sohanta joined PASL in 2019 as a sales development and market analyst and also has served with *Marshall Aircraft Sales*.

*Western Aircraft* has filled a number of management positions. **M. Tyler West** was named Pilatus service manager. West has held positions with *Pratt & Whitney* and *Boutique Air*, in addition to *Western Aircraft*. **Jeff Watson** was appointed Falcon service manager. Serving with *Western Aircraft* since 2004, Watson previously was turboprop service manager. **Brian Lair** is the new quality assurance inspector. Lair joined *Western Aircraft* in 2007 and has since served as a maintenance technician, job lead, floor inspector, and quality control inspector. **Adam Young** was promoted to chief inspector. Young has seven years of jet aircraft maintenance experience, and five years of FAA Part 145 repair station quality assurance and quality control inspection experience. And **Elliott Rupp** was promoted to Pilatus PC-24 tech rep. He joined *Western Aircraft* in 2011 and served as a lead technician.

*Signature Flight Support* promoted **Richard Allsop** to sales director for EMEA. Allsop, who most recently was senior sales manager, has served with *Signature* for 17 years. *Signature* also appointed **Mike French** to the newly created role of senior director for real estate and tenant products. French, who has served with the company for 14 years, most recently was director of FBO operations for *Signature's* East region.

*Savback Helicopters* appointed **Rick Andrew** commercial director, establishing a presence in the UK for the first time. Andrew previously worked at *Sloane Helicopters*, a long-established *Robinson* and *Leonardo Helicopters* UK sales distributor.

*Adyson Aviation Group* named **Rich Eilers** U.S. sales director. Eilers brings a 26-year background in the luxury assets business to his new role, most recently as customer service manager of *Viking Yachting Center*. ■

## FINAL FLIGHT

**Gary Hodak**, a long-time avionics and completions specialist who served with *Associated Air Center* and *King Aerospace*, passed away on December 13 in Dallas at the age of 69.

Born April 27, 1951, in Riga, Russia, his family immigrated to Israel. He received his aeronautical training with the Israeli Air Force and served in the 1973 Yom Kippur War, according to the *Texas Jewish Post*. A year later he moved to the U.S., starting at *Atlantic Aviation* in Wilmington, Delaware, then joining *Sunstream Jet* in Fort Lauderdale, Florida.

Hodak spent 23 years with *Associated Air Center* in Dallas, where he served as director of avionics. In 2010, he took a job with *King Aerospace* in Addison, Texas, where he was director of technical services.

**Michael "Mike" O'Leary**, a 50-year aviation veteran who had become the *Aircraft Electronics Association's (AEA)* longest-serving chairman, died on February 14 from Covid-19 complications. He was 69. A celebration of life is tentatively scheduled for September 12 in Phoenix.

O'Leary, who had retired from *Elliott Aviation* in 2020, was born and raised on a farm in northwest Iowa. After graduating from *Emmetsburg High School*, he enlisted in the U.S. Navy at the age of 17 and served two tours of duty in Vietnam as a torpedo man on the USS *Towers* destroyer, according to AEA.

After leaving the military, he earned his pilot and A&P licenses and started as an avionics installer. Over the years, he held positions with a number of avionics and electronics companies. He was active with AEA, serving on the board of directors from 1996 to 2009 and chairman from 2002 to 2009.

**Michael P. "Mike" Collins**, who spent nearly three decades with the *Aircraft Owners and Pilots Association (AOPA)* in various roles, died on February 25 in Frederick, Maryland, from Covid-19. He was 59.

Born on Dec. 21, 1961, in Cleveland, Ohio, Collins graduated from *Western Kentucky University* in 1984 with a degree in photojournalism. He embarked on a career as a newspaper photographer and editor, but then helped launch *The Southern Aviator*, a regional aviation magazine.

In 1994, he joined AOPA as managing editor of *AOPA Pilot* magazine. AOPA said he "quickly became an integral player on the media team," leading the magazine production process for *AOPA Pilot* and *Flight Training*, as well as steering the growth of its email newsletters such as *AOPA ePilot*. Most recently he was technical editor and director of business operations. ■



## AWARDS and HONORS

*Embraer* co-founder **Ozires Silva** was honored with the Daniel Guggenheim Medal, becoming the first Brazilian to receive the international recognition. Established in 1929 to honor innovators who have made notable achievements in the advancement of aeronautics, the medal is jointly sponsored by the American Institute of Aeronautics and Astronautics, American Society of Mechanical Engineers, SAE International, and the Vertical Flight Society.

Born on Jan. 8, 1931, in São Paulo, Brazil, Silva entered the Brazilian Air Force in 1948

and later received a degree in aeronautical engineering from the Technological Institute of Aeronautics (ITA). After graduating, he led the Aircraft Department of the Research and Development Institute and in 1965 began working on a project that ultimately would become the *Bandeirante*. As that program began to develop, Silva joined a group to create *Embraer* in 1969 to produce the regional twin turboprop. Silva would become the company's superintendent director until 1986 and then returned in 1992 for a brief stint as the company restructured. ■



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