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## AIN announces 2021 Top Flight Award winners

by Mark Huber

AIN is proud to highlight the following winners of the 2021 Top Flight Awards. The awards are designed to recognize the best and the brightest in business aviation and honor creativity and innovation in design and technology as well as quality and passion in business aviation services and significant contributions by industry people.

Each year, AIN solicits nominations for the Top Flight Awards, with the nominees announced on November 1 and the winners revealed on December 1.

The main criteria for qualifying as nominees for Top Flight Awards include the

date of service entry, in the case of new aircraft, or date of availability for products and services, during the applicable time period from the previous October first through September 30. The nominees also must illustrate something new and unique such as improved safety and performance, contributions to aviation or public benefit, creativity and innovation, and more. There were 10 categories for the inaugural 2020 awards, and this year the number of categories climbed to 14.

Among the winners this year, selected by AIN editors, are new aircraft with significant upgrades, as there were no new models

entering into service during the applicable time period for nomination qualification.

New or slightly altered categories for the 2021 awards include: Excellence in Innovation; Charitable Hero; Safety Hero; Diversity, Equity, and Inclusion; Sustainability; and Maintenance Innovation.

To recognize as many deserving people and companies as possible, AIN welcomes input from readers of Aviation International News, Business Jet Traveler, FutureFlight, aero, and AIN Media Group newsletters during the nomination process, which will be opened after the first quarter of 2022.

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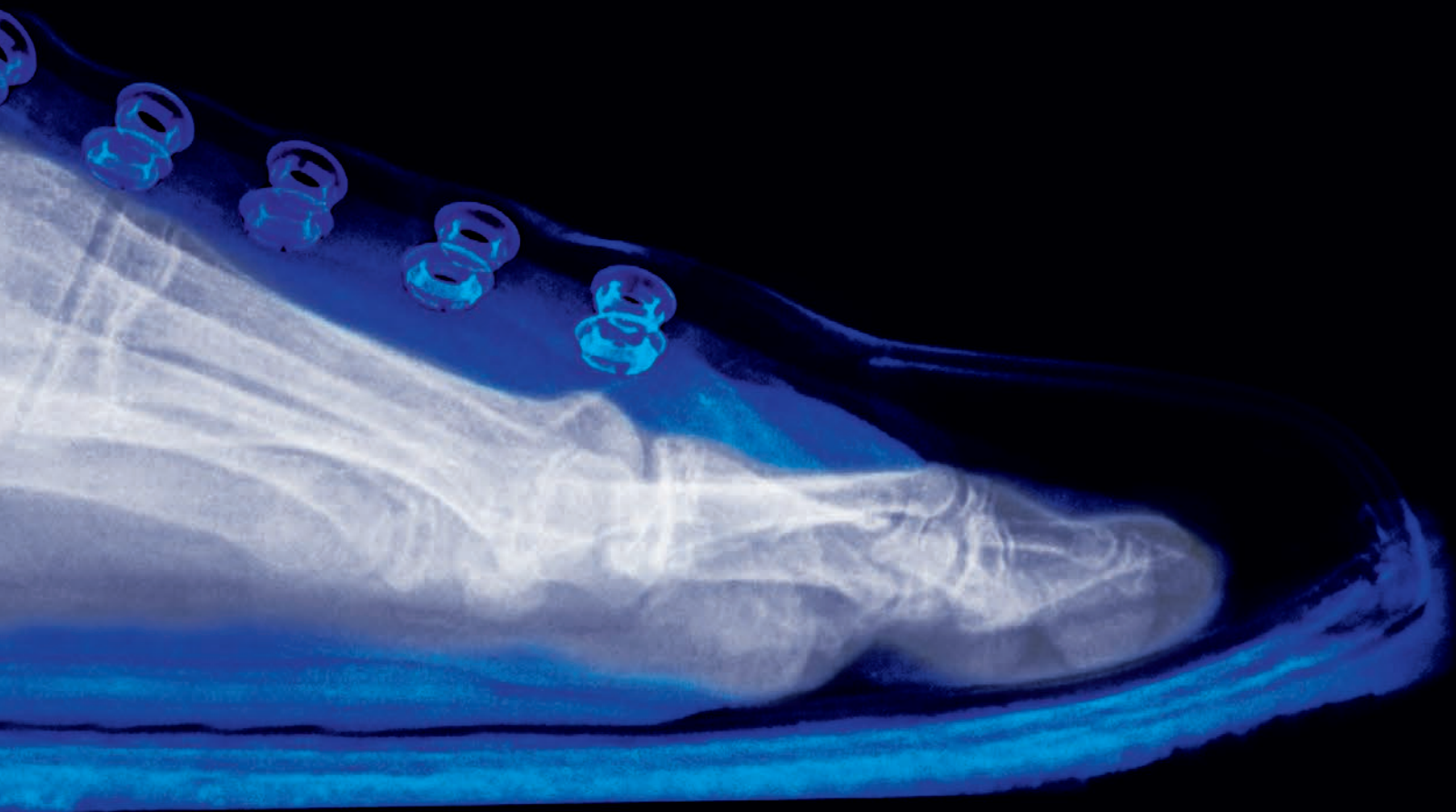
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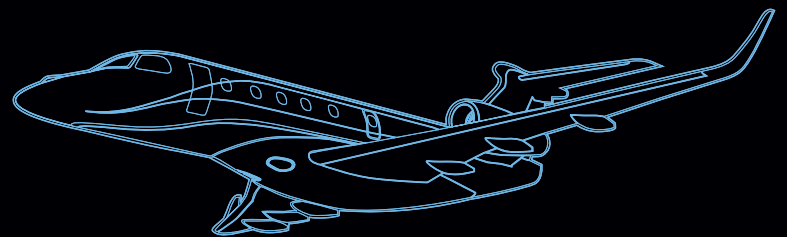


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BY EMBRAER



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## As We Go To Press

### AEA: GENAV AVIONICS SALES CONTINUE TO RISE

The general/business aviation avionics industry has seen more than \$1.7 billion in sales through the first nine months, representing a 5.4 percent year-over-year increase, according to statistics from the Aircraft Electronics Association (AEA). Of these sales, 53.7 percent came from the retrofit market, equipment installed after original aircraft production, while equipment included on delivery by airframers made up the balance. Nearly three-quarters of the 2021 sales volume took place in the U.S. and Canada. Market sales have been steadily growing over the past five quarters, with the most recently ended quarter showing 5.8 percent improvement over the first quarter of 2021, and 1.8 percent over the second quarter. “Although the industry has seen robust sales during some unprecedented times, there are still challenges with the supply chain and workforce to work through,” said AEA president and CEO Mike Adamson.

### PAY INCREASES, BONUSES AHEAD FOR AIRSHARE CAPTAINS

Private jet operator Airshare is launching a new pilot retention and recruitment program primarily focused on captains in the midst of increasing demand for private flying. Airshare will be increasing its captain pay by an average increase of 25 percent across the board. It also will offer signing bonuses for pilots joining Airshare with Embraer Phenom type ratings, as well as establish a bonus program for each hour a pilot flies over the standard 125 hours a month. First-year captains can earn up to \$150,000, the company said. Between new aircraft and a 14 percent increase in new fractional owners and jet cardholders in the past few months, pilot recruitment and retention have taken on greater urgency for the company.

### TIGHT BIZJET INVENTORY CREATING NEED FOR URGENCY, CAUTION

With preowned business jet inventory tightened up and the year drawing to a close, brokers and other business aviation leaders speaking at the recent Corporate Jet Investor Miami forum warned that buyers must be prepared to move quickly but carefully on an available aircraft and advised that they may have to look for inventory in places such as Russia or China. Keri Dowling, president of Air Law Office, added that buyers must be “prepared to hit the ground running,” including ensuring that clients “frontload” everything as much as possible. Amanda Applegate, a partner at Aerlex Law Group, also advised that buyers put together teams that have expertise in cross-border transactions.

### GULFSTREAM TO OPEN MESA SERVICE CENTER IN ARIZONA

Gulfstream Aerospace plans to build a 225,000-sq-ft service center at Phoenix-Mesa Gateway Airport, the Savannah, Georgia airframer’s first facility in Arizona. Slated to open in 2023, the new \$70 million service center will create more than 200 jobs and expand Gulfstream’s MRO capabilities in the western U.S. It follows recent company-owned service center expansions in Savannah; Van Nuys, California; Fort Worth, Texas; Palm Beach, Florida; Appleton, Wisconsin; and Farnborough, England. Gulfstream will pursue LEED Silver certification of the Mesa facility, which will have a fuel farm with a dedicated SAF supply, LED lighting, white roof to reflect heat, and other sustainable features.

### NBAA TO ACCEPT SUSTAINABLE ACCREDITATION APPS IN JANUARY

NBAA will begin to accept applications in January for its new Sustainable Flight Department Accreditation Program, with the aim of having the first wave of accreditations seven months later, according to Stewart D’Leon, NBAA’s director of environmental and technical operations. The program will enable business aviation organizations to seek accreditation in areas involving flight, operations, ground support, and infrastructure. Accreditations initially will focus on the CO<sub>2</sub> footprint. The program will require organizations to gather data on their carbon footprint, look to areas where they can reduce it, and then rectify areas where they can. For the initial application, participants will evaluate their footprint using a 2019 baseline. Applications will be available from January to March; from March to May, organizations will submit documentation; May to August will involve audits, with certifications following in August.

### WHEELS UP’S LOSS WIDENS AS SUPPLY ISSUES LOOM

Wheels Up wrestled with shortages of flight crews and airplanes during a period of “unprecedented demand” for the private aviation membership company in the third quarter, resulting in a \$59.45 million loss despite double-digit gains in revenue. The company reported a 55 percent gain in revenue, to \$301.9 million, versus the same period last year. Year-to-date, Wheels Up’s loss widened to \$120.6 million on 75 percent higher revenue of \$849.2 million. According to Wheels Up CEO Kenny Dichter, “the biggest gating factor” currently for Wheels Up is the supply of pilots to meet that demand. “The end result was that we could not fully crew our first-party fleet during the third quarter. This reduced the utility of our fleet versus our prior quarter.”



Sustainable aviation fuel will play a large part in business aviation’s ability to meet newly updated industry environmental goals calling for net-zero carbon emissions by 2050.

## Bizav on track for new 2050 environmental goals

by Curt Epstein

Business aviation’s success in meeting its new goal of net-zero carbon emissions by 2050 will hinge heavily on the widespread adoption of sustainable aviation fuel (SAF) and the development of improved aircraft technology, according to Thomas Fissellier, Bombardier Business Aircraft’s head of strategy and analytics.

Speaking November 17 in a webinar hosted by GAMA and IBAC on the updates to the Business Aviation Commitment on Climate Change (BACCC) announced in October at NBAA-BACE, Fissellier noted that the industry has made good progress on its three goals announced in 2009. With the exception of outlier 2020, the industry has been on a par with forecasted CO<sub>2</sub> emissions since 2015, and it has improved its fuel efficiency by 2 percent each year between 2010 and 2020. It is also on a trajectory to achieve carbon-neutral growth from 2020 and to accomplish a 50 percent reduction in CO<sub>2</sub> emissions by 2050 relative to 2005.

“The bottom line is that we are now on track to reach about four million tonnes of CO<sub>2</sub> emissions by 2050 as an industry, which would represent about a 70 to 75 percent reduction compared to 2005,” said Fissellier, who has shepherded the BACCC research since 2015.

He explained how scenario-based models shape the calculations with averages taken between conservative estimates and optimistic estimates on SAF production and acceptance to determine the overall impact on future CO<sub>2</sub> emissions. Based on an industry consensus, estimates call for neat SAF to comprise between 66 and 81 percent of total jet fuel consumption by 2050. Variables include when the removal of the current 50 percent blend cap on SAF—in place due to having to ensure its absolute compatibility with legacy aircraft fuel systems—would be removed. While aromatic compounds could be added to SAF to replace those present in conventional fossil-based jet fuel, that extra

process could add to the price of SAF.

“The issue is ultimately as well one of cost,” explained IBAC director general Kurt Edwards. “The whole point behind SAF...is we want also to get it to a price that is comparable to that of traditional jet-A, so all of this is kind of coming together through these technical tests and seeing what is economically viable.”

On the technology side, an unprecedented collaboration among OEMs helped to establish a spreadsheet to evaluate various improvements in aerodynamics, engines, and weight reduction as to their potential emissions reductions and their expected entries into service. “Given the amount of competition that our industry is used to, this was a great example of us being able to put this aside and really focus on what matters for our overall industry,” said Fissellier.

The effects of electric, hybrid-electric, and even hydrogen-powered aircraft are also taken into account in the models, as is anticipated fleet replacement as older aircraft are retired from service and supplanted with newer, more fuel-efficient models. The latest restated goals include the continuation of the 2 percent annual fleet fuel efficiency improvement through 2030.

“We hope to accelerate beyond this commitment of 2 percent per year for fuel efficiency improvement...in the decade that follows with a lot of these technologies as they become more ingrained,” said GAMA president and CEO Pete Bunce.

Fissellier believes that those two major pillars, combined with infrastructure and operational improvements and market-based measures such as carbon offset purchases, will allow the industry to achieve its new aspirations by 2050.

Industry support for the BACCC has been growing steadily since its 2009 introduction. “The awareness of moving towards greater ambition with regard to decarbonization is much more front and center,” Edwards said. ■



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# Textron Aviation's Q3 propelled by 'very strong demand'

by Jerry Siebenmark

Textron Aviation reported substantial increases in revenue, profit, deliveries, and backlog during the third quarter, propelled by a higher Cessna Citation and Beechcraft King Air volume of \$338 million and aftermarket volume of \$62 million. The results represented what Textron Inc. CEO Scott Donnelly said on an earnings call in October was "very strong demand" for business aircraft. "All of the dynamics that we look at in terms of the macro-level of the market are extremely favorable," he said.

Revenue at the Wichita airframer increased \$386 million from the year-ago quarter, to \$1.2 billion, while profit of \$98 million erased a \$29 million loss during the same period last year. Deliveries for the quarter were sharply higher, rising to 49 jets compared with 25 in last year's third quarter. Turboprop deliveries also jumped 67 percent to 35 in the same period. For the first nine months of the year, Textron Aviation's revenue was \$3.2 billion compared with \$2.41 billion in 2020 while profit was \$241 million, up from a \$92 million loss a year ago.

Backlog at the end of the quarter was \$3.5 billion, which Jeffries analyst Sheila Kahyaoglu noted on the call was at a level last seen in 2010. Donnelly said the higher backlog—which grew by \$721 million from the second quarter of 2021—supports the company's expectations for returning in 2022 to a production level last seen in 2019.

"And there's probably room for a little bit beyond that," Donnelly added. What's more, that backlog represents nine to 12 months of production. "This last decade has been unusual where you're actually trying to build to a forecast instead," he said. "[Nine to 12 months of backlog] is a much healthier way to run the business."

Demand for business aircraft was strong across Textron Aviation's entire product line, which Donnelly attributed to the numerous model upgrades the company has instituted beginning with the King Air 260 and 360 last year and more recently to the Citation M2 Gen2 and XLS Gen2 announced earlier this month at NBAA-BACE. "I would say every model is doing very well right now," he added. "It's really across the board."



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Demand was strong "across the board" for all of Textron Aviation's aircraft models in the third quarter of 2021, according to Textron Inc. CEO Scott Donnelly.

The company also is benefitting from new entrants to private aviation. "If I looked at the number of new customers, folks that are coming in buying a jet who have not owned a jet before, that number is probably somewhere around the 20 percent or so kind of range, which is encouraging," Donnelly said. "For sure, we're seeing a lot more interest and demand from those first-time

buyers than we would historically see."

Other achievements for the quarter included the Cessna 408 SkyCourier topping more than 1,600 hours of flight testing in advance of certification and first delivery expected later this year, as well as successful ground runs of the new Beechcraft Denali's GE Catalyst turbo-prop engine. ■



Hermeus unveiled a non-flying prototype of its Quarterhorse unmanned small-sized test vehicle and fired up its engines to full afterburner power at its Atlanta headquarters.

## Hermeus powers up non-flying test vehicle

Hermeus, which landed a \$60 million U.S. Air Force contract for the initial development of a hypersonic business jet for presidential travel, unveiled a non-flying prototype of its Quarterhorse unmanned small-sized test vehicle. During the by-invitation-only event at its Atlanta headquarters, the company not only unveiled an integrated airplane with working hardware but also gave a live demonstration of its engine at maximum afterburner power.

Quarterhorse's powerplant is a turbine-based combined-cycle engine based on the GE J85. An airworthy prototype that will test speeds between Mach 3 and Mach 5 is expected to begin flight tests next year, according to Hermeus. The company has acquired a half-dozen GE J85s as it

proceeds with an "iterative, hardware-rich approach" development program.

"When an aerospace company typically unveils a new aircraft, it's nothing more than Styrofoam and fiberglass," said Hermeus COO Skyler Shuford. "But at Hermeus we drive to integrated products. And we really, really like to make fire." He noted that the company designed, manufactured, and integrated the aircraft, "from nothing but an outer shape," in just four months.

Plans call for following with a midsize vehicle that will be used for flight testing for cargo purposes around 2025. It will have longer range and more capable environmental control. Hermeus then will proceed with a 20-seat passenger aircraft targeted for FAA certification in 2029. **C.I.**

## News Briefs

### Embraer Plans Net-zero Path with Energia Family

Embraer unveiled "Energia" concepts for a family of nine- to 50-seat aircraft with a mix of hybrid, hydrogen, dual fuel gas turbine, and electric propulsion systems. They could enter service between 2030 and 2040. The hybrid-electric Energia Hybrid—designated as the E9-HE and having one piston engine and two electric motors—would have nine passenger seats and 500-nm range. Its all-electric, nine-passenger E9-FE model sports aft-mounted contrarotating propellers and a 200-nm range. Embraer's 19-seat E19-H2FC model will use hydrogen fuel cells to power a pair of rear-mounted electric motors, yielding a 200-nm range. Finally, the 35- to 50-seat E50-H2GT would entail either hydrogen or sustainable aviation fuel/jet-A directly powering a gas turbine powerplant. This airplane would have a projected range of 350 to 500 nm.

### GE To Focus on Aviation after Spinning Off Units

GE plans to spin off its healthcare and energy businesses as separate public companies by early 2024, leaving an "aviation-focused company shaping the future of flight." The conglomerate expects to spin off GE Healthcare in early 2023 and divest its energy segment a year later. Following the second spin-off, company chairman and CEO H. Lawrence Culp Jr. will then lead the GE aviation-focused company going forward. John Slattery will remain as CEO of GE Aviation. Meanwhile, GE is on track to reduce its debt by more than \$75 billion by year-end, in part due to the company's recent sale of its GECAS aircraft-leasing business for some \$30 billion.

### Tamarack Disputes NTSB Accident Report

Tamarack Aerospace is disputing the NTSB's final report regarding the fatal crash of a Cessna Citation CJ2+ outfitted with its active winglets, which includes wing load alleviation systems. The twinjet went down soon after takeoff from Indiana's Clark Regional Airport on Nov. 30, 2018, killing the pilot and two passengers. According to the NTSB, the accident's probable cause was "the asymmetric deployment of the left-wing load alleviation system for undetermined reasons, which resulted in an in-flight upset from which the pilot was not able to recover." Tamarack countered the NTSB's determination by issuing a supplemental submission saying its investigation of the physical crash evidence proved that the system was functional at the time of the crash. The company is proposing an alternate scenario where the attitude and heading reference system/autopilot failed, leading to the onset of the initial roll event that doomed the light jet.



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Phebe Novakovic, chairman and CEO of Gulfstream Aerospace parent company General Dynamics, remains bullish on sales going forward, saying the pipeline is robust and termed demand for Gulfstreams as “very strong.”

## News Briefs

### Million Air Launches Green Initiative

FBO chain Million Air has unveiled a two-pronged sustainability plan, with the goal of making the Houston-based service provider net-zero in carbon emissions by 2023. This past June, the company’s Burbank, California location became its first to offer sustainable aviation fuel (SAF). It is also making environmental improvements at other facilities, with its Westchester County, New York location slated to be the first to achieve net-zero. It has been converted to 100 percent LED lighting and hangar roofs received reflective white coatings to reduce heat gain. Million Air will also invest in high-quality carbon offsets, as well as run biodiesel in its ground service equipment and install solar energy panels at suitable locations.

### FAA: Remote Tower at Leesburg ‘Operationally Viable’

The FAA has declared the Saab remote tower system at Virginia’s Leesburg Executive Airport (KJYO) “operationally viable,” authorizing ATC services to continue using this system. Leesburg has been Saab’s U.S. test site for its remote tower technology and in 2019 was granted approval from the FAA to conduct an initial operational phase, during which time certified controllers safely managed more than 75,000 operations at the airport. This latest announcement “brings us even closer to an FAA-certified, lower-cost alternative for U.S. general aviation airports needing to replace their aging towers, or for busy airports similar to Leesburg seeking to add ATC services,” said Saab Inc. president and CEO Erik Smith. An FAA spokesman told **AIN** that agency certification of Saab’s remote tower is “not currently expected before the end of 2024.” The system at Leesburg includes high-definition cameras and controller displays.

### P&WC Expanding Carbon Offset Program to Helos

Pratt & Whitney Canada (P&WC) is expanding its year-old carbon offset service to include operators of the company’s helicopter engines enrolled in its Eagle Service Plan (ESP) and Fleet Management Program (FMP) hourly maintenance programs. Its carbon offset service automatically aligns operators’ flight hours with offset purchases, in collaboration with carbon offset provider South Pole. The service was introduced in December 2020 for business aviation operators enrolled in ESP. “With the growing interest in SAFs as one route to reducing aviation’s consumption of fossil-based fuels, operators may also use carbon offsets to reduce our impact on the environment,” said Scott McElvaine, P&WC’s v-p of customer programs. “While SAFs offer significant CO<sub>2</sub> emissions reduction, carbon offsets can compensate for the remaining emissions to help achieve carbon-neutrality.”

# Gulfstream soars on aircraft orders

by Chad Trautvetter

Aircraft backlog at Gulfstream Aerospace is at its highest point in six years, with book-to-bill coming in at 1.7:1 during the third quarter, Phebe Novakovic, chairman and CEO of parent company General Dynamics, said on October 27 during a quarterly investor call. General Dynamics’ aerospace division, which also includes Jet Aviation, saw orders in the quarter jump 79 percent, to \$3.247 billion, while backlog climbed to \$14.69 billion at the end of last month.

Novakovic remains bullish on sales going forward, saying the pipeline is robust and termed demand for Gulfstreams as

“very strong.” She also said Gulfstream’s G400 and G800 announced earlier this month have been well received by the market, with “many orders” already booked for the new jets.

Meanwhile, third-quarter Gulfstream shipments fell by one unit from a year ago, to 31 (25 large-cabin jets and six super-mid-size G280s), due to one customer pushing their aircraft delivery to the fourth quarter, she said. Large-cabin shipments were unchanged from third-quarter 2020, with just one more G280 handed over.

Deliveries in the first nine months totaled 80 aircraft (68 large cabins and

12 G280s), down from 87 (71 large cabin and 16 G280s) in the same period last year. According to Novakovic, the lower shipments are due to pandemic-related production cuts announced last year, noting that these cuts peaked in the second quarter. Thus, fourth-quarter deliveries are expected to match the 40 aircraft shipped in that period last year, while next year and 2023 will see increases, she noted.

Revenues at General Dynamics’ aerospace division dipped 1.2 percent, to \$5.575 billion, in the first nine months, while earnings slid 0.7 percent, to \$677 million. ■

# Airbus H225 flies on 100 percent SAF

by Mark Huber

An Airbus H225 performed the first helicopter flight using 100 percent sustainable aviation fuel (SAF) on November 9 at Airbus Helicopters’ headquarters in Marignane, France, with the unblended SAF burned in one of the helicopter’s two Safran Makila 2 engines. This also marks the start of a flight campaign aiming to assess the impact of unblended SAF on the helicopter systems, with the goal of certifying use of SAF blends that exceed today’s 50 percent limit.

The flight campaign follows earlier unblended SAF bench tests performed by Safran Helicopter Engines at its Bordeaux plant. According to Airbus, the H225 test helicopter flew with an unblended SAF derived from used cooking oil



The Airbus H225 test helicopter flew with an unblended SAF derived from used cooking oil provided by TotalEnergies.

provided by TotalEnergies, which offers a net 90 percent CO<sub>2</sub> reduction compared to traditional Jet-A. Airbus Helicopters has launched a SAF user group dedicated to driving the use of biofuels in the rotary-wing community and also started using blended SAF for training and test flights at its French and German sites.

“While all Airbus helicopters are certified to fly with up to a 50 percent SAF blend, it is our company’s ambition to have its helicopters certified to fly with 100 percent SAF within the decade,” said Airbus Helicopters executive v-p for engineering and chief technical officer Stefan Thome. “Today’s flight is an important first step toward this goal.” ■

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# Bombardier pulls in strong orders, but posts third quarter loss

by Kerry Lynch

Bombardier pulled in another strong quarter for orders, reaching a book-to-bill of 1.7:1, but also posted a \$377 million loss as the Montreal-headquartered manufacturer continues to manage its financing costs and whittle away at its debt, the company reported October 28.

Bombardier's revenues jumped 17 percent year-over-year to \$1.4 billion with increased deliveries and aftermarket revenues. Deliveries increased by three units in the quarter for a total of 27 aircraft—15 Globals, eight Challengers, and four Learjets. This is up from the two Learjets and 13 Globals shipped a year earlier, but down from the nine Challenger deliveries. For the first nine months of the year, deliveries are up overall by 12 units, to 82.

Meanwhile, Bombardier continues to make good on its plans to increase service



Bombardier's new Challenger 3500 is drawing a strong market response, said president and CEO Eric Martel as the company reported a third-quarter book-to-bill of 1.7:1.

revenues, jumping from \$234 million in third-quarter 2020 to \$310 million in the most recent quarter.

As for orders, backlog grew to \$11.2 billion by the end of the quarter—up \$500 million from \$10.7 billion reported at the end of 2020. Speaking to analysts on the October call, Bombardier president and CEO Eric Martel remains encouraged by the market prospects, particularly as it unveiled the latest edition to the Challenger family, the Model 3500, that it showcased at NBAA-BACE. “The response to the 3500 was incredible at NBAA and we’ve seen great momentum there,” he said.

Martel also noted increases in flying hours are helping to propel the market, including on the services side, and agreed that the pandemic helped “accelerate” it by bringing in new customers. As the

pandemic eases, normalizing the market, he said, “We do believe that there will be some leakage, but we do believe that the majority will continue to fly business aircraft.”

While Bombardier is seeing order growth, Martel also said that the airframer plans to maintain a cautious approach to increasing production and continues to work to stay ahead of supply chain issues. He noted that the majority of its suppliers come from North America and Europe, which helps with its supply flow, and believes that the company is in good shape for its production in the next year. “The good news is we are largely sold out and have everything we need on dock.”

Further, Bombardier has deployed staff to various suppliers to increase its visibility into any issues, particularly as Tier 2 and Tier 3 suppliers continue to face logistics pressures.

The OEM remains on track for delivering 120 aircraft this year. Martel said company executives are evaluating next year's totals and that they are taking into account a number of factors: “Can the supply chain take an increase; what is going to be the impact on pricing; and, do we see that momentum longer-term? We are assessing all of this.”

Bombardier continues to work toward strengthening its overall financial footing, clearing out debt maturities through 2024 and building its pro forma liquidity to \$1.9 billion. Even so, it is still managing debt costs, which amounted to \$423 million in net financing expenses for the quarter, up from the \$227 million a year ago. Its financing expenses for the year, however, are down from \$821 million for the first three-quarters of 2020 to \$586 million this year.

Martel attributed this quarter's financing expense increase to the volatility of bond pricing and debt restructuring that caused Bombardier to reevaluate and recognize certain items for accounting purposes. But he was encouraged by the company's adjusted EBITDA of \$142 million that represented a year-over-year improvement of \$58 million, or 69 percent. This, he said, “is a good reflection of our real performance.” ■

## News Briefs

### Argus: Bizav Activity Sets New Record in October

Business aviation activity in North America set a new record in October with 323,000 flights, eclipsing the previous record set in July by 6.9 percent, according to Argus TraqPak data. All operational categories saw gains, led by fractional, which was up 44.8 percent year-over-year (YOY) and 29.3 percent from October 2019. Part 91 activity increased 36.8 percent followed by Part 135 which rose by 33 percent YOY. As travel restrictions slowly ease, large-cabin jets have shown resiliency with activity in the segment up 60 percent from last year. Global business aviation activity for the month rose by more than 40 percent from the same period a year ago. In Europe, which recorded 81,000 business aviation flights for the month, activity increased by 64.3 percent over October 2020 and more than 30 percent from 2019 levels, while monthly activity in Africa, Asia, Australia, and South America rose in October.

### FlyExclusive Establishes New Aircraft Ops Center

Charter operator flyExclusive opened a 2,500-sq-ft aircraft operations center at its Kinston, North Carolina headquarters. It brings together flyExclusive's sales, operations, and client services teams in a single location for planning, scheduling, and operating the company's owned floating fleet of more than 70 business jets. The center houses about 50 employees.

### Swiss Researchers Say They Can Make SAF from Air

Researchers in Switzerland say they have developed technology to produce sustainable aviation fuel using nothing but air and sunlight. The team at public research university ETH Zurich has operated a solar-powered mini-refinery on the roof of one of the school's laboratories for the past two years to demonstrate the three-stage thermodynamic process by which the fuel is created. First, a direct capture unit extracts carbon dioxide and water from ambient air. The next phase converts these elements—CO<sub>2</sub> and H<sub>2</sub>O—into CO and H<sub>2</sub> in a specific ratio known as syngas. The final step converts the syngas into liquid hydrocarbons. Researchers believe the process could be scaled up to commercial production.

### Wyvern Awards Pro Safety Rating to Sun Air, Planet 9

Sun Air Jets and Planet 9 have been selected among the first Part 135 operators to receive Wyvern's new Wingman Pro certification, the business aviation industry safety audit provider's highest safety standard. Awarding of the certification to Camarillo, California-based Sun Air and Van Nuys-based Planet 9 follows the operators' participation in Wyvern's Flight Leader Program. Wingman Pro validates an organization's safety culture using advanced safety culture tools recognized by safety experts and regulatory agencies.

## Atlantic Aviation, Ross Aviation to merge

Atlantic Aviation on November 16 announced a blockbuster merger with Ross Aviation that will bring the latter's 19 FBOs—including three airports where it has two separate FBOs—under the Atlantic brand. The transaction, the terms of which were undisclosed, will require regulatory approval and is expected to close in the first half of 2022. Under the deal, the Ross Aviation locations will be rebranded as Atlantic Aviation facilities.

Once completed, the deal will increase Atlantic's footprint to nearly 90 locations in the U.S. and Caribbean and represents Atlantic's first major deal since the company changed hands from Macquarie Infrastructure Investments to KKR at the end of September.

Ross Aviation is owned by private equity firm KSL Capital Partners, which is quite familiar with Atlantic's new ownership. “KSL and KKR have a successful history of strategic partnership that dates back nearly three decades,” said Dan Rohan, a partner with KSL. “Merging with Atlantic Aviation and investing in the combined

business alongside KKR is a natural evolution for Ross Aviation and KSL.”

For the two service providers, the deal seems tailor-made. “If you overlay the two footprints, they are extremely complementary,” said Atlantic CEO Lou Pepper in an interview with *AIN*. “Places like Westchester County [New York], Scottsdale [Arizona], and Bedford [Massachusetts], places like that, are extremely valuable for our chain.”

The only redundant location between the two companies is at Witham Field Airport in Stuart, Florida, where Atlantic already operates the other FBO on the field. It remains to be seen if the company would be forced to divest one of the locations there.

For Ross Aviation founder and chairman Jeffrey Ross, this is the third time he has built up an FBO chain to have it become part of a larger organization. “I've done it a number of times,” Ross told *AIN*, “but this is the ultimate, this is what we were hoping for a long time, association with the ‘best other’ FBO chain in the world.” **C.E.**



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# PlaneSense marks delivery of its 75th Pilatus PC-12

by Kerry Lynch

Fractional ownership provider PlaneSense recently took delivery of its 75th Pilatus PC-12 turboprop single. Registered as N131AF, the aircraft comes some 26 years after the Portsmouth, New Hampshire-based operator acquired its

first PC-12, S/N 120—the 20th one to come off the Pilatus assembly line.

That aircraft launched PlaneSense's fractional-share program, which now operates throughout North and Central America. PlaneSense has since become the



PlaneSense recently took delivery of its 75th PC-12, a milestone reached over 26 years. The company, which turns over its fleet to keep down the average age, will have 38 of the model in service by the end of the year with six more on order for next year.

operator of the world's largest PC-12 fleet.

"The Pilatus PC-12 has been the foundation of the PlaneSense program," said PlaneSense president and CEO George Antoniadis. "Its reliability, comfort, safety record, and versatility provides PlaneSense share owners with the most intelligent solution for private travel at a responsible price point."

PlaneSense manages the maintenance of the fleet through its facilities in Portsmouth and in Boulder City, Nevada. It sells off the aircraft after a period of time to keep the fleet younger, with the average age currently at 5.6 years. The PC-12 fleet will number 38 by the end of the year, with six more on order for 2022.

"We have enjoyed being a part of the company's continued growth and are honored that PlaneSense and its clients value the Pilatus PC-12 and its capabilities," said Pilatus CEO Markus Bucher. "We look forward to delivering many more PC-12s to PlaneSense for years to come."

In 2018, PlaneSense added a second Pilatus type—the PC-24—to its product offering and now it has six of these light twinjets in its fleet. A seventh is expected this year, with three more on order for delivery in 2022. ■

## News Briefs

### Dickson: FAA Quickly Processing Training LODAs

While acknowledging the confusion surrounding requirements for flight training in certain primary, limited, and experimental category aircraft, FAA Administrator Steve Dickson maintained that an interim process put in place to accommodate such activity is "far from being bureaucratic" and that the agency is moving quickly on instructor requests. The FAA implemented the process as it issued a policy determination in July to clarify that a flight instructor operating certain aircraft, such as a warbird, and carrying a paying student without a letter of deviation authority (LODA) is acting contrary to federal regulation, even if that compensation is for instruction and not carriage. Reps. Sam Graves (R-Missouri) and Kai Kahele (D-Hawaii) have included legislation in the National Defense Authorization Act to reverse that policy determination.

### Gevo and ADM To Collaborate on SAF Production

Archer-Daniels-Midland (ADM) has signed a memorandum of understanding with biofuel producer Gevo to support the production of up to 500 million gallons of sustainable aviation fuel (SAF) per year. The agreement would see ADM using Gevo's technology to transition approximately 900 million gallons of ethanol—more than half its production capacity at its facilities in Columbus, Nebraska; Cedar Rapids, Iowa; and Decatur, Illinois—into SAF and other renewable hydrocarbons. Demand for SAF is expected to accelerate, with recent goals set by the U.S. and Europe calling for nearly 4 billion gallons of SAF production by 2030, and more than 45 billion gallons by 2050. The two companies plan to work together and establish definitive deals that would allow SAF production to begin in the 2025 to 2026 timeframe.

### CJP Rolls Out 'Safe to Land' Procedures

The Citation Jet Pilots Owner Pilot Association (CJP) is launching a "Safe to Land" initiative to reduce the rate of runway mishaps. Safe to Land involves a series of new procedures and callouts that should be made during visual and instrument approaches. Programming surrounding the initiative will begin on January 1 and continue for 18 months, including video training, a new cockpit briefing card, and a dedicated web page. The initiative is the culmination of more than a year of research with the Presage Group that examined go-around decisions made by single-pilot jet operators, the organization said, adding that the study builds on work already conducted with airlines. Armed with this data, CJP formed a working group that met at FlightSafety International to develop new procedures, which were then evaluated and verified by two dozen CJP members.

# AAMS files lawsuit over air EMS reimbursement rules

by Mark Huber

The Association of Air Medical Services (AAMS) has filed a lawsuit in federal court challenging interim final regulations implementing the No Surprises Act, which was passed late last year by Congress as part of a federal omnibus stimulus package and was due to take effect on January 1. It provides a variety of consumer medical protections, including a prohibition on "surprise" billing for out-of-network and emergency medical services that often can saddle patients with enormous unreimbursed medical costs and trigger personal bankruptcies.

While AAMS said it supports the goals of the act, it maintains the interim regulations are skewed to favor medical insurers to the disadvantage of air ambulance providers, which in many cases already provide air medical transport for reimbursement rates below costs. AAMS charges the regulations as currently drafted will only make this situation worse.

"The fair and transparent process that we all supported [in the act] is not the process being implemented," charged AAMS president and CEO Cameron Curtis. "Instead, we are faced with a scenario in which a patient is in an emergency, is transported by a helicopter at the request of a trained first responder or qualified



Cameron Curtis, AAMS president and CEO

**“The fair and transparent process that we all supported [in the act] is not the process being implemented.”**

physician, and that patient's insurer gets to unilaterally determine the amount they pay. This will have disastrous consequences for access to emergency air ambulance services.”

AAMS believes that a fair process in which all factors—including the type of aircraft, the quality of the services provided, and the acuity of the patient, among others—are considered when deciding a payment dispute can ensure

the sustainability of air medical services and the larger healthcare system.

The act provides an independent billing dispute resolution (IDR) process for insurers and medical service providers that forces negotiation between the two. If the matter still cannot be resolved, then it would proceed to an independent third party for settlement charged with deciding the dispute based on a variety of statutory factors. "It was the intent of Congress when passing this law that no single statutory factor receives special weight in the IDR process," AAMS noted. But the implementation regulations do otherwise, it said.

Specifically, AAMS maintains that the interim regulations "issued by the Departments of Labor, Treasury, and Health and Human Services ignore Congress's intent, instead focusing on a single factor—the Qualified Payment Amount (QPA) or the insurer's median in-network rate for only a subset of their contracts for a given service in each area. The QPA is to be the overriding factor in this decision-making process. This means that insurers will be able to know exactly how the IDR entities will resolve these disputes, making the IDR and the open negotiation that precedes it a forgone conclusion. Insurers will also leverage that QPA against future payments, lowering all payments, both in-and-out-of-network, over time." ■





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## Bizav facing grave risks without sustainability push

by Kerry Lynch

Ford von Weise, director and global head of aircraft finance at Citi Private Bank, is warning business aviation organizations that they face significant perception, regulatory, financing, and other risks if they don't build a sustainability plan into their business model. Speaking during Corporate Jet Investor Miami 2021 last month, von Weise said his institution is evaluating how it looks at risk, and a piece of that is climate, environmental, and social risk management.

As he considered climate risks for business aviation, it became clear that perception represents a major stumbling block. While the industry may represent only 0.4 percent of total emissions, environmental groups, particularly in Europe, are vocal about aircraft as polluters and are pushing to ban jets. Von Weise noted that "0.4 percent doesn't matter to people. We are a huge, monstrous target. Why? Because the individual carbon footprint of every one of our clients is outsized. It's huge. Why else? Because we are fat cats, supposedly."

Even if collectively business aviation represents a tiny percentage of emissions, "Facts don't matter. Perception is reality," he said.

Other concerns for business aviation involve regulatory environments and stakeholders. "Unmitigated, the regulatory risk is through the roof," von Weise said. "Stakeholder risk is through the roof." In the regulatory environment, governments will pass laws to make things happen, regardless of the facts. Stakeholder risks could involve shareholders complaining about the use of business jets, employees complaining about their use, or external pressures such as flight-shaming. They could also involve clients who won't buy products from companies that do not demonstrate sustainability.

Also, in the next 10 years, banks will be required to evaluate every corporate borrower on its sustainability goals. "If you do not have a sustainability plan, you will not be able to borrow money from major banks," von Weise said. "This is coming down from the regulators, from our shareholders, and lots of equity funds as well."

As for regulations, he pointed to emissions trading schemes, taxes on aircraft operations, and anticipated taxes on fuel. Unmitigated, the cost of operations can skyrocket, he said.

While von Weise added that efforts such as carbon offsets "are fine," he stressed that this is "window dressing. It's not the permanent solution because there are issues with how much you actually offset it. What are you really doing? How much of that is going to actually reduce the risk?"

A more permanent solution is sustainable aviation fuel (SAF), which currently provides an 80 percent lifecycle emissions reduction on the neat portion. "That's huge," von Weise said, adding that people may have a narrative that the industry is doing nothing, "except now we have SAF."

Work has already begun on a second version that can get to carbon negative and deal with contrails, he said. Timing, however, is still uncertain.

Further, companies that have "real ESG"—environmental, social, and governance policies—will fare better with their employees. "It's as much about keeping your company running well," he said, reiterating that financing sources will become increasingly tied to such plans, and other important entities, such as insurers, will look for such measures.

Using SAF and implementing ESGs will significantly reduce risks, making them easier to manage, von Weise maintained. ■

## Four Corners adds Freedom

Four Corners Aviation—which launched recently through a partnership between venture capital firm City+Ventures and business aircraft brokerage and consultancy Mente Group—has rolled out its first product.

Unveiled during the Corporate Jet Investor (CJI) Miami 2021 event, Freedom by Four Corners Aviation is designed to provide the benefits of a scalable aviation department without the hassles of ownership, the company said. It offers customized services that include the aircraft, crew, operations, and supplemental lift without the client having to worry about administration, accounting, and uncertainties. Nor would they need to worry about ownership, financing, operations, insurance, crew management, and maintenance.

The program is neither a jet card nor a fractional program nor management, said Brian Proctor, CEO of Aquila Aviation Ventures, which includes Four Corners Aviation and the Mente Group. "In fact," he added, "we are going to be working with all the service providers to deliver the model."

Four Corners looks at the product as a new business aviation segment that it calls "Corporate Jet as a Service" (CJaaS). "What Netjets is to fractional ownership, Freedom by Four Corners Aviation will be to CJaaS," the company said.

Clients will select a level of service they need to accommodate their flying needs. Four Corners is offering "an ultimate platinum level service tier tailored to senior individual level travel, an exclusive gold tier executive transportation program, a silver tier guaranteed aircraft supplemental solution, and a bronze tier ad hoc flight answer," said Cameron Gowans, president



Brian Proctor,  
CEO, Aquila  
Aviation  
Ventures

and COO of Four Corners Aviation.

Proctor added that the program is designed to be simple, with easy billing. Under the model, Four Corners would own the aircraft—used or new—on behalf of the client, and Proctor said the company is "agnostic" about the type. Four Corners is talking to new entrants, as well as flight departments.

The idea is to provide services to flight departments, not replace them. In addition, Proctor sees Freedom as complementary to management firms that maintain aircraft for owners who want the depreciation and other benefits of ownership.

However, he maintained that many organizations do not want ownership. "Over decades as aviation asset advisers to top-tier organizations, [we've seen that] all of them love what the airplane can do for them—for their productivity, for their bottom line, and for their lives," Proctor said. "None of them really want to own and operate an airplane. However, they were willing to put up with the uncertainties to get what they wanted. With Freedom by Four Corners Aviation, they get everything they want without the hassle." **K.L.**

## FBO leaders: electric is fuel of the future

Electricity will be the fuel of the future in aviation, Clay Lacy Aviation senior v-p of operations Scott Cutshall said at the National Air Transportation Association Aviation Business Conference (ABC). Hosted alongside Corporate Jet Investor Miami 2021, NATA's conference gathered business aviation services leaders to delve into topics ranging from the industry's outlook to aviation transactions, fuel, branding, safety, and the future FBO, among other topics.

Cutshall advised that electric fuel is coming, particularly for short-haul operations. Jeff Kohlman, managing principal of the Aviation Management Consulting Group, added that electric is already here, pointing to advances in electric operations in Seattle and infrastructure beginning to arrive in places such as Arkansas.

Both Cutshall and Kohlman agreed that infrastructure presents a range of issues that must be addressed, from having the standards for charging airplanes to installing the charging stations to space

requirements. In addition, questions remain about obtaining the electrical capacity from the utilities and making money off electricity. Kohlman added that state officials are concerned about the taxation of electricity since fuel taxes provide key airport funding.

Clay Lacy Aviation has signed an agreement with Eviation Aircraft, which is developing the all-electric Alice airplane, to provide electric charging stations at all of its locations. Cutshall said the partnership is a "learning exercise" on what is needed for charging infrastructure and also maintaining electric aircraft. He said they are working on developing appropriate specifications that could be shared.

Curt Castagna, president and CEO of Aerolease/Aeroplex Group, also pointed to considerations such as tapping into solar and other electrical sources to ensure that adequate power is available. He noted that the utilities are grappling with their own limitations, particularly with meeting sustainability requirements. **K.L.**



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That has been Nicholas Correnti's mission ever since he founded the business in 1997.

"From the onset, we have built an array of programs that pair the demand for the highest-quality aircraft with an unwavering commitment to delivering an elite customer experience," he states. "Throughout the years, we have listened to what our Members wanted in a jet card, not to what we felt the product should be. Uncompromising customer service and satisfaction are at the top of our minds in every decision we make."

"The soft touches of our service culture are what continue to set us apart from the rest of the industry," Correnti continues. "And in turn, our Members have helped us build this business by referring their colleagues, friends, and family to the best private jet program in the industry."

### **MEMBERSHIP HAS ITS PRIVILEGES**

"Our Members are the most refined set of private flyers," Correnti says. "They know specifically what they want from

their travel provider," he says. "We are seldom the first experience with private jet travel for our members. They have been with other providers, only to leave them after being introduced to NICHOLAS AIR."

As Correnti explains, these travelers have come to expect that their private jet provider will have the best, most highly trained crews, the newest company-owned aircraft, and competitive pricing. Those are a given. But what most differentiates NICHOLAS AIR and has created such a strong following among today's jet set is a company culture rooted in good ol' Southern hospitality.

The smiling folks who deliver on the company's service-oriented philosophy are NICHOLAS AIR's personal travel representatives. Correnti stresses that the title comes with great responsibility and is not earned lightly.

"These professionals are experts in both the private aviation and hospitality industries," he explains. "They act as our Members' private travel consultants for each trip. They all must attend the NICHOLAS AIR Academy, which is an intense training program that reinforces the white-glove service culture."

"Everyone on the team is also tasked with knowing the particular trip preferences of each of our Members," Correnti continues. "Not only do they understand a particular Member's travel routes and needs; they also make adjustments when other family members or guests are on board. Our personal travel representatives' primary responsibility is to ensure that each trip is a world-class experience for everyone on the airplane."

“We have an incredibly talented team here at NICHOLAS AIR,” Correnti adds. “We recruit nationally for all our positions, and it gives me great pride to see new employees move their families here to be part of something great.”

## SUCCESS IS IN THE CARDS

Correnti explains that NICHOLAS AIR’s commitment to delivering the ultimate flight experience to each of its Members and their guests extends to the various travel options the company offers.

As you would expect, the company provides traditional private jet leasing programs, fractional ownership, and aircraft management services, but by far the most-preferred offering is NICHOLAS AIR’s private jet card membership.

“To deliver the ultimate in travel convenience and flexibility to all our Members, we offer three distinct levels of private jet cards,” Correnti says. “Our BLUE Jet Card is designed for the member who prefers to fly almost exclusively on one type of aircraft and can benefit from purchasing time in blocks. Our RISE Jet Card is for those whose needs change frequently, so it provides more flexibility among our fleet.

“Lastly, we offer our LITE Jet Card, which we created for members who don't have a particular aircraft preference and who frequently travel on a more leisurely schedule. It

allows them to take full advantage of operational and scheduling efficiencies that lead to a more attractive hourly rate.”

Correnti stresses that NICHOLAS AIR created all three of its jet card offerings with detailed input from its membership to ensure that the company could provide the perfect suite of options regardless of any member’s particular travel needs or volume.

And speaking of perfect travel options, Correnti explains that fulfilling that commitment extends to the type of aircraft NICHOLAS AIR operates and the variety of cabin configurations therein. “The configuration of our fleet gives us a distinct advantage versus our competition,” he says. “In some cases, we offer a travel option that our Members simply cannot find in another jet card. In other instances, the way we have chosen to maximize the cabin configuration in many of our aircraft provides members the flexibility to host an extra passenger or to be able to stretch out with greater comfort than they would elsewhere.”

Correnti describes NICHOLAS AIR’s owned-and-operated fleet as one of “the youngest in the industry,” with an average age of less than five years. After a careful audit program, the company selected aircraft types to meet its membership’s specific travel lengths and other requirements. Currently, the fleet includes Embraer Phenom 100s and 300s, Citation CJ3s and Latitudes, and the larger-cabin Challenger 300.



### NICHOLAS CORRENTI

NICHOLAS AIR FOUNDER

“ We are seldom the first experience with private jet travel for our members. They have been with other providers, only to leave them after being introduced to NICHOLAS AIR. ”



## AN UNWAVERING COMMITMENT

What's in a name? Well, as Correnti puts it, when that name is NICHOLAS AIR, it stands for an unwavering commitment to doing what other private jet travel providers seem to have overlooked: taking care of the smallest details that make every difference in a member's travel experience.

"I believe the stability and consistency of the NICHOLAS AIR brand over the long haul are critical, particularly as we have grown tremendously as word of our care and service quality continues to spread," he says. "Everyone here at our headquarters in Oxford, Mississippi, and our satellite facilities in Arkansas and North Carolina takes immeasurable pride in our 98 percent customer retention rate. The best in the business.

"Our Members have done a wonderful job of introducing other selective private fliers to our programs," Correnti continues. "It's clear to us that those Members have enjoyed the difference they experience from NICHOLAS AIR."

What started with one man's passion for aviation and commitment to a strong work ethic has grown into a private jet service provider that is second to none in its ability to provide a memorable travel experience.

"Our number-one priority will always be our Members' safety," Correnti concludes. "Number two is providing a suite of services that we are continuously improving to ensure that the member is always happy. We have done a lot of special things over the years, and now with the framework, the strategic initiatives, and the team we have in place, I expect more of the same as time goes on."



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# Bizav market surge brings challenges, says Sentient

The industry has done a “wonderful job” of highlighting the benefits of business aviation during the pandemic, said Sentient Jet president and CEO Andrew Collins, but jet card and other providers also need to be prepared to manage through the supply constraints that have come along with Covid-19. Speaking to attendees at Corporate Jet Investor Miami 2021 last month, Collins said Sentient “made the right call” to halt card sales to ensure that it can provide proper service to existing clients.

“Nobody wanted a pandemic,” he added. “Nobody thought it was going to happen, but it played right into some of the attributes of business aviation. I think last year we were all evangelists for why private aviation matters. We created this surge and built up a real demand.”

A lot of people who previously did not fly privately became private flyers during the pandemic and “enthusiasm for it became even greater.” That followed with referrals, expanding the market, and then it grew further once the vaccines rolled out.

While initially private aviation was looked upon mostly by individual flyers for personal travel, Collins said he doesn’t

believe that is still true. “I think it feels that way because you don’t have the Fortune 100, Fortune 500, or those different companies running around saying this is our travel policy,” he said. “But we’re seeing a lot of individuals from businesses. A lot of them may work transactional work deals through teams. You can see it in travel patterns. You can see it in the kind of turn-and-burn aspect for some of the flights. So there’s definitely business [travel].”

However, Collins noted that supply is a challenge. If operators haven’t been prepared for the market in terms of sourcing, “organizational firepower,” the right investment sources, and necessary relationships, then it will be a tough market.

Collins stressed that there are operators in “great shape” that have managed business really well and will continue to grow. Regarding Sentient, he noted that the decision to pause card sales was a first. “I don’t think we’d ever done that.” It was a move taken by other providers and Collins said that at some point the industry will take a new look at sales of flight legs. This is key, given guarantees provided to customers.

But with the current capacity



Andrew Collins,  
president and  
CEO, Sentient  
Jet

constraints, Collins believes there “will be a shakeout.” That could result from lack of profitability as products morph, because of consolidation, or because companies have been running on razor-thin margins and simply “punch out.”

Added Collins: “You need that strong balance sheet. You have to be willing to invest. I think it’s going to get better over time.”

He sees aircraft deliveries accelerating, as well as new entrants skipping cards and fractional shares and going into ownership. Once acquisition and ownership costs set in, Collins believes, “some stuff that’s on [Part] 91 might slip to 135 and bring more capacity in the market.” Additionally, some may push aircraft back into the market, he added.

“I can’t tell you exactly when that happens,” Collins said. “Maybe a macroeconomic event starts to trigger some of that. And maybe people just get a little bit past the novelty of it.” **K.L.**

# Embraer CEO: new buyers changing bizjet market dynamics

The increase in first-time buyers, the pandemic, and younger wealth is changing the dynamics of the aircraft industry, Michael Amalfitano, president and CEO of Embraer Executive Jets, said during the opening day of Corporate Jet Investor Miami 2021 last month. “You have to recognize and embrace what’s happening,” Amalfitano said, in particular with “who’s flying—and that’s changing very rapidly.”

He noted the swing in first-time business aviation users—up 50 percent over historical data—while buyers are up 35 percent. “When you look at that growth at the bottom, the access is growing,” he said. “You have to start thinking about what are they, what do they want? Who are these people? And you recognize they’re getting younger. We’re talking to millennials, X, Y, Z, and the seeds in terms of generation.”

The growth of wealth in this segment is “huge,” Amalfitano said, citing that

U.S. high-net-worth-individual wealth has grown 12 percent year-over-year. “It’s the first time in five years that U.S. high-net-worth wealth has outpaced Asia-Pacific. And, obviously, we’re seeing a lot of growth in terms of this segment today in private aviation in North America.”

People are moving “up through the [business aviation] access points” of cards, fractionals, and ownership. These new buyers have different expectations about private aviation and travel needs, he said.

“The priorities are shifting,” Amalfitano added, noting that with the pandemic the focus has been on health and safety and “fewer touchpoints, quick, point-to-point destinations. It’s no longer about the airport experience. It’s about how do I get to where I actually need to go and doing that in a safe, healthy, and comfortable manner.” In addition, he said, “their focus is on an enhanced lifestyle experience.”

The market was already trending toward connectivity, but that is accelerating, given the new priorities. “We’re very focused on digital solutions,” Amalfitano said. The market also expects to move toward sustainable solutions.

Along with that, attitudes have changed toward the aircraft. “It is no longer about looking at my plane. It’s about what my plane can do in terms of connecting me from my work to my home office, and from my home office.” Passengers want to be connected as they travel with fewer touchpoints, he said.

Embraer has looked at digital solutions



Michael  
Amalfitano,  
president and  
CEO, Embraer  
Executive Jets

through multiple aspects from augmented reality to aid buyers in purchase decisions to airborne connectivity for safety with better access to information in the flight deck.

Amalfitano also stressed the “human aspect,” with attention towards fresh air and HEPA filters, as well as the comforts in the cabin that provide an “in-home” experience. Services are critical to ensure availability,” he added.

Looking forward, the industry must consider all the aspects of enabling the demand for point-to-point transportation through the urban mobility market, including infrastructure, air traffic management, support, and the aircraft itself.

He also stressed the importance of moving toward sustainability. “You’ve got to walk the talk when it comes to sustainability; we’re big advocates,” he said, pointing to the industry’s commitment to move toward net-zero emissions by 2050, along with Embraer’s own commitments. “It’s a big part of where we’re going and we need to continue to grow.” **K.L.**

## Dichter outlines Wheels Up vision

Four months after Wheels Up became publicly traded under a transaction with special purpose acquisition company (SPAC) Aspirational Consumer Lifestyle, founder and CEO Kenny Dichter is encouraged that its investors have the vision needed for significant growth.

The private aviation charter and aircraft ownership services company has remained on course for a run rate of close to \$1 billion, Dichter told an audience at the Corporate Jet Investor Miami 2021 conference last month. He added that its investors “want a much bigger business in the future. They’re willing to allow us to grow.”

Dichter knows that some companies have to pursue short-term profitability, but “if we have an opportunity to become 10 or 20 or 50 times bigger... that’s what our investors are looking for and that’s the investor we’re looking for. And that’s the game that I want to play.” His ultimate hope is to “build a great big platform and democratize the [business aviation] space even further.”

Dichter likened his business to Amazon, comparing the company’s foundational aircraft type, the King Air, to the “books” with which Amazon began. Wheels Up began with a single aircraft type and expanded into others and new businesses. The company then expanded with acquisitions, including Mountain Aviation, Gama Aviation Signature, Delta Private Jets, and TMC Jets.

Building on that, Dichter said, Wheels Up wants to expand its reach to become a third-party portal as Amazon has. To do so, Wheels Up needs the right technology, he said, noting that the industry largely runs on 1980s and 1990s technology while Uber is only 12 years old and Airbnb is 13 years old. Both can match pricing to demand.

But in business aviation, “there is no technology that can advance the mom-and-pop operator. There is no OpenTable in our space,” Dichter said. “Our technologists tell me, ‘Wow, this is such an incredible white space.’” He added that if technology would be developed to support the industry and make it more efficient, “then there’s an unbelievable opportunity, not just for Wheels Up, but really for the whole space.”

Dichter further said that recruitment is another factor in running an Amazon-like business. “We’re now recruiting against the Microsofts, the Amazons, [and] the Airbnbs,” he said. Wheels Up brought former Amazon executive and Airbnb and Groupon chief marketing officer Vinayak Hegde on board and then last month named him president. Hegde last month outlined a vision to build a more customer-facing technology, such as what Amazon has. **K.L.**



# SkyCourier laboratory simulator

by Matt Thurber

Textron Aviation test pilots are busy flying the final hours in the Cessna SkyCourier 408 utility twin-turboprop certification program, so it's difficult to pull one aside for demo flights. But recently I was invited to fly the SkyCourier "iron bird" simulator at Textron Aviation's top-secret laboratory, which is hidden in a corner of its massive campus in Wichita. Although not a full flight simulator with motion, it nevertheless gave me a good feel for what flying the SkyCourier will be like for pilots hauling cargo and a cabin full of passengers. Plans call for certification and first delivery by the end of this year.

Test pilot Aaron Tobias briefed me on some of the details of the SkyCourier. When I saw the real airplane for the first time at EAA AirVenture Oshkosh in July, I was surprised at its size—much bigger than I'd expected. But that makes sense for a twin-engine utility turboprop that can carry three standard LD3 freight containers, loaded through a massive cargo door on the left rear of the square-shaped cabin. The door measures 87 inches wide by 69 inches high. Pilots still have their own separate access to the flight deck through forward-fuselage crew entry doors. And in passenger configuration, the fuselage is fitted with windows—unlike the windowless cargo version—as well as a stairway entry under the left wing.

There is no comparison between the SkyCourier and other airplanes because nothing is available that matches its size and capability; this is not a Twin Otter competitor. The wingspan alone is 72 feet, nine feet longer than the Twin Otter. Maximum takeoff weight is 19,000 pounds, much heavier than the standard Twin Otter's 12,500, and the SkyCourier's cargo payload is 6,000 pounds or 5,000 pounds in the 19-passenger configuration. Takeoff field length is 3,300 feet. With a 5,000-pound payload, range is 400 nm.

The strut-braced wings, which connect to a beefy mount for the fixed landing gear, are not the most aerodynamic design possible, but simplicity is a SkyCourier feature. Operators want a utility airplane that doesn't need a lot of maintenance, and on this front, the SkyCourier delivers. Maximum cruise speed is 200 knots and maximum range 900 nm (at 10,000 feet and long-range cruise speed).

Other features that make the unpresurized SkyCourier effective for its roles include single-point refueling, optional



The Cessna SkyCourier's 19,000-pound maximum takeoff weight and Pratt & Whitney PT6A-65SC engines promise plenty of performance for cargo- and passenger-carrying missions.

air conditioning, and engine fluid level displays on the avionics displays, eliminating the need to climb up to the engines to check the oil.

In keeping with efficiency goals, the avionics are what have become almost a standard for Textron Aviation's light and utility airplanes and most of its jets: Garmin's integrated flight deck, in this case G1000 NXi. Unlike cargo airplanes of yore, whose pilots had to hand fly everywhere, SkyCourier pilots get Garmin's top-of-the-line GFC700 autopilot (with Garmin's electronic stability and protection limit-cueing system another option). This is a smart move as many new pilots are learning in G1000-equipped airplanes and will be able to make a simpler transition into the SkyCourier. Because of its weight, the SkyCourier pilots will require a type rating.

Starting the SkyCourier's Pratt & Whitney PT6A-65SC engines, each delivering 1,100 shp, is much easier than starting the engines on a typical turboprop and more like starting a modern jet. Just push the starter toggle, then move the power lever out of cutoff, and the rest is automatic. The engines are not controlled by Fadec, to keep things simple, but thanks to the digital G1000 avionics, the engine instruments display a bug for power settings, including cruise climb and cruise power. "You can give it full smash as long as the gauges are in the green," Tobias said. "It's simpler than a King Air."



Test pilot Aaron Tobias (left) and the author in the Cessna SkyCourier lab simulator at the Textron Aviation campus in Wichita, Kansas.

When I pushed the throttles forward for takeoff at simulated Wichita Eisenhower National Airport, the SkyCourier picked up speed quickly before lifting off at above 90 knots. Tobias had warned me that the simulator didn't replicate ground handling well, so I shouldn't be surprised if I couldn't keep it on the runway during takeoff.

The lab simulator does have electric control loading, so I could feel what the controls should be like for real, although work was still being done to refine that aspect of the simulation. As a so-called "iron bird," this simulator is connected to actual flight control systems and parts with the same cable runs and autopilot servos, a dimensionally precise replication that allows engineers to wring out system design, software, and components well before first flight, without tying up the flight test SkyCouriers.

Cameras are positioned all around to record the iron bird and all the components, not only to observe their operation but to refine the human factor aspects of the SkyCourier flight deck. "This is a human factors test article," Tobias explained. "We've been working on the human factors side since this was on the drawing board." The human factors team has been running pilots through iron bird flights regularly, measuring aspects such as switch positions, control layouts, and more to maximize safety and efficiency. Next door to the iron bird is a control room where

engineers monitor all the action. "It's a very versatile tool," he said.

I did realize fairly quickly that with conventional mechanical controls and being such a large airplane, the SkyCourier feels somewhat heavy on the controls and it's important to use trim as needed and not muscles to fly the desired trajectory.

After takeoff, I pulled the power back a bit and flew some turns, climbs, and descents to get a feel for the view through the large windshields and side windows and for how the SkyCourier handled. My impression? It handles well and is easy to fly, has harmonious feel between the aileron and elevator controls, and gives pilots a well-designed flight deck with no surprises. The SkyCourier feels like an honest airplane, nothing fancy, but nevertheless a state-of-the-art design for the mission of carrying cargo pallets, a combination of cargo and passengers, or up to 19 passengers.

I wanted to try out the SkyCourier's response to engine-out situations, so Tobias pulled power and feathered the right engine. Until I got the trims settled, I did have to use some muscle on the controls, but the airplane reacted well during the engine failure, adding some rudder bias to help manage the asymmetric thrust.

I flew the single-engine approach and landed on Runway 19L. Handling was perfectly normal once I trimmed the rudder, and the SkyCourier was easy to land. Tobias then reset the simulator and gave me back both engines, and I returned for a normal visual approach to Runway 01L. Final-approach speed was in the 90s in my simulator flight, but with a heavy load goes up to below 120 knots at maximum landing weight. The large flat-plate area of the McCauley Blackmac aluminum propellers makes it easy to cut power and slow down quickly for landing.

Although the lab simulator is not the same as a full-motion Level D simulator, flight test pilots use it to get comfortable with the flying and human factors characteristics of the airplane to prepare for the first flight. My impression from the time in the lab simulator is that the SkyCourier is a straightforward airplane perfectly suited to its cargo- and passenger-hauling missions, and pilots who end up flying it will appreciate its performance and capabilities. ■



# Embraer to expand owned MRO network | by Jerry Siebenmark

As Embraer marks 15 years of its Embraer Executive Care (EEC) program, the Brazilian airframer is bolstering its aftermarket service capabilities and planning to expand its owned service center network, according to Marsha Woelber, Embraer Executive Jets head of customer relations and aftermarket sales. “We know that our customers want to come to the OEM in many cases and we want to answer that demand,” she said.

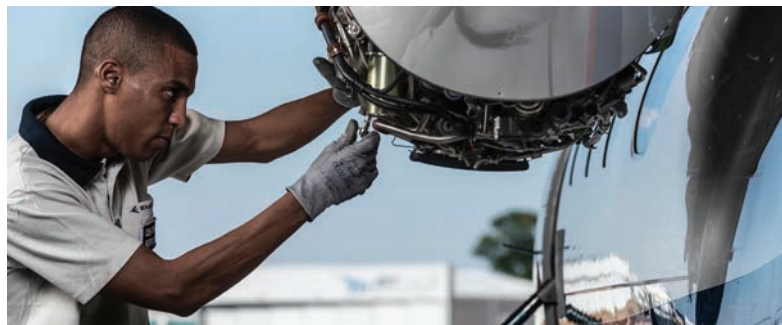
Further details of Embraer’s plans for an expansion of its owned service center network weren’t available. Currently, the company operates three owned service centers in the U.S.—Mesa, Arizona, as well as Fort Lauderdale and Melbourne in Florida—along with one in Sorocaba, Brazil, where Embraer recently doubled its capacity, and a fifth in Le Bourget, France. Additionally, the company has more than 60 authorized service centers.

Besides plans for more company-owned service centers, its Fort Lauderdale service center is now certified as a Collins Aerospace Completion Center for modification and repair of the seats on its in-service fleet of Legacy 450s and 500s as well as Praetor 500s and 600s. Under the certification, Embraer can design new upholstery looks within the original type certificate limits. “With these customers who are new to Embraer, there is this incredible secondary market that has brought a lot of opportunities for us with interior refurbishment,” Woelber said.

With a tighter supply chain brought on by the pandemic, she said Embraer is focusing its investment on high-demand aftermarket parts, improving communication with customers in the instance of parts delays, and shifting inventories to be closer to larger fleets of its aircraft. Embraer also has been communicating with its suppliers at the executive level, Woelber added. “I think we’ve done an excellent job to keep our customers flying, but it’s not a normal environment,” she said. “We’re ready to deal with it and we have all the right people very focused on it.”

As for EEC, Woelber said more than 700 customers are enrolled in the program and it has a retention rate of about 90 percent. Under the nose-to-tail maintenance program, EEC provides budgeting and support that are rolled together under a fixed monthly fee, plus an hourly

charge for flight hours flown. Costs for scheduled and unscheduled maintenance are set and customers are informed of them at the time of enrollment in the program. ■



Embraer currently has five company-owned service centers and a network of more than 60 authorized service centers.



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## NEW BUSINESS JET: HONDAJET ELITE S

The HondaJet has its roots in aerodynamic studies that began in 1986. The all-composite MH202 Honda research twinjet featured an above-wing engine mount and a forward-swept wing. It first flew in 1993. With results of its flights in hand, Honda Aircraft president and CEO Michimasa Fujino returned to the drawing board and 10 years later the first HondaJet prototype took to the skies.



When deliveries of the first production HondaJet HA-420 began in late 2015, it quickly attracted attention. The airplane's carbon-fiber composite fuselage is mated to metal wings with over-wing engine pylons, thin natural laminar flow wings, a porpoise-like nose, and raked cockpit side windows. The design helps to make the aircraft speedy and allows for more rear cabin and luggage space—including room for an enclosed toilet—and a larger, quieter cabin with less vibration. The over-the-wing-engine-mount design reduces drag and eliminates the need to contour the aft fuselage.

Continuing to build on the success of the original HondaJet, the new \$5.4-million Elite S features an increase in maximum takeoff weight (mtow), flight deck improvements, a nosewheel steering system enhancement, and new paint colors. The Elite S mtow is 200 pounds heavier, which allows carriage of an extra passenger or flying an additional 120 nm with one pilot and five passengers.

## NEW BUSINESS TURBOPROP: TEXTRON AVIATION KING AIR 360

The upgrade of the King Air 350/350ER, badged the 360/360ER, includes Collins Aerospace Pro Line Fusion touchscreen avionics, IS&S ThrustSense autothrottles, an updated onboard maintenance system for faster maintenance troubleshooting, a digital pressurization system, and a cabin



redesigned for better aesthetics and comfort, with new seats; more refined cabinetry, partitions, and side ledges; higher work tables; LED lighting; lower-profile air and light components; new switches; and power outlets and USB charging stations. The 360 has a maximum range of 1,806 nm and a top cruising speed of 312 knots. Power comes from a pair of Pratt & Whitney PT6A-60A engines that produce 1,050 shp each.

The King Air's roots trace back to the 1930s, when Walter Beech introduced the Model 18, arguably the first cabin-class twin-engine business airplane. In 1958, Beech debuted the Queen Air, an aircraft that remarkably resembles today's King Air, save for the square passenger windows and piston engines. Beech delivered the first King Air in 1964 and by the late 1960s, the company commanded 77 percent of the business twin-turboprop market. Beech's efforts gave rise to an entire family of larger, more powerful business and commuter turboprops. Today, more than 7,000 King Airs are on the civil registry and more than 1,000 of those are big ones—the 15,000-pound Model 350 that debuted in 1990. The Model 350's wing is certified for infinite life and the aircraft was built to commuter-category standards, which provide for added levels of safety and redundancy on critical systems. If one of the two engines fails, its propeller automatically feathers to cut drag, and the rudder is simultaneously boosted to compensate for the asymmetric thrust.

## NEW ROTORCRAFT: NASA MARS INGENUITY

On April 19, 2021, NASA's Mars Ingenuity unmanned helicopter became the first aircraft to fly on another planet. Since then, the aircraft has made 15 flights through the beginning of November and has become an integral part of Mars exploration, helping scout the Red Planet in cooperation with the Perseverance rover. Ingenuity is a four-pound, \$80 million coaxial helicopter purposely designed to operate in the thinner Martian atmosphere, where gravity is 62 percent lower than Earth's. The aircraft is equipped with four carbon-fiber main rotor blades that spin at more than 2,500 rpm—10 times faster than a conventional helicopter—and is powered by solar cells and batteries. The aircraft is designed to operate in the extreme climate of Mars, where temperatures can fall to -130 deg F. While Ingenuity is not kitted with any scientific instruments, it is equipped with a camera system that can take images of the ground at a rate of 30 per second and analyze them, combining with a sensor system that can adjust flight controls at a rate of 500 times per second to ensure vehicle trajectory and stability. Ingenuity was designed and built by NASA in cooperation with contractors including AeroVironment, Lockheed Martin, and SolAero.



Perseverance and Ingenuity launched together from Cape Canaveral on July 30, 2020. In February 2021, the helicopter was parachuted onto the Martian surface at the Jezero Crater. In honor of the first flight, NASA designated the test flight area on Mars, in the Jezero Crater, as "Wright Brothers Field." A small piece of fabric from the original Wright Flyer is attached to Ingenuity. The International Civil Aviation Organization (ICAO) presented NASA and the FAA with the official designator for the flight IGY, call sign Ingenuity, and gave the airfield location the ceremonial designator JZRO for Jezero Crater. Because data must be sent to and returned from Mars over hundreds of millions of miles using NASA's Deep Space Network satellite constellation, Ingenuity cannot be flown with live pilot inputs and its flights are not observable from Earth in real-time.

## TECHNOLOGY: GARMIN SMART GLIDE & SMART RUDDER BIAS

Garmin continues to develop its Autonomi family of safety products with Smart Glide and Smart Rudder Bias.

Smart Glide can be engaged in the event of engine failure or other in-flight emergency and then, either recommends the closest suitable airport or, in cooperation with the autopilot, flies to that airport at the appropriate speed. Smart Glide is available on GTN Xi navigators paired with Garmin's G500/G600 TXi and G3X displays and GI 275 and G5 electronic flight instruments, as well as experimental G3X Touch and G3X autopilot systems. If equipped with a compatible autopilot, including the GFC 500/600, Smart Glide activation will automatically engage the autopilot.



Smart Glide frees pilots to deal with the emergency at hand. If there is no suitable airport within gliding distance, Smart Glide still uses the Garmin autopilot to adjust the attitude for best glide speed and during the off-airport approach and landing gives the pilot audible altitude alerts.

Once it selects the airport, it also sets that airport's CTAF or tower frequency into the standby field and switches the CDI to GPS mode plus switches the transponder to the 7700 emergency code.

Designed with piston twins in mind, Smart Rudder Bias adjusts rudder force to help control sideslip after an engine failure and works with Garmin's Electronic Stability and Protection (ESP) to help the pilot control bank and avoid flying too slow. Loss of control after failure of one engine in twin-engine piston airplanes continues to be a significant safety issue.

Smart Rudder Bias is certified in the Beechcraft Baron B58/58A, Piper Navajo PA-31-300 through 325, and Cessna 414A. Garmin is working on other piston twin types as well. The required equipment includes Garmin's G500 or G600 TXi configured as a primary flight display with Engine Indication System (EIS) and GFC 600 autopilot with yaw axis option. There is no extra charge for the Smart Rudder Bias software, and airplanes already equipped with G500/G600 TXi, and EIS can be upgraded to take advantage of Smart Rudder Bias with the addition of the optional yaw servo.

## TRAINING INNOVATION: AVIATION PERFORMANCE SOLUTIONS VIRTUAL REALITY UPSET TRAINING



Aviation Performance Solutions (APS) is now using virtual reality (VR) technology for the maximum transference of upset prevention and recovery training (UPRT) skills to a customer's specific aircraft type. Loss of control in-flight (LOC-I) is responsible for nearly 50 percent of all fatalities in aviation worldwide, and UPRT is the most effective mitigation. VR allows pilots to consolidate knowledge on their own aircraft type following APS's integrated academic, on-aircraft, and advanced simulator training.

In addition to having a photorealistic model of the aircraft's flight deck, the VR simulator's software incorporates exacting aerodynamic modeling to mimic the handling characteristics of the customer's aircraft. Other benefits include the ability to replicate in-flight upset scenarios at low altitudes and/or in instrument meteorological conditions.

A unique feature of APS's VR solution is the ability to visualize the aircraft

externally during an upset. This allows a great opportunity for a conversation between the instructor and student on topics such as lift vector orientation, maneuvering room at low altitude, and recovery strategies.

## EXCELLENCE IN INNOVATION: KENNY DICHTER



Kenny Dichter first came to aviation prominence as the founder of jet card provider Marquis Jet in 2001, a company he sold to NetJets/Berkshire Hathaway in 2010. In 2013 he launched the Wheels Up charter/membership company. Less than a decade later, Wheels Up has become the largest Part 135 operator in the U.S. with 170 leased or owned aircraft, 170 managed aircraft, and 1,200 more controlled by partner operators thanks to a series of recent and rapid acquisitions, including TMC Jets, Delta Private Jets, Gama Aviation Signature, and Mountain Aviation.

Wheels Up became a publicly-traded company earlier this year and projects an annual run rate of close to \$1 billion in 2021. Dichter's ambitions are much bigger. Earlier this year, he told AIN that he envisioned Wheels Up as the Amazon.com of aviation, with the ultimate goal being to "build a great big platform, democratize the [business aviation] space even further," and make Wheels Up potentially 50 times its current size. Dichter looks at consumer apps such as Uber and OpenTable and sees business aviation potentially following a similar path. If it does, he added, "then there's an unbelievable opportunity, not just for Wheels Up, but really for the whole [business aviation] space."

## SAFETY HERO: ROBERT SUMWALT

Robert Sumwalt is a distinguished fellow in aviation safety and executive director of the new Embry-Riddle Aeronautical University Center for Aviation and Aerospace Safety. In this capacity,



Sumwalt oversees the new center, whose charge is to tackle a range of safety issues surrounding new technologies from unmanned aerial systems and urban air mobility technologies to human-machine and machine-to-machine interfaces. The center is anticipated to encompass areas such as automatic taxiing, use of artificial intelligence, and streamlined or trajectory-based operations. It may also look at areas such as alternative aviation fuels, new training systems—including virtual and augmented reality tools—and other technologies.

Prior to joining Embry-Riddle, Sumwalt spent 15 years on the National Transportation Safety Board, including nearly five as chairman. He joined the NTSB in 2006 and served under four U.S. presidents. He was appointed chairman in 2017. He has been a pilot for 32 years, including 24 years with Piedmont Airlines and U.S. Airways, and has amassed more than 14,000 flight hours and earned type ratings in five aircraft. While at US Airways, he served on its flight operational quality assurance (FOQA) monitoring team. Sumwalt also managed the corporate aviation department of a Fortune 500 energy company. During his NTSB tenure, Sumwalt advocated the adoption of proven and effective airline safety standards and programs, including safety management systems and flight data monitoring, for Part 135 and other general aviation operations.

## CHARITABLE HERO: JAMES RAISBECK (POSTHUMOUS)



James Raisbeck died on August 31. The noted aerodynamicist and founder of aircraft modification company Raisbeck Engineering made a considerable fortune developing performance-enhancing kits for Learjets and King Airs—and then gave a good portion of it away.

Over the course of two decades, Raisbeck and his wife Sherry contributed more than \$32 million through their foundation in large, impactful amounts to a truly broad breadth of worthy causes that included cancer and heart research, the arts, the Seattle Museum of Flight and the adjacent Raisbeck Aviation High School, and the United Way of King County (Washington state).

Before founding his own company, Raisbeck worked for Boeing and Robertson Aircraft and served as a flight engineer in

the U.S. Air Force. In 1979, Purdue University presented its Distinguished Engineering Alumnus Award to him and in 1999 its Outstanding Aerospace Engineer Award. He also has received the AIAA Commercial Aviation Technical Achievement Award. In 2002, NBAA honored Raisbeck with its Lifetime Achievement Award for Meritorious Service to Aviation. He also has been recognized with the Living Legends Lifetime Aviation Entrepreneur Award, as a fellow of AIAA, and on the National Air and Space Museum's Wall of Honor.

"James Raisbeck's impact on aviation is enormous and enduring. His legacy extends from aircraft innovations to aviation institutions that educate and inspire, including the Raisbeck Aviation High School," said NBAA president and CEO Ed Bolen.

## CHARTER/FRACTIONAL/JET CARD INNOVATION: JET IT/JET CLUB



North Carolina-based Jet It is a fractional-ownership and aircraft management program that flies a fleet of 15 HondaJets—with plans to add six more this year—and recently expanded to Europe with a sister brand called Jet Club. The European launch comes after Jet It recorded 400 percent year-over-year growth in the U.S. Jet It uses a hybrid-fractional-ownership model based on days, not hours, which provides owners with the freedom to use the fleet freely and is ideal for customers making multiple stops in a single day. Customers get the aircraft for the entire day at a flat rate of \$1,600 per flight hour. The number of days customers can use the aircraft varies with the size of share purchased. A one-tenth share entitles the owner to 25 days while a one-half share bumps that to 130 days. For owner pilots with a type rating in the HondaJet, either PIC or SIC, they can join the Jet It "Red Jet Squadron" and fly with a company captain while building time and experience toward insurance requirements.

Jet It made more news this summer when it announced it would be the launch customer for the all-electric Bye Aerospace eFlyer 800 business aircraft. The company was founded by Glenn Gonzales, who was formerly a Honda Aircraft regional sales manager and an international demonstration pilot for Gulfstream. He is a U.S. Air Force veteran with flight experience in the T-38A and F-15C.

## DIVERSITY, EQUITY, AND INCLUSION: DUNCAN AVIATION REFUGEE ASSISTANCE



Duncan Aviation works with the Refugee Resettlement Program and other non-profit organizations in Lancaster County, Nebraska, to ease the integration and assimilation of refugees into the community. Lancaster County is the nation's 18th-largest resettlement area for Asian refugees and immigrants, while Nebraska has become the fifth-largest refugee resettlement area per capita compared to states with similar-size populations. Half of Nebraska's refugee population resides in Duncan's headquarters city, Lincoln, Nebraska, which is now home to Afghani, Vietnamese, Bosnian, Mexican, Russian, Ukrainian, Tajikistani, Kurdish, Sudanese, and Chinese refugees and immigrants.

Duncan works with area non-profits including the Good Neighbor Community Center and the Asian Community and Cultural Center to provide these new residents with English language learning classes (ELL) immediately upon resettlement. Duncan also will begin providing ELL volunteers in 2022. It also works with community organizations to provide building maintenance, electrical, plumbing, painting, and food pantry assistance.

"Our goal with these nonprofits is to offer eligible refugees careers here at Duncan Aviation, eventually," said Leon Holloway, Duncan human resources manager. "We've only hired a couple of refugees, but we continue to support nonprofits in other ways."

## SUSTAINABILITY: NESTE

Neste is a leading supplier of sustainable aviation fuel (SAF) to the U.S. and European markets and has invested hundreds of millions of dollars in related refining capacity. The recently announced expansion at its Rotterdam refinery represents a \$231 million investment that will add another 500,000 tonnes of sustainable

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aviation fuel (SAF) a year to the plant's capacity. Burning 100 percent SAF in place of Jet-A can reduce greenhouse gas emissions by up to 80 percent, while the emissions reductions are lower when burning blended SAF and Jet-A.

In September 2021, Neste announced that it would acquire Agri Trading, one of the largest independent renewable waste and residue fat and oil traders in the U.S. Also that month, Neste announced it is partnering with Kinder Morgan to create a domestic raw material storage and logistics hub in Harvey, Louisiana, to support increased production of renewable diesel, SAF, and renewable feedstock for polymers and chemicals. Among the materials stored at the facility will be the used cooking oil Neste collects from more than 40,000 restaurants across the United States.

Neste uses a Kinder Morgan pipeline to deliver more than one million gallons of SAF to date to San Francisco International Airport and in January created a strategic alliance to deliver SAF to Avfuel FBO locations, beginning with Monterey, California. It also delivers fuel to other major international airports in Europe.

### CONTRIBUTION TO SAFETY: HAI AND U.S. HELICOPTER AND VERTICAL AVIATION SAFETY TEAMS

The U.S. Helicopter Safety Team (USHST) in collaboration with Helicopter Association International (HAI) and the Vertical Aviation Safety Team (VAST) followed up their "56 Seconds To Live" safety video with a companion course that focuses on

unintended flight into instrument meteorological conditions (UIMC). According to USHST, the one-hour scenario-based training course teaches pilots to recognize situations that can lead to UIMC and stop a flight before an accident occurs via sound aeronautical decision-making (ADM).



Included in the course are a simulated-accident video and four alternate scenarios demonstrating examples of ADM that would have prevented the accident; related video messages from members of the USHST steering committee and other industry leaders; guidance, tips, tactics, and recommended practices; and links to course-related materials. Pilots can access the program through the USHST's training introduction page and also through the HAI online academy. Users without an HAI academy account will need to register to track their progress and obtain a completion certificate and FAA Wings credit.

The video was released in February 2021, days after the NTSB issued its probable cause finding in the helicopter crash that killed Kobe Bryant and eight others last January. According to the NTSB, the crash resulted after the pilot inadvertently entered instrument

meteorological conditions and experienced spatial disorientation.

The 56-second time period is based on a USHST study of 221 fatal helicopter accidents that occurred from 2009 to 2019, and the video offers a graphic depiction of how those 56 seconds feel to a desperate helicopter pilot. Unintentional IMC was one of the top causes in 38 of the accidents.

### NEW FBO: JET AVIATION SCOTTSDALE

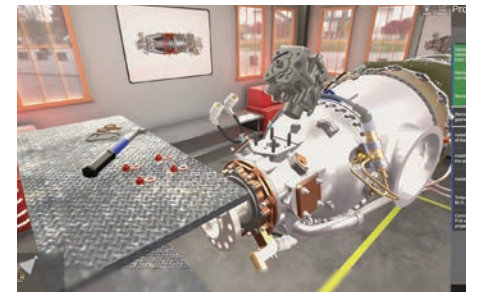
Jet Aviation's FBO and hangar complex at Arizona's Scottsdale Airport consists of an 8,500-sq-ft terminal and a 30,000-sq-ft hangar, which can accommodate aircraft up to the size of a G650. The new FBO is the third at the airport. The new terminal features a large lobby, passenger and crew lounges, pilot snooze rooms, a conference room, meeting room, and weather and flight planning facilities. The new facilities were built using cost and energy-efficient construction practices, and the company plans to install solar panels at the site later this year.



Jet Aviation Scottsdale offers passenger and aircraft handling services, including

baggage handling, on-site customs, complete line service, aircraft cleaning, fueling, hangarage, aircraft parking, catering, hotel, and car rental coordination, and concierge service. Jet Aviation operates more than 30 FBOs worldwide.

### MAINTENANCE INNOVATION: FLIGHTSAFETY VIRTUAL REALITY TRAINING



FlightSafety International has begun offering virtual reality (VR) training on Pratt & Whitney Canada engines. The training includes "X-ray" vision, dynamic engine cutaways, and borescope practice, all of which can meet regulatory requirements. The VR training recently received EASA approval for the practical training portion of one of FlightSafety's PT6 engine training courses. The company provides advanced, technology-based maintenance training for many Pratt & Whitney Canada engine families including turboprop, turbofan, and turboshaft engines as well as for auxiliary power units (APUs). FlightSafety has delivered close to 14,000 courses for Pratt & Whitney Canada engines and APUs to customers from 126 countries to date. ■

@ Dubai Airshow 2021

## Dubai 2021: an aerospace oasis

by James Wynbrandt

Marking the first major international aerospace gathering since the pandemic began, the Dubai Airshow closed out its final days having already answered its theme, "The Future of the Aerospace Industry," in the most emphatically positive manner possible. With more than 175 of the world's most advanced aircraft displayed on ground and in the air, civil and military delegations from almost 150 countries, pavilions from a score of countries—including for the first time the Czech Republic, Belgium, Brazil, Israel, and Slovakia—Dubai 2021 was on track to be the largest of the biennial gatherings since it began in 1989.

In addition to the exhibition hall featuring the products and services of the more than 1,000 aerospace companies spanning

the commercial, military, business aviation and space industries, behind-the-scenes deals and news were being made among the exhibitors. On the show floor, visitors attended conferences featuring more than 250 industry experts addressing issues including technology, space, and sustainability.

With many parts of the world unsettled, defense industry exhibitors showcased new solutions for dealing with global security threats. Some of the newest occupied the display ramp, including a scale model of Russia's low-cost and potentially disruptive Checkmate fighter jet; a mockup of the UAE's Calidus B-350 turboprop attack aircraft; Russia's Mi-28NE attack helicopter; and a pair of special-mission aircraft



Russian Knights Sukhoi Su-30SMs thrilled the crowds at Dubai Airshow 2021.

based on Bombardier's Global 6000 platform: the UAE Air Force's GlobalEye and U.S. Air Force E-11A BACN.

Commercial aviation's post-pandemic resurgence manifested itself in an order for more than 250 fuel-efficient Airbus A321neos from a consortium of regional airlines, another order for a mix of 111 of the company's airliners from U.S. lessor Air Lease Corporation, and the world debuts of the Boeing 777X and the Leonardo AW609 tiltrotor. Additionally, ATR announced it is upgrading its new regional turboprops with Pratt & Whitney Canada PW127XTs, powerplants that were introduced at the show.

The daily flight demonstrations thrilled attendees with thunderous performances by the UAE Air Force's Al Fursan in their Italian Aermacchi MB-339NAT trainers; the Russian Knights flying Su-30SM jets; the Saudi Hawks with BAe Hawk Mk.65 trainers; and India's Sarang helicopter aerobatic team in Dhruv rotorcraft, along with its Surya Kiran Air Force jet demo team, also flying Hawks. ■

# Boeing 777X makes air show debut at Dubai

by Gregory Polek

Boeing didn't disappoint showgoers hoping to see the 777X on display for the first time at an international air show, as the first flight test example of the big widebody graced the Dubai static display and participated in the show's flying program. The 777-9, the larger of the two planned 777X variants, landed on November 9 in Dubai following a 15-hour nonstop journey from Seattle's Boeing Field. The trip represented the airplane's first international flight and the longest to date as it continues its rigorous flight test program scheduled for completion in 2023.

Visitors got their first glimpse of one of the big twin's most distinguishing design features—a pair of 12-foot-long folding wingtips that will allow regulators to classify the 777X as Code E, meaning they'll fit into the same size parking space the 777-300ER now uses. Featuring 105,000-pound-thrust

GE9X turbofans and structural improvements to the fuselage that will allow for a 6,000-foot cabin altitude, the four composite-winged 777X prototypes have now accumulated 1,700 hours of test flying, generating a wealth of data for close scrutiny by global regulators and launch customers.

The Boeing 777X's first appearance outside the U.S. came as questions from launch customer Emirates and its president Tim Clark over performance and certain certification hurdles remain unanswered.

The new widebody, the first example of the four flying prototypes participating in the flight test program, arrived in Dubai some 10 months after Boeing last shifted its timelines to reflect expected first delivery to Emirates by the end of 2023. In the interim, Clark has consistently called for more transparency from the U.S. aerospace giant on whether or



The first flight test example of the Boeing 777X flew in the daily Dubai Airshow flying display.

not the program will meet the airline's performance requirements and delivery expectations.

Clark called for a "grown-up conversation" with Boeing executives over the issue, some eight years after Emirates signed on as the launch customer for the 777X during the 2013 Dubai Airshow. Since placing the launch order, Emirates has converted orders for thirty 777Xs to positions on 787-9s and shifted six 777-300ERs to 777Xs, taking its 777X order count to 126. Once the airline gained further "visibility" on the results of flight testing, it would decide on how many more conversions to Dreamliners it

would execute, said Clark.

Originally scheduled for certification in 2020, the 777X has encountered more than one major hurdle on its way to first delivery, most notably more thorough oversight from regulators resulting from investigations into the twin fatal crashes of the 737 Max in October 2018 and March 2019.

Boeing CEO David Calhoun acknowledged as much during a January earnings call, when he said "certain modifications" to the aircraft design involving both software and hardware changes to the actuator control electronics reflected the company's "current judgment of global regulators' compliance expectations." ■

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# Amber Aviation to build fleet in China

| by Jerry Siebenmark

Business aviation services provider Amber Aviation has closed on a Series B funding round that will enable the Shenzhen, China-based company to offer shared lease, jet

card, and membership programs. Thanks to the new investment by fractional-share provider NetJets, Fung Investment, and Macau-based Liu's Group, as well as existing



Starting in April 2022, Amber will receive a core fleet of up to 20 Bombardier and Gulfstream large-cabin jets from the NetJets fleet, with the buildup happening during the next two years.

investor Hony Capital, Amber will receive up to 20 Bombardier and Gulfstream large-cabin jets from the NetJets fleet. Deliveries will begin in April 2022 and continue over the next two years.

“With NetJets’ assistance, we can quickly build up the available fleet of aircraft so that we can be ready once international borders fully reopen,” said Amber president Chang Qiusheng. “We understand that the size of the fleet is very important, so by having aircraft in place, we are sure that we can be successful.”

Qiusheng added that with the support of NetJets and the other investors, Amber can boost business aircraft utilization in the region. “There’s a huge gap in the market for charter users that wish to take the next step towards full aircraft ownership given the financial undertaking required,” he said. “By bridging the gap with our shared lease, jet card, and membership programs, Amber Aviation will help grow the number of business aviation users in Asia, which will benefit the whole industry.”

The aircraft transferred by NetJets will be operated under Amber’s air operator certificate. “This partnership with Amber Aviation offers NetJets a unique opportunity to provide long-term service in the Asian market to our owners,” said NetJets chairman and CEO Adam Johnson. “The team at Amber Aviation shares NetJets’ commitment to safety and service and is a truly collaborative partner that we look forward to working with alongside our respected co-investors.”

NetJets also will help Amber set up new programs such as service support, sales assistance, product design, and legal support. In addition, NetJets will support Amber in the acquisition of additional business jets direct from various OEMs. Further, Amber clients will have access to NetJets’ FBO network in the U.S. and Europe, as well as guaranteed availability of NetJets aircraft for travel in the these same regions. ■

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# Harry Robertson, 'Robbie Tank' creator, dies | by Kerry Lynch

Robertson Fuel Systems founder Dr. S. Harry Robertson, known for the past 50 years as the “father of crash-worthy systems,” has died at the age of 87. He invented the self-sealing “Robbie Tank” that is credited with saving thousands of lives.

“Harry Robertson’s impactful work on creating crash-survivable fuel systems for the rotorcraft industry and military forces has saved over 9,000 lives and continues strong for over 45 years,” said Newman Shufflebarger, president of Robertson Fuel Systems. “Everyone at Robertson is proud to continue Harry’s legacy of saving lives and his absence is a true loss.”

Born Oct. 2, 1934, in Phoenix, Robertson graduated from Embry-Riddle School of Aviation before joining the U.S. Air Force. His service led him to participate as an examiner in military aviation accidents and he became interested in the damage caused by post-crash fires, according to the San Diego Air & Space Museum.

In the 1960s, he formed Robertson Research Engineers and spent seven years analyzing crash-test results on 40 full-scale aircraft to gain an understanding and solve the issue of crash impact on aircraft fuel tanks. Receiving a large order from Hughes Helicopters in 1974, he launched what was initially known as Robertson Aviation in Tempe, Arizona, and produced the crashworthy Robertson Fuel Systems, which were nicknamed Robbie Tanks by the military.

Robertson has received numerous accolades for his

pioneering work, including the Living Legends of Aviation/Kenn Ricci Lifetime Aviation Entrepreneur Award, and has been inducted into the San Diego Air &

Space Museum Hall of Fame, National Aviation Hall of Fame, U.S. Army Aviation Hall of Fame, and OX5 Aviation Pioneers Hall of Fame.

A professional member of numerous organizations, he served on Embry-Riddle Aeronautical University’s Board of Trustees for more than 20 years. He ultimately retired to his ranch in northern Arizona, where he raised cattle. ■



Robertson Fuel Systems founder Harry Robertson

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### NEWS note

**Robert Sumwalt**, who spent 15 years at the NTSB, including nearly five as its chairman, is taking on a role as a distinguished fellow in aviation safety and executive director of the new Embry-Riddle Aeronautical University Center for Aviation and Aerospace Safety. He joins Embry-Riddle on January 4 and will tackle a range of safety issues surrounding new technologies from unmanned aerial systems and urban air mobility to human-machine and machine-to-machine interfaces.

Sumwalt left the Safety Board in June after becoming one of its longest-serving members.



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# Above and Beyond

Each year, during the AIN FBO Survey, we receive comments about FBO staffers and leaders who go the extra mile to help their facilities offer a great experience. We acknowledge some of those individuals who contribute to enhancing their FBOs' service in our Above and Beyond listing. Below **AIN** editors Curt Epstein, Kerry Lynch, and Jerry Siebenmark provide a little more detail about some of the individuals who made the 2021 list.



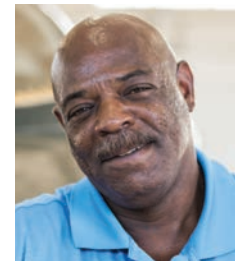
**Shannon Auty,**  
Customer Service Representative,  
Aero-One Aviation, KDHN

Shannon Auty joined Aero-One Aviation in Dothan, Alabama, in March 2017. General manager Scott Capehart said Auty was a natural as a customer service representative (CSR), quickly becoming an expert in customer experience and service. She also quickly grasped the correlation between top-notch customer service and fuel sales, he said. "Pilots love great customer service so in return they tend to buy more fuel," Auty said. She was promoted to CSR supervisor and given the role of social media coordinator for Aero-One Aviation and Aero-One Altitude because she was able to excel in all areas, Capehart added.

"I love that our leadership trusts me with our social media and I get to be creative," Auty said. She added that she approaches her role with the understanding that building relationships and trust are key.

"It's not selling fuel or getting a paycheck. It's about the friendships—and airplanes are cool too." Being a good CSR means developing relationships with each customer and knowing all about them. "Sometimes I think I know my customers better than I know myself," Brink added. "I can remember their stories and where they have been and what they have done. It's about paying attention to the details of each customer and their needs."

within the aviation industry," he said. "I strive to do so by always exhibiting the best attitude, innovation, attention to detail, and a proactive approach. I tell my customers, 'You can count on me anywhere and at any time.'"



**Rob Davis,**  
FBO Supervisor/Tech,  
Gateway Aviation Services, KFFZ

When Rob Davis joined Gateway Aviation Services in Mesa, Arizona, in 2005, he was already seasoned in aircraft operations. A U.S. Marine Corps veteran, Davis served in both the U.S. and Japan. He began his commercial aviation service with DynAir before joining Swissport, where he was a fuel tech supervisor providing services for more than 13 airlines at Phoenix Sky Harbor International Airport.

He moved into business aviation in the mid-2000s and has now spent more than 15 years with Gateway Aviation Services as a line service specialist, line specialist lead, and FBO shift supervisor. To these roles, he brought not only extensive experience but a deep passion for aviation. This approach has made him a standout, earning him praise for going "Above and Beyond."

Davis stresses that he strives to exceed the expectations of Gateway's customers. "Everyone is a VIP regardless of what airframe they operate," he said. "I always make the crews and passengers feel appreciated for using our services. [My goal is] to have them depart with total satisfaction, a smile, and a long-lasting impression of great service."



**Amy Brothers,**  
Customer Service Representative,  
Wilson Air, KCHA

Brothers has been with Wilson Air Center Chattanooga for more than five years, and in that time she has become an instrumental part of the location's customer service team. She believes in always going above and beyond for her customers and enjoys meeting new people every day at work. "I treat every customer the same as I would want to be treated. If I can make our customers smile or make their day better in some way, then I am happy to do it. I hope everyone who visits our facility wants to return because they left happy and received excellent service."



**Alexandra Camargo,**  
Brand Manager,  
Fontainebleau Aviation, KOPF

Camargo brings more than a decade of aviation experience to her role as brand manager for Fontainebleau Aviation. Her tasks include overseeing marketing, branding, communication, and client experience for the Florida-based FBO, and she focuses on sustaining it as the gateway to Miami by touting its capabilities.

Helping customers and solving their problems invigorates her. "There is always a way to make it happen and I love finding solutions," she told **AIN**. "When you visit our facility, there are high expectations on who we are and what Fontainebleau Aviation provides. I enjoy delivering upon that message."



**Katy Brink,**  
Customer Service Representative,  
Atlantic Aviation, KMTJ

Eleven years ago and with no prior aviation experience, Katy Brink started working at Black Canyon Jet Center at Montrose Regional Airport (KMTJ) in Colorado. "Playing with airplanes all day seemed like a pretty cool job, so I accepted it," said Brink, who was recruited for the job by a staffing agency. "I was completely new to aviation but knew that I liked airplanes and was in awe of airports and radio communication." Since then, Brink said she has developed lasting relationships, especially with customers who come in annually for a hunting trip or to attend a film festival. "I am happy to see them," she explained.



**Jose Cabrera,**  
General Manager, Signature  
Flight Support, KBCT

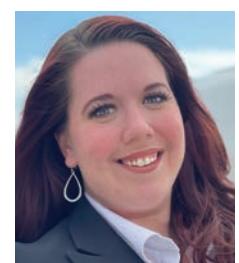
Cabrera, general manager of Signature Flight Support's Boca Raton, Florida facility, has been in aviation for more than 17 years and has experience with airlines, a fractional ownership provider, and the FBO arena.

Cabrera thrives in the challenging and ever-changing environment that aviation provides. "My career goal is to make a significant positive impact



**Kathy Cortez,**  
Customer Service Representative,  
Pentastar Aviation, KPTK

Cortez has been a member of the Pentastar Aviation team for over 19 years, and her passion for aviation and desire to offer the best possible experience to the customer is what drives her. Her approach involves going above and beyond to keep the customer happy. She answers questions and resolves issues with a positive attitude, which in her opinion, is the best way to retain loyal customers. Pentastar reports that it is "incredibly grateful" to have Cortez as part of the team and looks forward to another 19 years with her.

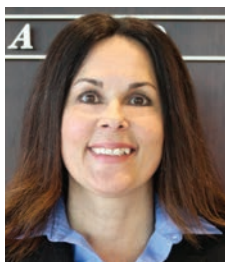


**Danica Day,**  
Customer Service Manager,  
TAC Air, KAPA

Day began her career with TAC Air as a customer service representative and after six years in that role, she was promoted to the customer service manager position at the chain's Denver location. She believes that every day brings new challenges and experiences. "I get excited every time I have the chance to prevent a potential customer issue," she said. "Problem-solving is a huge aspect of customer service,



and I feel that I see common-sense solutions when others tend to see the more complicated solutions.”



**Jenny Deitschman,**  
Customer Service Representative,  
Meridian Hayward, KHWD

Jenny Deitschman, one of Meridian Hayward’s original employees, joined the team before its FBO opened in October 2016. After spending almost seven years post-high school fueling and parking aircraft at California’s Hayward Executive Airport, she took a leave to raise her family. But she remained passionate about aviation and returned to the field five years ago when she joined Meridian.

Her primary focus is on the customers, but she can be found supporting the FBO in multiple ways. “We sometimes work line service as well,” she said. “We help out where needed.” She said she looks at Meridian as being a family, adding, “I like everything about the company and my job.”

Meridian Hayward general manager Carlos Rodriguez said of Deitschman: “Jenny’s love of aviation coupled with her outgoing personality and empathetic nature are just some of the qualities that make her a great CSR. She has the ability to connect with customers on a personal level and provide each customer with a unique, positive experience.”

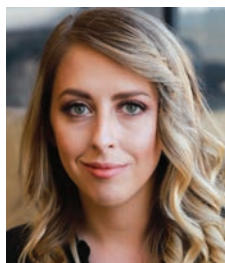


**Johanna Echeto,**  
Customer Service Manager,  
Sheltair, KORL

Echeto has been part of the Sheltair team for five years. She joined as a customer service representative at Sheltair FLL and later earned a promotion to the customer service manager position at Sheltair ORL. She helped establish the first generation of base coaches and was involved in standardizing the company’s best practices across the network. Her philosophy on exceeding customer expectations is all about having “the right mindset.”

Said Echeto: “A positive attitude is vital in allowing us to prioritize an outstanding

guest experience. Going above and beyond is to listen to our guests’ wants and needs to deliver the customized experience they expect. Once the culture of going the extra mile is established, it’s crucial to develop our teams to maintain our high level of service.”



**Jenna Emerizy,**  
Customer Service Representative,  
McKinney Air Center, KTKI

Jenna Emerizy learned valuable lessons early in her career about supporting pilots and passengers alike, and she has applied this knowledge to her current role as a customer service representative at McKinney Air Center in McKinney, Texas.

She began her aviation career in Lake Charles, Louisiana, in 2014, spending three years at Freeman Jet Center. There, she handled everything from booking hotel rooms and reserving cars to catering assistance.

For Emerizy, good customer service is a matter of the Golden Rule. “Customer service boils down to treating people how you want to be treated, and if you go that little extra mile, it leaves an imprint,” she said.



**Amanda Ewers,**  
Pilot,  
CSI Aviation, KABQ

Amanda Ewers liked working with a local, family-run business and said, “it was the obvious choice for me” to join as a CSR in 2016. The FBO supported her dream of becoming a pilot and in 2018, she received her multi-engine commercial license and was hired as a medevac pilot, maintaining both roles for the next several years.

“I believe that being a pilot and working as a CSR helped give me a unique perspective in that I could think ahead to help pilots and passengers with service above and beyond what was expected because it was how I would like to be treated at any FBO I visited,” Ewers said. “With that in mind, I have found that the most important traits to be successful in the FBO business are to be kind and to have patience.”



**Jonathan Garms,**  
General Manager,  
Wilson Air, KHOU

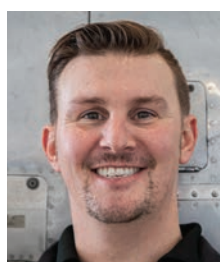
As general manager of Wilson Air’s facility at Houston Hobby Airport, Jonathan Garms is hands-on with the line technicians as well as the front desk. No matter what the task, he is there to help. It’s taking the time to go the extra mile for someone that shows you care, and Garms does that every day, not only with customers but also with the employees who serve alongside him.



**Holly Hopkins,**  
Customer Service Manager,  
Texas Jet, KFTW

Hopkins has been a member of the Texas Jet staff since 2003 and brought industry experience with her when she joined. She has received honors in several industry surveys and believes that when it comes to pleasing customers, it’s the little things that matter. “Like just asking them how we treated them and what we can do better for them the next time; they just want to be noticed and heard,” she told AIN. “We try to do this better than anyone else and our Culture of Excellence is how we accomplish that.”

According to Texas Jet founder and president Reed Pigman, Hopkins was instrumental in blending Ritz-Carlton’s Legendary Service into Texas Jet’s service and “using it to form the basis of our Culture of Excellence.”



**Tyrell Jasperson,**  
Line Service Technician,  
Sweetwater Aviation, KRKS

Jasperson joined the aviation industry in 2018 as an operations specialist at airport-operated Sweetwater Aviation at Southwest Wyoming Regional Airport,

following nearly two decades as an ATV and snowmobile repair technician in his family’s business. He received training as a ramp attendant, fuel man, and aviation rescue firefighter (ARFF) in his initiation to airport operations, along the way earning his ARFF, Wyoming EMR, and firefighter certifications.

He believes creating loyal customers from every interaction is the name of the game. “Customer service begins with a warm smile and fond welcome plane-side, upon arrival,” he told AIN. “Escorting our guests to the FBO entrance, breaking the ice by answering any questions, receiving any instruction I can clearly communicate, and understanding the customer’s individual needs. By providing the most professional service and friendly atmosphere I can ensure a safe and pleasurable experience while visiting the Cowboy State.”



**Venus Koenig,**  
Customer Service Manager,  
Sheltair, KJAX

Koenig, who joined the Sheltair team five years ago, has 20 years of experience in the service industry. Starting as a customer service representative at Sheltair OCF and later promoted to customer service manager at Sheltair JAX, she heeds the words of Maya Angelou: “I’ve learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.”

“The culture we instill at Sheltair Jacksonville is to treat everyone like guests in our home,” Koenig said. “Like family, we take a genuine interest in every guest by taking the time to really listen. Guests can feel the sincerity exude even behind our masks.”



**Kawai Lopez,**  
Customer Service Manager,  
Monterey Jet Center (KMRY)

“Kawai strongly believes in good old fashion customer service and welcoming everyone into the Monterey Jet Center family,” according to the FBO’s leaders. “From appreciation events, surprise goodie bags, to throwing epic parties, she

» continues on page 28

loves going the extra mile to make sure everyone has a memorable experience. She is the first one to brag about her customer service staff and loves Monterey's annual Car Week because "we get to show the world how awesome our team is."



**Aaron Pederson,**  
Line Service Supervisor,  
Premier Jet Center, KFCM

Pederson has been a member of the staff at Minneapolis-area Premier Jet Center since 2009. His current role as a line supervisor allows him to demonstrate his leadership and direction in delivering safe and reliable aviation services to the FBO's clients, and he makes a point to know each customer and his or her personal preferences.

Always looking to problem-solve and get the job done before he leaves every day, he brings positive energy to the team and serves as a mentor to new employees. He is also known for aircraft positioning and is considered to be a hangar-stacking magician.



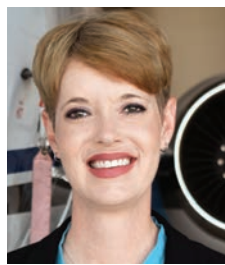
**Carlos Robins,**  
Line Service Supervisor,  
Banyan Air Service, KFXE

When Carlos Robins's career in aviation began 10 years ago, a Banyan Air Service employee saw potential in him and encouraged him to join the team. Robins determined that Banyan was a good fit for him and joined the Fort Lauderdale, Florida FBO as a line service technician in 2014. Shortly after that, he was promoted to line service supervisor and he has continued to grow in that role, attending safety and leadership classes.

Bayan executives highlight his "incredible attention to detail" and his efforts to get to know and build relations with customers. "Carlos is an expert in anticipating customers' needs. He takes the time to learn each person's likes and dislikes and will go out of his way to provide assistance even when he is not at work," Banyan executives said.

He also is a go-to person for fellow teammates, they added. "As a supervisor,

what my job means to me is building those relationships with our customers and internal customers," Robins said.



**Jessica Rowden,**  
General Manager,  
Cutter Aviation, KABQ

Jessica Rowden pursued a degree in secondary education at Missouri Southern State College but in the early 2000s developed an interest in aviation that has led to a 16-year career at Cutter Aviation. Rowden joined the FBO chain's location as a guest services representative at Phoenix Sky Harbor International Airport in January 2005. By the following summer, she had already earned a promotion to facility manager at Cutter's Phoenix Deer Valley location and the next year she was stepping in as general manager of its Colorado Springs location. In 2014, she moved into her current position as general manager in Albuquerque, New Mexico.

As she has grown as a professional and guided the New Mexico facility, she has branched into industry advocacy and charity, serving on boards and becoming involved with NBAA Schedulers and Dispatchers, Women in Aviation, Wounded Warriors, Ephraim Orphan Foundation, and High Hopes for Colorado.

"My goal has always been to work hard to build meaningful relationships with both my guests and my team, as I feel those relationships are the key to any success or failure," Rowden said of her approach to managing the FBO. "For me, Cutter Aviation's core values of family, friendship, honesty, trust, and respect are not just words on a wall, they are tenets that my team and I strive to provide to our guests with each interaction."



**Yulyanna Silva,**  
Brand Ambassador Supervisor,  
Business Jet Center, KDAL

After holding roles in digital media and promotions, Yulyanna Silva looked to bring her skills to business aviation. And, when she interviewed for a position at

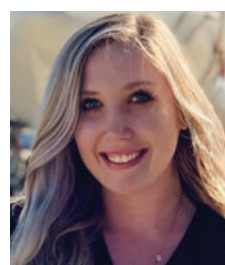
Business Jet Center, "we knew she was different," said Cat Wren, CEO of the Dallas FBO. "We often say you can teach anyone to do a job, but you cannot teach someone to care." Silva showed those qualities, joining Business Jet Center in 2018, initially as a customer service representative and then as brand ambassador and brand ambassador supervisor.

"Since her start, Yuly has quickly learned the ropes and has excelled at multiple roles within the company," Wren said. "Her passion for people and genuine attitude shine with our customers and her fellow coworkers. She truly understands that listening to the customer, taking action, and communicating are key to creating an experience for all who come through our doors."



**Bernie Spencer,**  
Customer Service Representative,  
Sheltair, KDAB

With over 12 years of commercial aviation experience, Spencer has been part of the Sheltair Daytona Beach staff for five years as a customer service representative. She feels that going above and beyond means making sure "that the guest is happy and satisfied...and then go extra. The extra sugar coating is what we try to do to make our guests leave happier than expected and come back because they had such a sweet experience."



**Ysabella Tetley,**  
Customer Service Manager,  
Henriksen Jet Center, KTME

After serving as a lead preschool teacher, Ysabella Tetley made her jump into a business aviation career in 2018 at the Henriksen Jet Center in Houston, initially as a customer service representative and now as a customer service manager. Promoted to her current role in August 2020, Tetley is viewed by her managers as an "absolute rock star" for the drive, pride, and joy she brings to her position.

"One of her strongest abilities is how she keeps things very positive, even during those tough conversations with

customers and employees," said executive director Andrew Perry. "The Henriksen Jet Center team and I are very proud of her and glad to have her as a leader in the organization."

Tetley stresses that she enjoys each day and is thankful for the friendships she has made during her time there. "I always aim to go the 'second mile' when interacting with our customers and view the level of service they receive as a direct reflection of my own work ethic," she said. "I believe this goes hand in hand with loving your job and being prideful about the company you work for."



**Pat Walter,**  
Line Service Technician,  
Signature Flight Support, KMSP

Walter has been employed at Signature Flight Support for 34 years, working his way up to shift lead at the company's Minneapolis location, and he is well respected by customers as well as his fellow employees.

When asked what he does to go above and beyond, he simply states, "It's all about the great team here at MSP and simply treating people the way you would like to be treated."



**Sara Zarate,**  
Customer Service Representative  
American Aero FTW

Sara Zarate joined the team at American Aero FTW at Texas's Fort Worth Meacham International Airport with a background in hospitality and was hired based on her ability to build relationships and anticipate customer needs.

For Zarate, making personal connections is one of the most important facets of the job. That includes learning the names of every guest, because it makes people feel valued, acknowledged, and seen, she said.

American Aero officials said Zarate's qualities include an upbeat personality, kindness, and a detail-oriented approach to her work. ■

# BACE helped Bombardier to resume live standdown

by Jerry Siebenmark

Bombardier's decision to proceed with an in-person Safety Standdown on November 2 and 3 in Wichita was helped in large part by NBAA's move to host BACE in October, the Montreal-based airframer's executive v-p of services and support and corporate strategy, Jean-Christophe Gallagher, told AIN. "Clearly with NBAA actually doing their show in Las Vegas, it kind of set the tone for the industry coming back together [post-pandemic]," Gallagher said.

"So we saw this as an opportunity to piggyback on NBAA's move and come in with an in-person Safety Standdown," he added. "We knew that we would have fewer numbers in person—we've had years here [in Wichita] where we had more than 500 people—but yeah, it was time to come back together. I think we were ready for that."

This year's event—the 25th edition of the standdown—attracted 200 in-person attendees and another 1,100 participants from 20 countries who attended the presentations via webcast, an option Bombardier began offering in 2010. That 200 number was largely on purpose, Gallagher added, an effort by Bombardier to maintain some sort of social distancing given that the effects of the pandemic have yet to be fully muted.

"It was important for Bombardier to continue to show leadership on this topic and bring the whole industry together," Gallagher said. "As you can see from the attendees, it's not only our competitors coming, it's our customers, it's people from the military, it's people from the

airlines, it's from all over the industry. And we really want to make this a non-partisan event.

"Everybody's welcome," he added. "Everybody coming together to talk about the most important topic in all of aviation: safety."

Standdown's roots lay with Learjet, where demonstration pilots there began holding an internal human-factors safety workshop that in 1996 blossomed into a free event for all corporate flight departments and customers, regardless of brand allegiance and ownership. The number of attendees is generally only limited to the capacity of the site where it's held. Since then, more than 10,000 people from the aviation industry have attended standdown seminars either in-person or online from countries including Brazil, Canada, China, Mexico, Switzerland, and the U.S.

Tony Kern, CEO of Convergent Performance and a consistent standdown presenter, was in on the ground-floor planning of the event when Bombardier opened it to all flight departments and customers. "It took tremendous courage at that point in time for Bombardier to do this because no one was doing it and everybody said if you have a safety standdown, competitors will use it against you," Kern told AIN. "But Bombardier had the insight to see—and quite honestly, at that point in time I don't believe there was any marketing discussion about it—there was a need in business aviation that needed to be met."

Kern—whose "Armored Knight" presentation at this year's event stressed the



Bombardier's Safety Standdown attracted about 200 in-person registrations this year.

importance of linking the aviation professional to an organization's safety management system and vice versa—thinks that over the years standdown has had an impact on far more than the 10,000 who have attended it in person or online. "I bet it's 50,000 that have actually seen and heard about [Safety Standdown]," he said.

Kern points to a few years ago where he was attending an aviation conference in Europe. Another man attending the conference and whose name tag indicated he was from Zimbabwe got on the hotel elevator with Kern. "He's looking at me and I'm looking at him and we recognize each other but we don't know from where," Kern explained. "And...just as we're about to get off, he says, 'Falduckfish,'"—a term used by Kern in his standdown presentations describing pilots who strive to be more like a falcon and less like a catfish.

"And when we get off the elevator he goes around and he says, 'Do you remember that thing we watched?' And they watched [standdown] on the live stream from Africa. So you have no idea how many people are out there picking things up," Kern said.

Besides Kern, general session presentations and workshops were led by 20 other instructors. Also presenting were NBAA president and CEO Ed Bolen and FAA Central Region regional administrator Joe Miniace.

Bombardier used the standdown to also announce a change in the event's leadership, which for the past 15 years has been helmed by Andy Nureddin, Global 7500 fleet leader and former v-p of customer support. Nureddin plans to retire at the end of 2022.

Gallagher introduced Chris Milligan, v-p of preowned aircraft services and flight operations, as the new leader of the standdown. Bombardier also announced that Nick Verdea, director of aviation and corporate travel for The Williams Company in Tulsa, Oklahoma, as the winner of the 2021 Bombardier Safety Standdown Award, which is presented to an aviation professional who has demonstrated exemplary dedication to improving aviation safety through the Safety Standdown principles of "learn, apply, share."

As for the future of the standdown, Gallagher acknowledged that putting on the free event requires "significant financial resources. But we've always protected this as part of our portfolio of things that we do." Organizing and hosting the standdown, as well as actively taking an industry leadership role in the area of sustainability and reducing the industry's carbon emissions, is another key part of that portfolio, he stressed.

"Those are two fundamental initiatives for us that we believe in, that we believe we can bring our expertise to contribute to advancing those topics," Gallagher said. "That's why we keep doing it. As an industry, we're all successful when everybody's coming together and sharing." ■

**“As you can see from the attendees, it's not only our competitors coming, it's our customers, it's people from the military, it's people from the airlines, it's from all over the industry. And we really want to make this a non-partisan event.”**

— Jean-Christophe Gallagher



New Bombardier Safety Standdown leader Chris Milligan (left), v-p preowned aircraft services and flight operations, with Jean Christophe Gallagher (center) and Andy Nureddin (right).



# ZeroAvia seeks airline for first hydrogen air service

by Charles Alcock

Hydrogen-electric commercial air service could start between London and Rotterdam in 2024, based on a partnership announced in late October involving propulsion system developer ZeroAvia, the Royal Schiphol Group, Rotterdam The Hague Airport, and the airport's RTHI innovation foundation. The partners say they have reached advanced talks with prospective airlines to operate the flights with the 19-seat Dornier 228 twin turboprop that ZeroAvia uses as a technology demonstrator.

ZeroAvia is already working to develop a 600-kW hydrogen-fuel-cell-based powertrain that could apply to multiple 19-seater aircraft. Having secured two Do-228 test aircraft, it intends to start flight testing the first of them as part of its HyFlyer II program later this year. UK-based regional carrier Aurigny Air has provided one of the test aircraft.

HyFlyer II's objective is to support a range of up to around 500 miles, which is significantly farther than the 200-mile London to Rotterdam route. During the earlier HyFlyer I project, which used a six-seat Piper Malibu aircraft, ZeroAvia said that it achieved cruise flight fueled

entirely by hydrogen-electric power, with batteries used only for supplementary power during takeoff. The company explained to AIN that it will conduct work on the 600 kW system in stages, starting with a hybrid hydrogen fuel cell and battery combination this year, then progressing to hydrogen-only flight in mid-2022.

ZeroAvia recently established a company in the Netherlands it says will support its efforts to develop commercial applications for its propulsion technology in the country and throughout the 27 European Union (EU) member states. It says the new partnership will collaborate on regulation, testing, and adoption of technology for commercial operations.

The California-based venture also has a subsidiary in the UK, allowing it to benefit from financial support provided by the UK-government-backed Aerospace Technology Institute. That company, based at Cotswold Airport in the west of England, now employs more than 50 people and anticipates hiring more, as it continues certification work with the UK Civil Aviation Authority.

"Boarding a zero-emission flight from Rotterdam to London is only the beginning of green aviation, and that will only



UK regional carrier Aurigny Air has provided ZeroAvia with a Dornier 228 to use for development work with the ZeroAvia hydrogen propulsion system.

be made possible by pioneering and promoting innovation in the sector," said Rotterdam The Hague Airport CEO Ron Louwerse. "With the Netherlands as the testing ground for aviation, we strengthen our competitive position, knowledge base, and business climate."

In the longer term, ZeroAvia intends to convert larger airliners, carrying 50 to 100 seats, to hydrogen propulsion. Such a project would require powertrains rated between 2 and 5 MW.

The original Dornier 228 remained in production until 1998 and was powered by a pair of Garrett TPE331 turboprops. In 2009, Ruag started working on

a so-called New Generation version of the aircraft in partnership with Hindustan Aeronautics, before selling the program to General Atomics. More recently, the Bavarian state government has been funding a program led by German aerospace research group DLR and MTU Aero Engines to develop a hybrid-electric version. ■



This story is from FutureFlight.aero, a news and information resource developed by AIN to provide objective, independent coverage and analysis of cutting-edge aviation technology, including electric aircraft developments and advanced air mobility.

## GE, Pratt win NASA R&D contracts for compact engine core

NASA has awarded GE Aviation and Pratt & Whitney six new contracts for research and development of advanced engine cores for single-aisle airliners, the U.S. aeronautics agency revealed in late October. Worth a total of \$18.8 million, the contracts concern NASA's Hybrid Thermally Efficient Core (HyTEC) project, plans for which call for ground testing a new compact engine core by the mid-2020s.

The contracts involve four primary areas of study: an advanced high-pressure compressor designed with smaller parts and tighter clearances; advanced high-pressure turbine aerodynamics to allow more efficient turbine operation; development of ceramic matrix composite (CMC) liners for combustors to increase performance and durability; and development of CMCs and environmental barrier coatings (EBCs) for turbine blades and vanes to increase temperatures and efficiency of turbines.

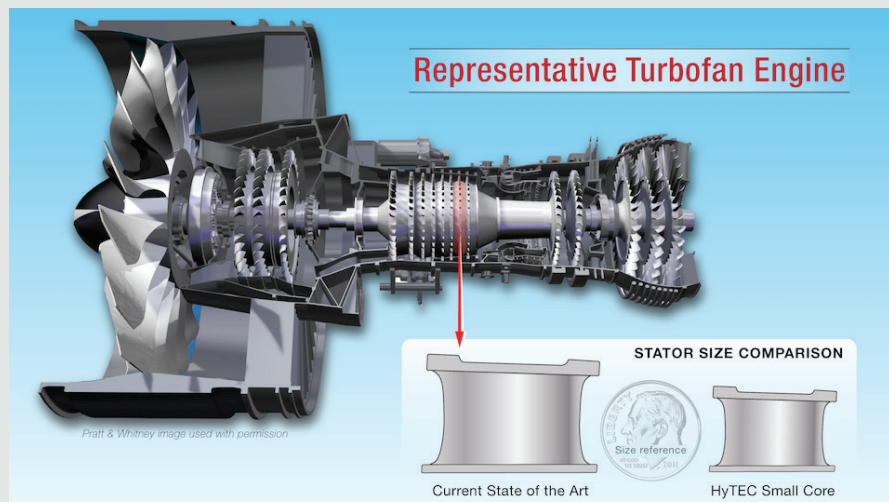
NASA said it believes that shrinking an aircraft engine's core can reduce fuel burn by 5 to 10 percent, creating a parallel reduction in emissions. The smaller engine cores also could extract about four times more power from the engine, an

important consideration for future hybrid- and turbo-electric aircraft.

"These partnerships represent NASA's commitment to quickly developing and advancing the small-core technologies needed to usher in sustainable flight," said Tony Nerone, HyTEC's project manager at NASA's Glenn Research Center. "By collaborating with industry over the next two

years, we'll leverage their unique capabilities, investments, and knowledge to develop engines that produce more electric power, are more durable, and perform the same as or better than today's turbofan engines while burning less fuel."

NASA expects to conduct ground demonstrations of small-core engines by 2026. In the meantime, the agency will use



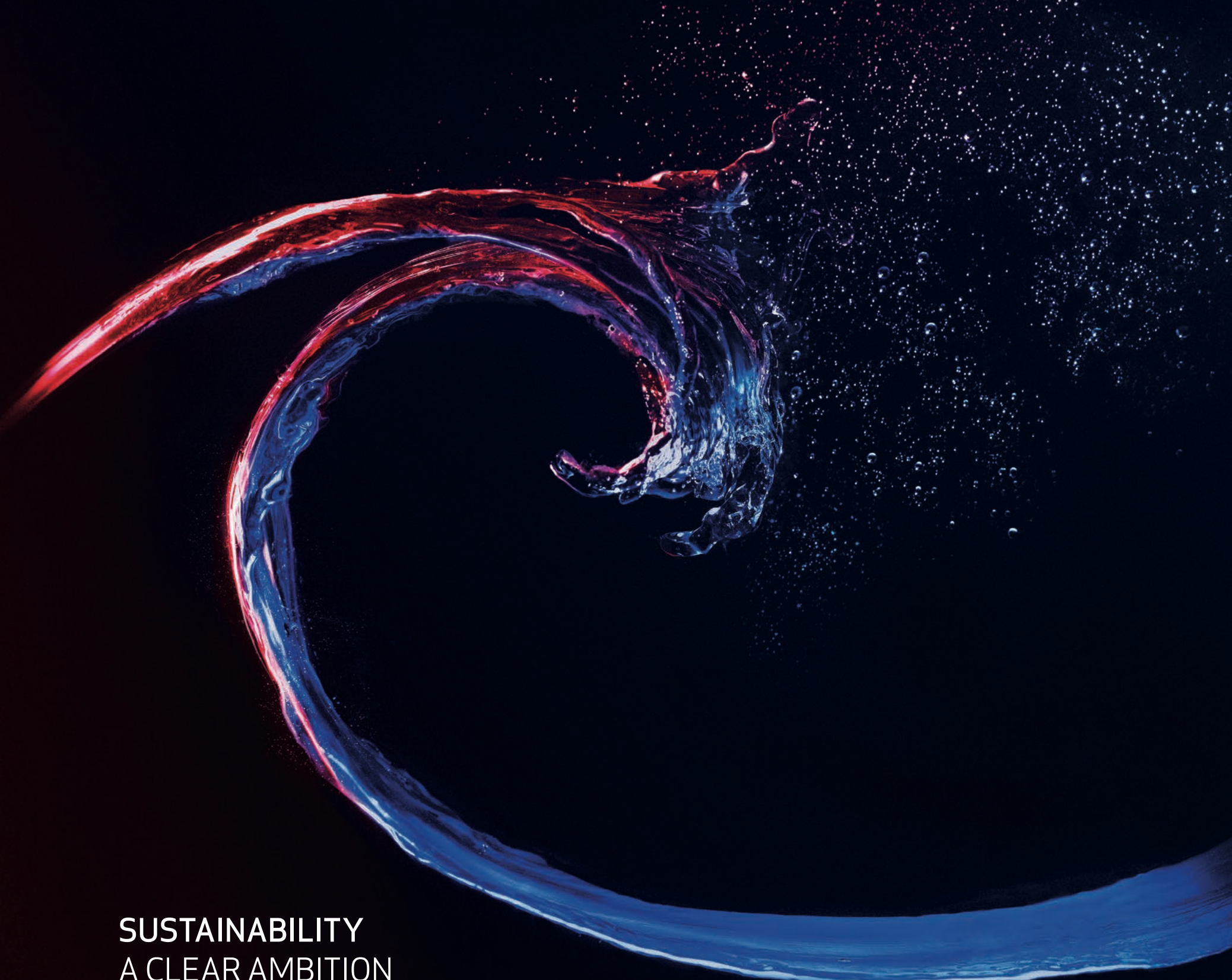
NASA's proposed HyTEC turbofan concept incorporates an advanced high-pressure compressor designed with smaller parts and tighter clearances.

its Electric Powertrain Flight Demonstration aircraft and its Electric Aircraft Testbed to further develop components and validate the benefits of electric flight.

For GE, the new contracts build on an award GE Aviation received in 2020 and managed under the HyTEC program. The 2020 award focused on maturing power-extraction technology for a next-generation turbofan engine program.

The HyTEC awards, under NASA's Sustainable Flight National Partnership, also complement NASA's recent selection of GE Aviation for a megawatt-class hybrid-electric technology demonstrator.

GE Aviation is developing compact engine core designs as part of the CFM RISE (Revolutionary Innovation for Sustainable Engines) program, which was announced in June 2021. It plans a series of technology maturation efforts and demonstrators to increase propulsive and thermal efficiency while ensuring compatibility with alternative energy sources, including 100 percent sustainable aviation fuel and hydrogen. The technology roadmap includes open-fan architecture, hybrid electric capability, and a new compact core to target at least 20 percent lower CO<sub>2</sub> emissions than today's most efficient engines produce. **G.P.**



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# Election may seal fate of East Hampton

by Mark Huber

The November 2 re-election of East Hampton, New York town supervisor Peter Van Scoyoc, after the September expiration of FAA grant assurance restrictions at the airport there (KHTO), virtually guarantees that local airport traffic will be significantly restricted in 2022.

Limits are likely on commercial operations, including a strict curfew targeting jet and helicopter traffic. The lifting of federal grant restrictions means the town can do virtually whatever it pleases with regard to airport closure or reduced operations.

In a November 2020 letter to Van Scoyoc, David Fish, FAA eastern region director, Airports Division, gave the town four options once the grant assurances expired: 1) negotiate an agreement for mandatory restrictions on aircraft operators per Part 161; 2) close the airport and then reopen it; 3) completely close the airport; or 4) continue to operate as a public-use airport.

Fish counseled that the first option would require the town to gain approval for any restrictions from the airport proprietor, all based aircraft operators, and the U.S. Secretary of Transportation while option two merely required the closure of the airport to extinguish any remaining FAA obligations including exclusive rights, revenue use, and civil rights. The town could then reopen the airport without such encumbrances.

And that appears to be what is on tap. The town's likely first move will be to temporarily close the airport, perhaps as early as January, a required initial legal precursor to converting it from public-use status to publicly owned, private use. Taken to extremes, the change could require all airport users to obtain prior permission from the town for each aircraft operation or to purchase access rights annually.

Van Scoyoc, widely seen as the principal decider with regard to the airport's future, has been transparent with regard to his vision for the airport going forward. In a series of campaign communiques he issued in October, Van Scoyoc said he favored closing KHTO "for the shortest period of time" required to convert it to private use and then reopening it with a "cautious and deliberative approach" that would not merely shift existing traffic to other area airports, including Montauk (KMTP) and Gabreski (KFOK).

The area is served by those airports as well as another airport (Mattituck, 21N) and the Southampton village heliport (87N). The latter is not open at night. "Rules and regulations must be tailored to specific operations, with the goal of limiting volume, frequency, noise, and environmental impacts," Van Scoyoc said. "We must always keep an eye on possible diversion. Restricting helicopter flights to daylight hours at East Hampton's airport

should not cause diversion to Montauk, as similar restrictions there already apply." He added that Montauk's 3,246-foot long runway is too short to handle most jet traffic.

Van Scoyoc appears to be trying to fashion a middle road with regard to KHTO as other local office candidates had favored closing the airport permanently or banning commercial jet and helicopter traffic there altogether.

Helicopter traffic, in particular, has soared at KHTO in recent years, driven by the ever-worsening clog on the Long Island Expressway—a road that was designed by the legendary Robert Moses, a man who never held a driver's license. This ground snarl combined with the emergence of per-seat helicopter and seaplane platforms such as Blade, and the pandemic, which saw thousands of New Yorkers shift their principal residences from the city to their second homes in the Hamptons. Helicopter flight time from midtown Manhattan to KHTO is a mere 32 minutes, compared with at least three hours by car and typically more—sometimes much more, depending on traffic. Annual operations at KHTO now top 28,000 and a growing number of these flights are by rotorcraft.



Peter Van Scoyoc, East Hampton town supervisor

Between 2016 and 2019, flight operations at KHTO increased by 50 percent. In 2017 alone, helicopter operations increased 27 percent and by 2018 fully one-third of all operations at the airport were by helicopters. Helicopter operations at the airport surged from 3,770 in 2016 to 5,588 the following year. Helicopter flights comprised the vast majority of all of the area's 35,000 aircraft noise complaints in 2018.

The airport, which began as a bucolic grass strip in the 1930s, is today a 600-acre hive of activity that sports a seasonal control tower and that saw 60 percent of its traffic occur in July, August, and September until the pandemic hit. Compared with 2019, flights for the last four months of 2020 at KHTO increased 14 percent in September, 68 percent in October, 58

percent in November, and 82 percent in December.

East Hampton's political leaders have consistently sought to limit airport operations over the last 20 years, most recently failing in their attempt to block special VFR (SVFR) operations there, a move seen as directed at limiting helicopter traffic. A temporary restraining order issued July 30 by U.S. District Judge Gary R. Brown blocked that gambit. In 2016 politicians tried to discriminately apply an airport curfew only to "noisy" aircraft.

What exact moves the town intends to take with regard to helicopters remains to be seen, but it is significant that in 2021 the Eastern Region Helicopter Council (ERHC) failed to reach a voluntary agreement with the airport for this year's helicopter routing there as per prior years' practice. Consulting firms hired by the town reported in October that 80 percent of area residents surveyed found the status quo with regard to KHTO operations unacceptable, but only 20 percent favored a complete closure; 80 percent believed that the airport should remain open, but with restrictions.

In October, Van Scoyoc wrote, "I anticipate that by the end of January [2022], depending on what the final results of our studies show, we will largely reduce or eliminate commercial helicopter and jet traffic, preventing the need to close the East Hampton airport completely." ■



Helisul Aviation intends to operate Eve's eVTOL aircraft in cities across South America.

## Eve starts 'simulated' eVTOL helicopter charter flights

by Charles Alcock

Embraer's Eve Air Mobility subsidiary is preparing to start trial urban air mobility operations using helicopters to connect Barra da Tijuca—an upscale suburb of Rio de Janeiro—with the Brazilian city's Tom Jobim International Airport. Flights, which began November 8, will be operated by Helisul Aviation and can be reserved through flight booking platform Flapper.

Both companies are prospective launch customers for the four-seat eVTOL aircraft that Eve intends to certify in 2026. The

Brazilian aircraft manufacturer describes the new service as a "simulation" for a concept of operations for eVTOL aircraft and says it forms part of a wider exercise started in August. This involves around 50 technical specialists from more than a dozen organizations, representing various service providers and stakeholders.

Barra da Tijuca is about 22 miles from Rio's main international airport, with a projected drive time of almost 40 minutes. The trial helicopter flights will

run for a month, with six daily flights.

The partners will be looking to assess factors such as acceptable flight routes for the services, which will have to account for noise issues around residential areas and may not be able to use the most direct routings. In this respect, they will want to consider that eVTOLs are expected to have a different operational profile from helicopters.

According to Eve, the flights will be available to passengers at "a more affordable cost than a conventional helicopter service."

According to Eve, Brazil's National Civil Aviation Agency and the Department of Airspace Control will monitor the simulation exercise. Vertiport developer Skyports, energy group EDP, aviation service platform Beacon, and air traffic management group Atech are also supporting the project. FBO group Universal Aviation will provide ground support for the helicopters.

In June, Helisul placed a provisional order for up to 50 of the all-electric eVTOL aircraft. One month later, Eve announced an agreement with Flapper under which the manufacturer guarantees up to 25,000 flight hours through as-yet-unspecified operators in various South American cities, including São Paulo, Rio de Janeiro, and Belo Horizonte in Brazil; the Chilean capital, Santiago; Bogotá in Colombia; and Mexico City. ■

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# Eviation founder explains reconfigured electric Alice

by Charles Alcock

Ground tests for Eviation's Alice electric aircraft are far advanced and the company expects to achieve a first flight before the end of this year. According to co-founder and CEO Omer Bar-Yohay, his team is awaiting a spell of good weather to kick-start the flight test campaign for the nine-passenger fixed-wing aircraft from its new headquarters at Arlington in Washington state.

Since unveiling an initial prototype of the Alice at the 2019 Paris Air Show, Eviation has largely kept the program under wraps over the past two years. In July, it unveiled a revised design as it works to achieve FAA type certification in time for service entry during 2024.

The newly published design drawings reveal significant changes from an earlier prototype, with a new T-tail configuration replacing a distinctive V-shaped tail. The Alice's two MagniX Magni650 electric propulsion units have been relocated from the

wingtips to a pylon mount at the rear of the fuselage.

Speaking with FutureFlight during the recent NBAA-BACE show, Bar-Yohay said that the new design is the result of a detailed development process, rather than some sort of eleventh-hour change in philosophy. "The development effort for Alice went through very significant iterations over the years," he explained. "We've had over 160 different models, and of them six were built, so this is yet another change that brought us to the production configuration."

Evidently, concerns over the complexity of the type certification process were a major factor driving the abandonment of the eye-catching wingtip propellers. "It's just not a very common configuration to be able to take through the certification process in a fairly fast manner," Bar-Yohay said. "But there was also the sentiment of clients and specifically the pilots of those



First flight of the Alice electric aircraft is expected by the end of the year, using the reconfigured version with engines mounted on the aft fuselage instead of the wingtips.

clients preferring to get a more traditional airplane even at a small cost in range, so we found that [propellers mounted to the rear fuselage offered] a more robust, let's say simpler and cleaner wing that allows us to transition to pilots more easily, and is going to serve us to the development of the fly-by-wire systems, the augmented stability, and getting all those advanced features the fly-by-wire allow."

Eviation's engineering team expects the new configuration to improve stability in flight. The relocated, larger propellers will deliver more power.

According to Bar-Yohay, the start-up has plenty of financial power behind the program, with strong backing from its

Singapore-based majority shareholder Clermont Group, which also owns MagniX. It also has an announced launch customer in express delivery group DHL, which has placed a provisional order for a dozen Alices.

While several other new aircraft developers are only too eager to trumpet sales announcements, raising questions as to whether these represent substantive commercial transactions, Eviation is taking a more cautious approach. "We're taking our time announcing those as they mature to actual purchase orders," said Bar-Yohay. "We have a few commitments, but we don't want to go public with them before they're actual purchase orders when significant down payments change hands, and that's really going to happen more around the first flight and the days that will follow."

Eviation sees Alice earning its living in passenger-carrying services for operating sectors as short as just 50 miles and up to around 300 miles. Operators might include carriers trying to start new point-to-point routes, but also major airlines looking for a more cost-effective way to feed traffic through their large hub airports.

In the freight sector, Eviation sees the prolific growth in e-commerce opening up opportunities for new electric aircraft. "Traditionally the cargo market looks at used planes at a very low price point and honestly, parcels don't need to go to the lavatory and they don't care too much about their condition so the fact that we have a fabulous cabin doesn't make any difference," Bar-Yohay said. Eviation believes Alice will offer this sector an attractively-priced, new-build workhorse that will be an attractive alternative to having to settle for cast-offs from passenger operations.

Eviation also intends to offer a six-seat version of the Alice suited to private aviation operations, as well as other models for a variety of special mission applications. "I believe there are quite a few areas where this makes sense because of the sustainability aspect," concluded Bar-Yohay. "But again the bread and butter of the way we look at this program is to make sure that this works for our operators from a financial perspective first and foremost, and if they're using regional jets or turboprops today they would rather switch to an Alice and justify their investment within a few years."

Apart from MagniX, the program's key suppliers include GKN, which is supplying aerostructures including the wing, and cockpit systems group BendixKing. ■

## ■ Skyrise wins new funding for FlightOS automation technology

Flight automation innovator Skyrise today completed a \$200 million Series B funding round. The start-up says it has now raised \$250 million to support its plans to certify its FlightOS technology in partnership with Robinson Helicopter and four other manufacturers.

California-based Skyrise said the new investment will accelerate the development of the FlightOS system, starting with its integration on Robinson's R66 light helicopter. In an October 27 announcement, the company said that its five partner OEMs collectively produce over half of the world's general aviation aircraft. It said it plans to reveal the identities of the other manufacturers in the coming months.

"We have relationships with many eVTOL companies," Skyrise CEO and founder Mark Groden told FutureFlight. "Our near-term focus is the aircraft that are flying today. To support urban air mobility there will need to be many more pilots and all-weather operations; we will enable both of these."

FlightOS is intended to improve safety by reducing pilot workload and training needs rather than displacing flight crew from aircraft flight decks. According to Skyrise, FlightOS will bring commercial aviation safety standards to general aviation, which it says suffers from safety risks associated with pilot errors and delays in poor weather.

The equipment replaces some of the complex controls in a typical general aviation cockpit with a touchscreen tablet



Skyrise is developing its FlightOS system to automate many core piloting functions in a way that it says will make general aviation aircraft safer to fly.

display and a joystick. Fly-by-wire hardware and software handle most of the core piloting functions, according to Skyrise, preventing pilots from inadvertently exceeding safe flight envelopes. The company says that training pilots to interact with FlightOS requires mere minutes.

Fidelity Management & Research Company and Monashee Investment Management led the Series B funding round, with several other venture capital groups participating. Previous backers Venrock, Eclipse Ventures, and Fontinalis Partners also supported the round.

"General aviation hasn't improved its technology in decades," commented Rob Broggi, a portfolio manager at Monashee Investment Management. "Technology has the potential to not just make flight safer

but to radically change our transportation system. Skyrise is building this future, and their incredible team is leading us into a new era of mobility."

Skyrise recently appointed former FAA Administrator Michael Huerta and Chris Hart, the former chairman of the National Transportation Safety Board, as technical advisors. Both industry veterans will provide guidance on the certification process for the FlightOS system.

"The general aviation industry is about to change forever," said Groden. "We're on a mission to empower anyone to fly anywhere in any aircraft as safely as the most experienced pilots in the world. Our technology will usher in a new era of mobility, from fighting fires in remote areas to relieving traffic in crowded cities." **C.A.**



# Ferrovial launches plan for 25 UK vertiports

by Charles Alcock

Infrastructure group Ferrovial is to build a network of 25 vertiports across the UK in partnership with eVTOL aircraft developer Vertical Aerospace. The facilities will be designed to support operations with Vertical's four-passenger VA-X4 eVTOL, including Virgin Atlantic Airways' plans to launch scheduled domestic services on routes of up to around 100 miles.

The October 28 announcement came a day after UK-based Vertical confirmed that it has raised an additional \$205 million from Mudrick Capital and Kouros. Combined with the \$94 million already committed by investors as part of the start-up's public investment in private equity (PIPE)-based merger and flotation with Broadstone Acquisition, the company said it has now raised more than the \$250 million it estimates it will need to certify the all-electric aircraft in 2024.

Ferrovial will now agree on locations and a design for the vertiports with Vertical. The Spain-based construction and infrastructure management group is already developing a network of vertiports in Florida with rival eVTOL manufacturer and operator Lilium.

Earlier this week, Vertical announced a collaboration with London Heathrow Airport to assess plans to integrate eVTOL air taxi operations with existing airline services at the UK's main hub. One of the sample routes proposed by Vertical would connect the city of Cambridge with Heathrow, replacing a drive of at least 90 minutes with a 28-minute flight in the piloted VA-X4 at speeds of up to 200 mph.

Among the practical issues that will need to be resolved is whether eVTOL flights would arrive airside or landside at airports, with direct access to airside potentially providing even greater time savings for travelers. Neither Vertical nor Ferrovial has indicated whether the planned vertiports will be available for use by other eVTOL manufacturers and operators.

Ferrovial invests in, develops, and operates some 33 airports worldwide. In the UK, it is a shareholder in Heathrow, as well as Glasgow, Aberdeen, and Southampton airports.

"The partnership between vertiports and eVTOLs will provide

high-speed, affordable, emissions-free travel to millions of people," said Ferrovial Vertiports CEO Kevin Cox. "This

network will boost local economies with a new model of regional connectivity."

Vertical holds provisional orders for 1,350 of its aircraft from customers including Virgin Atlantic, American Airlines, lessor Avolon, helicopter group Bristow, Iberojet, and Japan's Marubeni group. It says these commitments are worth \$5.4 billion in prospective revenues, implying

a base price of \$4 million for the VA-X4.

Of the \$205 million in further investments announced this week, \$200 million is from Mudrick Capital through convertible secured notes. The remaining \$5 million is from Kouros as a direct investment in the PIPE, which is backed by investors American Airlines, Honeywell, Microsoft M12, Rolls-Royce, and 40North. ■

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# Honeywell Forge solves FANS reporting problem

by Matt Thurber

Aircraft operators are held to high standards, but the methods of ensuring compliance with those standards can cause other problems. The Honeywell Forge team has identified a clear example of this and also developed a solution that improves safety and helps facilitate efficient flight operations across the North Atlantic.

The problem stems from transatlantic flights where FANS procedures rely on datalink messaging via satellite and position tracking using ADS-C. Basically, ADS-C and datalink messaging come with standards that must be met for accuracy and timely response. If an airline or business jet operation's aircraft don't meet the requirements, they may be sent to purgatory—in this case forced to fly away from the efficient North Atlantic Tracks or even at a terribly wasteful lower altitude where fuel consumption skyrockets.

To expand the tracks system, reduced separation of aircraft meant that datalink systems had to meet new performance criteria, and the FANS CRA website was created as a means of recording problems and disseminating performance reports. This system is maintained by Airways New Zealand.

However, the results of measurements of ADS-C and datalink accuracy are compiled only at six-month intervals and delivered three months after that. So if an operator is having an accuracy problem, they might not know until nine months after the fact, explained Honeywell senior technical sales manager Carey Miller. "Corporate operators would rather stay on top of the situation," he said. Operators are required to monitor their performance, as specified in their letters of authorization for FANS, and if their aircraft isn't meeting performance requirements, they must submit a problem report. "And they can use the only tool that is provided: the CRA report," he said.

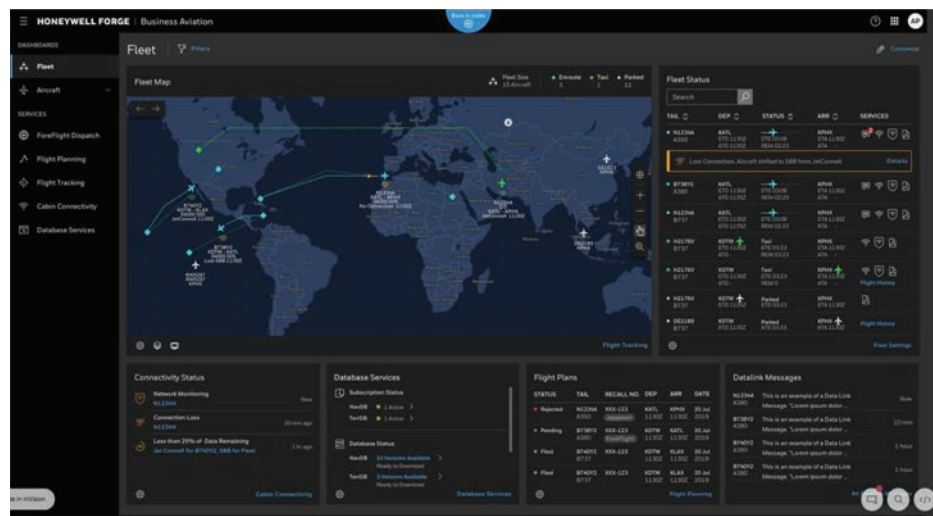
For a corporate operator that flies transatlantic routes only occasionally, there is another facet to this situation. If they don't meet the performance criteria and get kicked off the tracks, then it could take a while to be allowed back on. Some air navigation service providers (ANSPs) require 10 to 15 trips to verify that an aircraft is meeting performance criteria. While this isn't difficult for an airline flying those routes regularly, a corporate operator that flies to and from Europe twice a year might not get welcomed back to the tracks for many years, until it can log enough flights to prove compliance.

Honeywell's Forge fleet-management platform provides a simple way to solve this problem, Miller explained. Operators signed up with Honeywell's datalink service now have access to Forge's performance-based communications and surveillance (PBCS) tool, which provides near-instant feedback for FANS surveillance (ADS-C) and communications performance.

Forge users simply look up their aircraft, then click on the analytics tab, then PBCS. "You can get this 15 minutes after landing," he said. "It shows every leg."

If an aircraft isn't meeting the performance standards, the Forge PBCS tool shows this in detail, drilling down to every position report and CPDLC (datalink) message. This is far more detail than is available with the CRA report, he added, making troubleshooting the problem that caused the missed performance much simpler.

In a recent case, a customer switched satcom service providers and said their satcom didn't seem to be performing



The Honeywell Forge platform provides a simple way for aircraft operators to monitor FANS performance during transatlantic flights.

properly. Fortunately, the customer flagged this problem before an upcoming international trip. With the help of the Forge team, the system's slowdown was confirmed, and the service provider eventually discovered that it had set the airplane up incorrectly in its system. Once that was fixed, the Forge team ran ground tests to confirm the system's performance. And when the operator flew two FANS trips subsequently, Miller said, "he was dead-on, 100 percent. He was really happy with the way it was resolved within a matter of days from when he reported the slowness."

Without the Forge PBCS tool, this operator would likely have not received the CRA report showing the performance problem until months after the planned FANS trips. Honeywell developed the Forge PBCS tool last year and began offering it to customers early in 2021 at no extra charge for datalink customers.

Miller recommends that operators with access to the PBCS tool download the reports after each FANS flight, which can be done in many formats, including Microsoft Excel, and save them as proof of performance in case any ANSPs raise questions about FANS performance. ■

# FAA issues SAIB on 5G radio altimeter interference

by Matt Thurber

The FAA has published a Special Airworthiness Information Bulletin—AIR-21-18—that highlights potential radio altimeter interference issues by new 5G cellular networks. The 5G network deployment in the U.S. starting on December 5 is in the 3700 to 3800-MHz bands then later in the 3700 to 3980-MHz bands. Radio altimeters use the 4200 to 4400-MHz band.

In other countries, bands from 3300 to 4200 MHz are already deployed, according to the FAA, and some "have implemented temporary technical, regulatory, and operational mitigations, including temporary proximity and power restrictions." The FAA added, "There have not yet been proven reports of harmful interference due to wireless broadband operations internationally, although this issue is continuing to be studied."

The SAIB contains many recommendations for aircraft and avionics manufacturers and aircraft operators, ranging from reporting any problems to the FAA to documenting and reporting on the types of radio altimeters installed in aircraft.

FAA TSO-C87A, the current radio altimeter Technical Standard Order

under which these devices are approved, doesn't address compatibility with adjacent-band operations, according to the FAA. The agency said it is "conducting a risk assessment to ascertain whether further mitigation is warranted in addition to the recommended actions in this SAIB."

Meanwhile, Gogo Business Aviation, which is deploying its own 5G network for its air-to-ground connectivity system, said its system operates in frequency bands well away from those of radio altimeters.

"Gogo has never used the frequencies under discussion, nor do we plan to use those frequencies for our 5G network," said Sergio Aguirre, president of Gogo Business Aviation. "The spectrum bands used by Gogo, currently and following the launch of our 5G network, have been in use for decades and have never been shown to interfere with aeronautical services."

According to Gogo, its 5G network is using "spectrum it owns in the 800-MHz band and additional unlicensed spectrum in the 2.423 GHz to 2.475 GHz range [2423 to 2475 MHz], which has sufficient spacing from the radio altimeter operating

range to preclude any interference by the Gogo 5G system."

Radio altimeter manufacturer FreeFlight Systems has already fielded a new product line that isn't susceptible to 5G interference. Its Terrain Series RA 5500, RA 6500, and RA 7500 radio altimeters are optimized for all sizes of aircraft and have "redesigned RF circuitry built to withstand 5G interference," according to the company.

In October 2020, the RTCA issued a report generated by a task force assigned to assess the issue, after the Federal Communications Commission voted to allocate the 3.7 to 3.98 GHz band for flexible use, including 5G applications. According to the RTCA, "The results presented in this report reveal a major risk that 5G telecommunications systems in the 3.7 to 3.98 GHz band will cause harmful interference to radar altimeters on all types of civil aircraft...The results of the study performed clearly indicate that this risk is widespread and has the potential for broad impacts to aviation operations in the United States, including the possibility of catastrophic failures leading to multiple fatalities, in the absence of appropriate mitigations."

RTCA special committee SC-239 has been formed to develop "adjacent band-compatible minimum operational performance standards for future radio altimeter designs." The FAA is participating in SC-239 activities. ■



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The current Million Air facility at San Juan's Fernando Luis Ribas Dominicci/Isla Grande Airport will be rebranded as the newest member of the growing Modern Aviation FBO chain.

### Modern Aviation Expands to the Caribbean

Rapidly-growing FBO chain Modern Aviation has expanded with an agreement to purchase two FBOs in Puerto Rico. The deal calls for Modern to buy Hill Aviation, a Million Air franchisee that operates the FBO at Puerto Rico's Fernando Luis Ribas Dominicci/Isla Grande Airport (TJIG) in San Juan, as well as a satellite facility at the island's Jose Aponte de la Torre Airport (TJRV) in Ceiba.

In 2019, Hill bought out the Signature FBO at TJIG, making it the lone FBO there. The facility at Isla Grande includes a 5,000-sq-ft terminal and 88,000 sq ft of hangar space that can accommodate up to midsize business jets. Plans call for the construction of a 30,000-sq-ft hurricane-hardened concrete hangar that can shelter larger aircraft.

The deal, which is expected to close by year-end, also includes the company's Part 145 repair station. Hill will retain its aircraft charter and management operation, which remain based at the facility.

### Propeller Airports Buys Seattle FBO

Washington State-based airport development and management company Propeller Airports has purchased Castle & Cooke's FBO at Seattle-area Snohomish County Airport (KPAE), which is also

known as Paine Field. In conjunction with the acquisition, the company has launched a new subsidiary, Propeller Aero Services, that will operate the facility and focus on FBO development.

Propeller intends to build a new \$20 million FBO terminal and hangar complex at KPAE. With ground-breaking slated for mid-2022, plans call for a 12,000-sq-ft terminal featuring a passenger lobby with fireplace, 20-seat conference room, pilot lounge with snooze room, in-house catering kitchen, theater room, concierge service, and crew cars. Propeller expects to renovate the existing 5,000 sq ft terminal, which it will dedicate to light general aviation traffic after the new facility opens.

The company also plans to construct a 40,000-sq-ft heated hangar at the airport. When combined with an existing hangar, this will give the location 50,000 sq ft of hangar space capable of sheltering aircraft up to a Bombardier Global 7500.

Castle & Cooke will retain its FBOs at Daniel K. Inouye International Airport in Honolulu and at Los Angeles-area Van Nuys Airport.

### Sheltair To Expand Hangar Space at Tampa FBO

Sheltair has broken ground on a new hangar and office complex at its Tampa International Airport (KTPA) facility in Central Florida. The \$25 million

project, the start of which was delayed due to Covid, will consist of four hangars ranging from 14,562 to 33,269 sq ft, each with build-to-suit offices. This will add a total of more than 77,000 sq ft of aircraft storage space for business jets and 32,000 sq ft of tenant office space.

When completed in the third quarter of 2022, the project will expand the FBO's existing 150,000 sq ft of hangar space. It will also add a gated parking lot with special security for the city's local sports teams, including its champion Buccaneers football and Lightning hockey teams.

### Indianapolis FBO To Open New Hangar Complex

First Wing Jet Center, the lone FBO at Indianapolis Executive Airport (KTYQ), expects to open a new \$3.6 million "executive hangar" complex by the end of the year. The new facility will add a dozen 3,900-sq-ft heated, single-tenant hangars with 18-foot-high doors that can shelter light jets and turboprops.

"The hangars we are building are unique in this part of the state," said company v-p and general manager Sean White, explaining that most of the area's currently available private hangars are smaller T-hangars or larger shared hangars. The new hangars, he said, will provide an "option for customers who own large or multiple airplanes that previously wasn't available in central Indiana."

### Million Air to Land in Hawaii

Million Air will add Hawaii to its network starting early next year when a temporary facility operated by its franchisee Freeman Holdings Group opens as the second FBO at Honolulu Kalaeloa Airport/John Rodgers Field.

Formerly Barbers Point Naval Air Station, the airfield, less than 10 miles from Daniel K. Inouye International Airport, was turned over to the state in 1999 when the military facility closed. It features an 8,000-foot main runway and offers an uncongested alternative to Honolulu's

busy main airport, as well as access to the trendy Ko Olina resort area.

The first phase of construction on the permanent \$20 million FBO includes a fuel farm with a capacity of 150,000 gallons of jet-A and 10,000 gallons of avgas. It is slated for completion by the end of the year. Groundbreaking on a 10,000-sq-ft terminal with café and a 30,000-sq-ft hangar, capable of sheltering ultra-long-range business jets, is slated for the second quarter of 2022.

"We are always looking for underutilized airports across the country that would benefit from our involvement and private investment that would serve as a catalyst for increasing activity," said Freeman CEO Scott Freeman. "We have long had Kalaeloa on our list of potential growth locations, and after some due diligence, we felt it was a project worth pursuing."

### Sky Harbour Tapped for Dallas-area Hangar Complex

Aviation real estate developer and operator Sky Harbour has been selected by the town of Addison, Texas, to establish a new private hangar complex at its Dallas-area airport (KADS). Sky Harbour builds turnkey, single-tenant luxury hangars, with its own dedicated ground handling staff and equipment at each location.

KADS will be the rapidly-expanding company's sixth project in the U.S. Its campus at Houston-area Sugar Land Regional Airport, consisting of 13 NFPA Group 3 modular hangars ranging from 8,000 to 16,000 sq ft each, is now operational, while construction is underway on facilities at Nashville International and Florida's Miami Opa-Locka Executive Airports. Those locations will open in September 2022. Additional hangar groupings at Denver Centennial and Phoenix Deer Valley airports are in the site-development stage. At KADS, Sky Harbour is planning to build six hangars on the east side of the runway for an approximate total of 110,000 sq ft of aircraft storage space, as well as add another 2.3 acres of ramp. A timeline for construction has not yet been established, according to the company. ■



Newly-formed Propeller Aero Services, the FBO subsidiary of airport operator and management provider Propeller Airports, will build a new FBO at Seattle-area Paine Field.



This rendering shows the planned Million Air FBO at Honolulu's Kalaeloa Airport. The company plans to begin operations in the Aloha State starting in early 2022.



# Celebrating 40 Years of Patient Flights

In December 1981, Corporate Angel Network (CAN) completed its first flight, which transported a pediatric cancer patient home to Detroit, MI after receiving care in New York, NY. Today, 40 years and 66,000 patient flights later, CAN proudly partners with over 500 corporations to transport patients to specialized medical centers and back home again.

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- Jeff McClean,  
Vice President Global  
Flight Operations,  
Procter & Gamble





## Antavia Opens Larger Wheels, Brakes MRO at Paris CDG

Ametek MRO group company Antavia has opened a new, larger wheels and brakes maintenance and repair facility at Paris Charles de Gaulle Airport. Specializing in commercial, business, military, and government jets, the 2,500-sq-m (26,910-sq-ft) facility has been designed to replicate Antavia's facility near Toulouse and features workspaces created around lean principles. The facility enables the company to add equipment and provide shorter overhauls and tire changes. It also holds a significant inventory of spare parts, including tires valued at more than \$1 million. The opening of this facility comes on the heels of Antavia marking its 40,000th wheel and brake repair milestone.

## Wichita State Launches AMT Earn-and-learn Program

Wichita State University (WSU), WSU Tech, and the Werx MRO division of WSU's National Institute for Aviation Research is launching a program in January that will provide full-time employment for individuals pursuing a certificate as an aviation maintenance technician (AMT). Those selected for the Get to Werx program will receive a competitive wage and benefits working at the school's MRO shop while attending nine semesters of WSU Tech's aviation maintenance technology program, successful completion of which will earn them an associate degree of applied science. It also will make them eligible to sit for FAA certification in airframe and powerplant, as well as earn credits toward a bachelor of applied science in organizational leadership and learning from WSU. Tuition reimbursement will be paid upon completion of each successful semester.

The first class will be open to between 25 and 30 students, with plans for a second class to start in fall 2022. The Greater Wichita Partnership is also



Western Aircraft's new hangar joins eight other buildings and hangars totaling 90,000 sq ft on 18 acres at the southwest corner of Boise Airport.

offering a \$1,000 relocation stipend for AMT students who reside more than 75 miles outside of Wichita.

## Premier Private Jets Acquires Michigan Interiors Firm

Premier Private Jets has expanded its MRO capabilities at Oakland County International Airport (KPTK) in Michigan with the acquisition of Unique One Aircraft Avionics & Interiors, also based at KPTK. The deal enables the Part 135 operator and Part 145 repair station to provide upholstery, carpet, lighting, entertainment systems, cabinetry, and cabin redesign and modification for its floating fleet of owned jets, as well as for third-party owners and operators.

## Western Aircraft Wraps Up First Phase of \$17M Expansion

Western Aircraft has opened a 53,000-sq-ft hangar at Idaho's Boise Airport (BOI), marking the completion of the first phase of a \$17 million MRO expansion by the Greenwich AeroGroup subsidiary. The new hangar joins eight other buildings and hangars totaling 90,000 sq ft on 18 acres at the southwest corner of BOI. As part of the expansion, the Part 145 repair station and FBO is adding a total of 93,000 sq ft, the second phase,

including a 40,000-sq-ft building that will house Western's avionics and interiors shops, as well as administrative offices. The second phase is expected to be completed by the end of the year.

## Lee Aerospace Offers Learjet 55/60 Windshields

Lee Aerospace has begun offering FAA-approved aftermarket windshields for the Bombardier Learjet 55 and 60 to help alleviate the limited availability of these parts, particularly on the latter model whose windshield includes a heated crew shield. The Wichita-based supplier is also the OEM for the types' cabin windows. Installation of the windshields can be performed by Lee's team of FAA-certified window repair technicians, which the company said are strategically located across the U.S. Lee estimates that 393 Learjet 55/60s are still flying.

## Bombardier Agreement Expands Duncan's Maintenance Approvals

A new authorized service facility (ASF) agreement with Bombardier allows all three of Duncan Aviation's primary MRO facilities to perform service on all Learjet, Challenger, and Global 5000/5500 and 6000/6500 jets. Under the agreement, the Duncan facilities are authorized to perform both new aircraft warranty and service bulletin work on nearly all of Bombardier's products. Previously, Duncan's Lincoln, Nebraska facility could provide authorized service only on Learjets, while its Battle Creek, Michigan facility could provide service on both Learjets and Challengers. Its Provo, Utah facility, on the other hand, could provide authorized service for Learjets, Challengers, and Globals, but not on the 5500 or 6500 models.

## Textron Aviation Expands Service Options in Stuttgart

Textron Aviation is expanding its line maintenance station in Stuttgart, Germany, to become a satellite service center. The effort includes doubling both its hangar space and the team

of engineers there, as well as adding service capabilities for Beechcraft King Air turboprops. With the expansion, the Wichita-based airframer said it will be able to undertake a scope of work similar to that provided at its traditional service centers but in a smaller capacity.

Also, the expansion enables Textron Aviation's facility at Stuttgart Airport to offer customers shorter downtimes and increased flexibility. In Europe, the company supports a fleet of more than 1,800 business jets and turboprops.

## GrandView Enrolls in P&WC's Engine Mx Program

Charter operator GrandView Aviation has enrolled in Pratt & Whitney Canada's (P&WC) Fleet Management Program (FMP) for the PW535E engines that power its 13 Embraer Phenom 300 light jets. The program locks in lower operating costs and simplifies management of GrandView's fleet of turbofan engines by reducing the overhead associated with in-house engine maintenance and logistics, according to P&WC.



Constant Aviation's AOG mobile teams support 86 aircraft models from 14 OEMs.

## Constant Bolsters AOG Network as Utilization Increases

Constant Aviation has expanded its AOG network to include Van Nuys, California; Bedford, Massachusetts; and Sugarland, Texas, in light of increased utilization of business aircraft, the Cleveland-based Directional Aviation company announced. As a result, the MRO provider now has AOG teams in 27 U.S. cities in 17 states, which represents a 28 percent increase in the size of its network since 2020. The company's AOG mobile teams now support 86 aircraft models from 14 OEMs.

## FL Technics Contract Opens Eastern Europe to Meggitt

UK-based Meggitt has signed a three-year, multimillion-euro contract with Avia Solutions Group's FL Technics—and by extension sister company Jet Maintenance Solutions—to supply MRO services to operators in Eastern Europe and the Commonwealth of Independent States for sensors, valves, actuators, and fire extinguishers. The agreement, which FL Technics calls a "SMARTSupport" contract, builds on an existing one with FL Technics for the rest of Europe. ■



Under a new agreement with Bombardier, Duncan Aviation's three MROs are now authorized to perform maintenance on all Learjet, Challenger, and Global 5000/5500 and 6000/6500 jets.



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by David Jack Kenny

**PRELIMINARY REPORTS****Turbine Commander Lost in Apparent Spin****ROCKWELL INTERNATIONAL 690B,  
SEPT. 28, 2021, HILES, WISCONSIN**

The three crew members were killed and the airplane destroyed after it departed controlled flight during an aerial imagery survey flight for the Wisconsin Department of Natural Resources. The Part 91 flight to capture images of forest vegetation departed from the Rhinelander-Oneida County airport at about 8:50 a.m. Preliminary ADS-B data showed that it climbed to 15,600 feet and reached a maximum groundspeed of 209 knots, which decayed to 93 knots over the course of about two minutes. Three minutes after it levelled off, ATC heard a radio transmission of “Mayday, Mayday, Mayday...we’re in a spin.” The flight was not under ATC control or receiving flight following at any time.

A witness who saw the airplane spinning “nose down at a high rate of speed” estimated its rotation at “30 to 60 rpm” but did not observe the impact. A combined aerial and ground search found the wreckage in forested wetlands about 10 miles east of Eagle River, Wisconsin. Debris was concentrated within a radius of about 25 yards, with most below the water’s surface but some fragments found in the trees. Clear skies were reported at the time of the accident, with 10 miles visibility and southerly winds of four knots.

**Four Killed in Centurion Turboprop Conversion****CESSNA P210 TURBINE CONVERSION,  
OCT. 8, 2021, ATLANTA, GEORGIA**

The 1978-model airplane crashed immediately after takeoff from the Dekalb-Peachtree Airport, killing all four on board. Airport surveillance footage showed that it lifted off from Runway 21 in a nose-high attitude after a ground run of about 1,000 feet and rolled left into an inverted attitude before crashing nose-first next to the runway. A post-impact fire consumed the cabin and instrument panel and caused extensive damage to both wings and the tail. Both actuator rods had separated from the elevator trim actuator and were free to rotate. The position of the inboard rod corresponded to a position of 5 degrees tab down, while the outboard was at 5 degrees tab up.

The airplane had been modified under a supplemental type certificate (STC) that replaced its original turbocharged Continental piston engine with a Rolls-Royce 250-B17 F/2 turbine engine rated for 450 shaft horsepower. A five-bladed MT composite propeller had been installed under a second STC. When the work was

completed on July 19, 2021, the engine had been run for 2.3 hours since overhaul.

**Billionaire Among Eight Fatalities in Milan Departure Crash****PILATUS PC-12/47E, OCTOBER 3, 2021,  
SAN DONATO, ITALY**

The Romanian-registered turboprop crashed into an empty office building minutes after taking off from the Milano-Linate Airport, killing all eight on board. Press reports indicate that the flight was bound for the Olbia Airport on the island of Sardinia. The casualties included 68-year-old Romanian billionaire Dan Petrescu, his wife, and their 30-year-old son. It was not immediately clear who was at the controls.

The flight climbed to 5,300 feet before entering a rapid descent. The Milan prosecutor told reporters that the take-off proceeded normally “until a certain point, then an anomaly appeared on the radar screen and it plunged.” Air traffic control did not report any distress calls. Weather conditions including variable 5-knot winds from the southeast and broken ceilings at 5,000 feet.

**INTERIM REPORTS****Jump Plane Ditched in Wadden Sea****CESSNA 208, JULY 26, 2021,  
NORDERNEY AIRPORT, GERMANY**

The skydiving platform crashed into the water on approach to the Norderney Island Airfield, killing the 65-year-old commercial pilot. The flight was expected to land at Norderney Airfield to pick up 12 parachutists who’d jumped over the island from 14,000 feet. One minute after the drop, the pilot turned left to a southeasterly heading and began a descent in coordination with the radar controller, initially coming down at 4,000 feet per minute and 160 knots groundspeed. After reaching the mainland he made about a 210-degree left turn back over the Wadden Sea to enter an extended left base for Norderney’s Runway 26, moderating the descent rate after reaching the water. The last contact by military radar showed the airplane at an altitude of 232 feet and 150 knots groundspeed.

A witness in a boat near the point of impact described the Caravan hitting the water “in swift straight flight with consistent engine and propeller noises and a pitch angle of about 30 degrees.” It overturned immediately after impact in about 1.5 meters (5 feet) of water over the mud flats. The first rescue boat reached the scene 20 minutes later, but the pilot’s injuries were subsequently deemed unsurvivable. Most of the wreckage

was recovered over the next two days.

The accident occurred on his eighth flight of the day. The previous seven dropped skydivers above Borkum Island, the point of departure of the accident flight, and averaged 17 minutes in duration. The pilot took a 30-minute break after the fourth flight and a 16-minute rest before the accident flight. A logbook recovered from the wreckage listed 6,562 hours of flight experience that included 18,194 landings. All but one of his flights since Aug. 8, 2017 had been skydiving flights.

**FINAL REPORTS****Nose Gear Failure Tracked to Missing Hardware****RAYTHEON HAWKER 800XP, OCT. 7, 2019,  
FORT MYERS, FLORIDA**

Following an emergency landing due to the nose gear’s failure to either retract or extend again, the nut, washer, and cotter pin that should have secured the nose gear actuator drag stay were discovered to be missing. The threads on the attaching pin were found to have been deformed. The operator’s heavy check maintenance provider had overhauled all three legs of the landing gear in January 2019, nine months and 124 cycles before the accident. No other repairs or inspections of the nose gear had been performed in the interim, and though the provider’s task job cards for the nose gear overhaul had been signed off by a quality assurance inspector, the NTSB concluded that the washer, nut, and pin were never installed.

The Part 135 flight departed from Naples Municipal Airport at 11:05 p.m. with a planned destination of the Kerrville, Texas Municipal Airport. During the initial climb, the captain felt a vibration and “thud” from the nose and the nose gear’s red warning light illuminated. The main gear appeared to have retracted normally. The crew followed checklist procedures to extend the main gear without success, and chose to divert to the Southwest Florida International Airport in Fort Myers to take advantage of the dry 12,000-foot runway. The nose gear remained in its well after touchdown, and the airplane skidded to a stop on the runway. The two passengers and both pilots evacuated without injury through the main cabin doors.

**Procedural Irregularities Lead To Hoist Cable Failure****AIRBUS HELICOPTERS AS 350 B3,  
FEB. 4, 2020, BULGA,  
NEW SOUTH WALES, AUSTRALIA**

Inconsistent stowage procedures and an incorrect tally of operating cycles caused the rescue helicopter’s hoist cable to fracture during a maintenance procedure

intended to rebalance the tension of the cable’s strands. No flight or ground crew members were injured when the weight bag and hook separated from the cable and fell to the ground.

The ATSB found that the New South Wales National Parks and Wildlife Service (ParkAir) crews did not consistently follow the manufacturer’s recommended procedures for tensioning the cable after deployment to minimize vibration and associated wear. Its method of counting operational cycles also resulted in the cable having been operated well in excess of its recommended life limits, likely contributing to the wear. In response, ParkAir implemented revised training procedures including the use of a gauge to measure cable compression after stowage, a more conservative method for counting duty cycles with a life limit of 500, and inspection requirements consistent with Civil Aviation Safety Authority (CASA) Airworthiness Directive AD/SUPP/10.

**Communications Lapses End in Gear Collapse****FAIRCHILD SA226-T, AUG. 19, 2020,  
GUNNEDAH, NEW SOUTH WALES, AUSTRALIA**

The pilot’s failure to check notams combined with a recent change in CASA’s Manual of Standards (MOS) governing Australian airports lead the solo pilot to attempt to take off while the airport was closed. As the airplane accelerated on its takeoff roll, he saw “something on the runway surface in the distance,” but thought they were patches in the pavement. After realizing they were excavations he attempted to avoid them but was unable to clear the left main gear, which collapsed after hitting two holes excavated in the pavement of Runway 29, resulting in a propeller strike and damage to the left wing. He was not injured.

The pilot, who landed there the previous afternoon, was unaware of the notam closing the airport for paving work from 0700 to 1500 that had been filed the previous day. The windsock had been marked with a white “X” visible from the air to advise arriving pilots of the closure, but this was not visible (or designed to be) from the ground. He advised Brisbane Center of his intention to take off, but by the time the Brisbane controller checked notams and noted the closure, he’d left the frequency.

The week before the accident, the MOS was revised to require a works safety officer on the site of airport construction projects, obviating the requirement to mark each out of service runway and taxiway. The new requirement was sent by e-mail to a former staff member who was no longer employed by the airport and was never seen by airport staff. The e-mail did not return as undeliverable, leaving CASA unaware it had never been received. ■

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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SAFETY: RUNWAY EXCURSIONS AND X-WINDS, PART 2.  
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# FAA clears path for supersonic tests

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With the 2022 revision to NFPA's Standard on Aircraft Hangars easing the requirements for hangar fire foam systems in Group II hangars, costly accidental discharge events may end.

## NFPA removes bizav hangar foam requirement

by Curt Epstein

The National Fire Protection Association (NFPA) has removed the requirement for foam fire systems in Group II hangars under its just-published 409 Standard on Aircraft Hangars—a change long anticipated by the business aviation industry. Group II hangars include those with door heights of 28 feet or less and a single hangar bay less than 40,000 sq ft. While NFPA has no rulemaking authority on its own, its guidance is generally accepted as an industry standard and referenced by state and local governments when approving hangar construction.

This measure had been championed by hangar-keepers and NATA, which pointed out the inefficacy of foam systems. Despite a propensity for costly accidental discharges, the systems virtually never encountered the types of situations they were designed to safeguard against.

“Historically there has only been one path, prescriptive; you are this size hangar, you have to do this,” said Michael France, NATA’s managing director of safety and training. “The new standard includes a performance-based design process and a risk-analysis process that provides alternative methods for FBOs and other aviation businesses based upon their specific location, operations, hangar designs and so on, to propose changes to the way they are going to protect against fire, and then empowers the local fire marshal or municipality—whoever has authority—to be able to approve those [changes].”

Under the new standard, FBOs and aviation businesses with Group II hangars would not require the pricey foam systems and could rely on other firefighting equipment such as sprinklers if hazardous activities such as fuel transfer, welding, torch cutting, soldering, fuel tank repairs, and spray finishing are not conducted in them.”

The revision is good news for those with plans for developing new hangars, as the foam systems can add 30 to 40 percent to the total cost of construction. But even for those with hangars already so equipped,

the possible deactivation and removal of these systems could save them thousands of dollars a year in periodic maintenance and testing, along with avoiding the threat of an accidental foam discharge, which can cost millions of dollars in remediation.

France explained that his organization’s focus is now on creating educational materials to create awareness of the new standard. “Then from there, we will begin to help our membership understand how to leverage that standard whether it is new hangar development or with existing hangars wanting to migrate away from a foam system.” He noted that hangar operators can now use this new 409 standard in their discussions with their local authorities. “If I were an FBO and I had a foam system, I would begin that conversation with ‘Have you seen the new standard, there are some changes in it. How do you see that impacting our ability to shut down our foam system and move to a closed head sprinkler system or something along those lines?’”

Along with the foam system revision, NATA had requested a height change to the hangar doors under the Group II classification, due to the increasing size of large-cabin business jets. While the NFPA technical committee rejected an across-the-board door height increase for the category at its meeting earlier this year, the organization’s standards council acknowledged that the performance design review and the risk analysis processes were perfectly acceptable routes for a developer to request an increased door height for their new hangar on an ad hoc basis. “Really the door height was the one thing we really hoped to get that we did not,” France told AIN, “but we do have a pathway for FBOs to be able to design and submit for approval hangars that have door heights above 28 feet, yet maintain Group II protection requirements.

“As we’ve said all along, the [hangar fire protection] codes needed to begin the process of modernization, and we think this is a great first step,” France concluded. ■

**Within 6 Months**Dec. 4, 2021 and Jan. 4, 2022 **NEW****U.S.: Covid Emergency Temporary Standard**

An emergency temporary standard (ETS) from the U.S. Occupational Safety and Health Administration requires that by Jan. 4, 2022, all private companies with 100 or more full- or part-time employees on-site and in remote locations be completely vaccinated against Covid-19 or undergo weekly Covid testing. Starting Dec. 4, 2021, unvaccinated workers must wear face coverings when indoors or in vehicles with other employees. The ETS, effective until May 5, 2022, also requires employers to provide paid leave time to get vaccinated and for any sick time to recover after each dose. Employees of the U.S. Postal Service are also covered under this ETS.

Jan. 26, 2022 **NEW****Europe: Small Helicopter Certification Regulations**

The European Union Aviation Safety Agency has proposed revising small helicopter certification regulations to provide more proportionate and cost-efficient rules to enable the use of the latest technology for equipment, systems, and installations. The proposal aims to modify the application of stringent safety objectives to simpler small rotorcraft which currently creates a cost barrier to innovation and the installation of state-of-the-art equipment. Comments on the proposal are due Jan. 26, 2022.

April 30, 2022

**Colombia: ADS-B Out Mandate**

Starting on April 30, 2022, unless specifically authorized by ATC, no person may operate an aircraft within Colombian territory in any controlled airspace or other airspace in which a transponder is required without ADS-B Out operational capability.

June 10, 2022

**U.S.: Requirement for Pilot Records Database Reporting**

Reporting information to the FAA's Pilot Records Database about individuals employed as pilots in commercial operations (including Part 135 air taxi and Part 91 air tour operators) is required beginning on June 10, 2022. Required information encompasses drug and alcohol testing results, training, qualification, and proficiency records, final disciplinary action records; records concerning an applicant's or employee's separation of employment; and the verification of a motor vehicle driving record search.

**Within 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 can be produced without FAA-approved remote ID 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.

Nov. 13, 2022

**Australia: Airport Certification**

Revised Australian airport certification regulations (CASR Part 139) and an accompanying revised manual of standards (MOS) went into effect on Aug. 13, 2021. Under a transition period, operators of certified airports have until Nov. 13, 2022 to fully comply with the requirements and MOS publications.

Dec. 12, 2022

**Canada: Duty/Rest Rules**

Revisions to duty time and rest regulations for Canadian-registered commuter and air taxi operators of turbine and non-turbine aircraft (CAR Parts 704 and 703) go into effect on Dec. 12, 2022. Transport Canada said the changes include: prescribed flight and duty time limits that respect modern scientific research and international standards to limit the amount of time a crewmember can be on the job; and fatigue risk-management systems that will require operators to demonstrate that any variance to the prescribed flight and duty time limits will not adversely affect the level of flight crew fatigue or alertness.

Dec. 31, 2022

**New Zealand: ADS-B Out**

Covid-19 pandemic implications 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 provision will apply in all of New Zealand's controlled airspace by Dec. 31, 2022.

Dec. 31, 2022

**Mexico: CVRs and FDRs**

Cockpit voice and flight data equipment requirements for turbine aircraft operations (including air taxis) go into force incrementally from Dec. 31, 2020 through Dec. 31, 2022 based on the number of aircraft that are in an operator's fleet. The rules generally apply to turbine airplanes with 10 or more passenger seats and large turbine helicopters.

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

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*AllianceJet* brought **Hervé Laitat** on board as CEO. Laitat, who has 20 years of aviation experience, most recently was group chief strategy officer as well as CEO of Luxavation Belgium and also has served as a board member and treasurer of the European Business Aviation Association for 15 years.

*Wheels Up* promoted **Vinayak Hegde** to president. Hegde, who came to *Wheels Up* in May as chief marketplace officer, has more than 20 years of experience in technology, marketing, and product development with companies such as Amazon and Airbnb.

*Inmarsat* named **Philippe Carette** to head up its aviation business unit as president. Carette, who has 30 years of technology and aerospace experience, joined *Inmarsat* after spending the past eight years with Thales, including as CEO of the electronics specialist's InFlyt Experience business.

*JetHQ* promoted **Chris Morales** to president of its Latin America region, overseeing territories including Mexico, Central America and the Caribbean, and South America. Morales, who has more than 25 years of aviation sales and management experience, has served with the company since 2016 and previously was v-p of sales.

*Jet Linx* promoted **Jay Vidlak** to the newly created position of senior v-p aircraft. Vidlak, who began his career with Mayo Aviation, joined *Jet Linx* in 2002 as a flight scheduling coordinator and has held positions of increasing responsibility since, most recently as senior v-p.

*Cadence Aerospace* appointed **Jeff Capponi** senior v-p of sales and marketing.

Capponi joins *Cadence* with more than 20 years of aerospace business development experience, most recently with the structures division of engineering services provider Senior PLC and also with Synchronous Aerospace (later acquired by PCC Aerostructures).

*Mente Group* appointed **Chris Prokopoulos** to the newly created position of v-p of marketing. Prokopoulos brings 25 years of experience to the position, holding marketing roles with DFW International Airport, Dickies, Capital One, Dean Foods, Kraft Foods, and most recently Gesa Credit Union.

*Jet Support Services, Inc. (JSSI)* named **Trevor Merszei** v-p of business development for the Asia-Pacific region. Merszei has more than 14 years of international business jet sales, marketing, and executive leadership experience, most recently as CEO at Bangkok-based charter company OrientSKYs.

*Jet East* hired **David Grup** to serve as v-p of sales. Grup, a former member of the U.S. Navy search and rescue team, has held maintenance roles with companies including Stevens Aviation and Textron Aviation, and most recently was regional sales director for Constant Aviation.

*ACC Aviation* named **Julian Aldana** to lead up its newly formed technical services division as v-p of technical sales. Aldana has 16 years of aviation technical experience, most recently as technical manager Americas for IBA Group and also including technical roles with airlines including Etihad, Air Berlin, and Swiss.

**Ron Smith** joined *Omni Aircraft Sales* as v-p of sales for the Southeast region. Smith has a background in both domestic and international flight operations, aircraft management, government support operations, and aviation acquisition.

*The International Business Aviation Council (IBAC)* named **Andrew Karas** IS-BAO

program director. Karas has 20 years of business aviation and U.S. Air Force experience, most recently as a Gulfstream GV captain for an IS-BAO Stage 3-registered Part 91 and 135 operator in Florida where he was responsible for safety management, system administration, and standard procedure adherence. ■

## FINAL FLIGHT

**Scott Miller**, who spent 47 years as a pilot and 26 years with the Electronic Data Systems (EDS) flight department, eventually becoming its manager, died on September 27 at age 72, after being diagnosed with incurable cancer.

"He so loved to fly," recalled his partner, Nancie Kathrens. Miller's last flight on July 30 was one of his regular contract flights in a Gulfstream for Cook Canyon Ranch.

Born in Corvallis, Oregon, Miller served in the U.S. Navy during the Vietnam War and after learning to fly, got his first flying job with Western Skyways in Troutdale, Oregon.

Miller then switched to corporate flying after moving to Texas, where he signed on with Sabine Oil & Gas, met and married Glynda Sue Sanders, and then joined EDS. Under Miller's leadership, the EDS operation grew into one of the largest corporate flight departments operating Learjets. Miller's 26-year career at EDS spanned the sale of the company to General Motors, then EDS's spinoff as an independent company in 1996, followed by its sale to Hewlett-Packard in 2008, after which Miller left the company.

Pursuing his love of flying, Miller then flew for General Data Tech and taught at CAE, finally retiring from General Data Tech. He continued to fly as a contract pilot when a former EDS pilot and friend hired him to fly for Cook Canyon Ranch.

**M. Johanna O'Toole**, who spent nearly 30 years providing administration and accounting support with the *National Air Transportation Association (NATA)* and *NBAA*, passed away.

"We are deeply saddened by Johanna O'Toole's passing. Johanna cared deeply for the association and its members, treating those close to her and their loved ones like an extended part of her family," said NATA president and CEO Timothy Obitts. "Over time she became association historian and industry cheerleader, always mindful of preserving and sharing the rich history of NATA and its members. Johanna could always be counted on for

her sage advice, stellar member service, and sharp wit. If you were lucky enough to spend time with Johanna and hear her laugh, it is something that you will always remember."

O'Toole joined NATA in 1998 initially as director of administration and financial services. In 2012 she was named comptroller, leading the administrative/financial team and overseeing day-to-day association operations. She departed the association in 2017 to launch her own venture, Business Solution Toolies, to assist small businesses with their accounting and administrative needs.

**Harold "Hal" Summers**, who served as director of flight operations for Helicopter Association International and had an aviation industry career spanning six decades, died on October 20. He was 83.

"Hal was an icon in the industry, a subject-matter expert on everything involving helicopter maintenance, and he felt it was an honor and obligation to share his wisdom and experience with the rest of us," said HAI president and CEO James Viola. "We are a better industry because of his passionate contributions, and he will be profoundly missed."

Born on Feb. 23, 1938, in Newport, Oregon, Summers earned his A&P license and began working in Alaska in the early 1960s. In 1964, he joined Petroleum Helicopters, Inc. (PHI), eventually becoming vice president.

Summers also had served as acting chief engineer for a joint venture PHI formed with China Southern Helicopter Co. He joined HAI in 2004 and steered the Heli-Expo fly-in and fly-out, coordinating with local airports on staging and fueling sites. In addition, he worked with other HAI staff, regulators, and industry stakeholders on a number of issues.

This included serving as the staff liaison to the HAI Technical and Maintenance working group and the Utilities, Patrol, and Construction working group and representing the rotorcraft industry on a number of FAA advisory working groups. ■

## AWARDS and HONORS

The *National Aeronautic Association (NAA)* named **Shelly Simi**, a long-time industry executive and advocate, as the recipient of the 2021 Frank G. Brewer Trophy, which honors "significant contributions of enduring value to aerospace education in the U.S."

NAA said she is being recognized for "her professional leadership and unwavering dedication in promoting aviation and aerospace education through industry partnerships, workforce initiatives, and organizations dedicated to aviation across the U.S."

Simi has had a career spanning more than three decades, including roles with the General Aviation Manufacturers

Association, Adam Aircraft, Jeppesen, Boeing, and Aurora Flight Sciences. She also formerly led the National Association of State Aviation Officials.

During her career, NAA said, "Simi is known for going above and beyond to expand and promote aviation education outreach efforts that encourage students to choose aviation as a career." She is a co-founder of the National Coalition for Aviation and Space Education, which is a clearinghouse of resources for teachers through a partnership with the FAA and other organizations. In addition, she helped establish the GAMA "Be a Pilot" learn-to-fly program and is a founding board member of Women in Aviation International. ■



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