

BUSINESS AVIATION



INSIDER

THE OFFICIAL MAGAZINE OF NBAA

MAY/JUNE 2023

A twin-engine turboprop aircraft, likely a Cessna 441, is shown in flight from a low angle. The aircraft is white with blue and gold stripes. It is flying over a body of water, with a dense forest and mountains in the background. The sky is clear and blue.

LESSONS LEARNED

PG 20 Crashes reveal lifesaving takeaways

15TH ANNUAL SAFETY ISSUE

SCALING YOUR SMS

Strategies for smaller operators

PG 24

ADVANCED AIR MOBILITY

Efforts to make operations safer

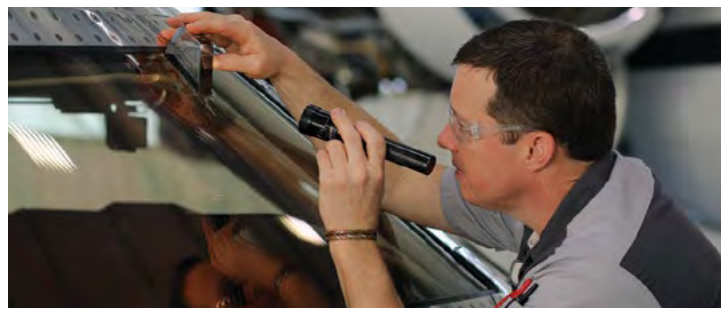
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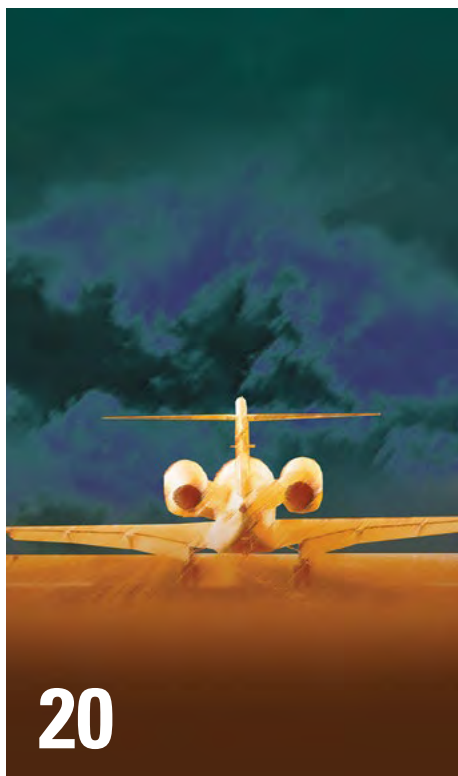
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As space launches increase, the FAA is collaborating to safely integrate airspace.

PRESIDENT'S PERSPECTIVE

Safety Is Not a Destination, It's a Journey



ED BOLEN
President and CEO

The business aviation community has played an indispensable role in making aviation the safest form of transportation in the world, but recently, the topic of safety has been particularly front and center.

At the first House of Representatives hearing this year on upcoming FAA reauthorization, I had the opportunity to share the idea that safety is not a destination, it's a journey that we pursue every day.

A few weeks later, I joined other aviation industry leaders at a rare FAA Safety Summit that was prompted by a series of runway incursions. The summit and resulting FAA SAFO (see our article on page 12) serve as a reminder that complacency is our enemy and vigilance is our responsibility.

Safety is much more than a simple talking point, it's a core value that should evolve in concert with a number of factors in view, including developing technologies. Business aviation has a long tradition of leading the way on safety technology, including development of systems like GPS, airborne collision-avoidance systems and enhanced vision systems.

On the other side of the same coin, technologies are constantly introduced to the industry from external sources, and it's up to us to keep pace. For example, in 2015 NBAA and a coalition of aviation stakeholders raised detailed safety concerns about potential 5G interference with radio altimeters. We continue advocating for improved safety on that and many other technology issues.

NBAA's Safety Committee, one of our longest-standing committees, has built a legacy of identifying the latest industry safety concerns – including and well beyond those related to technology – and providing tools and resources to effectively address those concerns. The committee's important work complements standdowns and other safety events by pilot organizations and regional business aviation groups, which also have NBAA's support.

In the policy arena, most recently the FAA has proposed new safety management system (SMS) mandates extending beyond airlines to many business aviation operations. Business aviation has frequently supported initiatives to enhance safety, as long as they're scalable to a diverse group of operational profiles.

The proposal raises concerns along these lines, adding or expanding existing requirements, often without regard to operational size or type. (See our article on page 24.) In response, NBAA has helped our industry mobilize, with an online advocacy tool that facilitates direct comments about the SMS proposal to the public docket. The response has been robust, and as of this writing, NBAA is awaiting word on the agency's next steps.

Looking ahead, safety will continue to be our highest priority at NBAA and industry-wide. The upcoming FAA reauthorization will require new ways of thinking about safety to prepare for complex systems, including new entrants, new technologies, new flight-mission profiles and infrastructure.

With continued vigilance on our safety journey, we stand ready to meet that challenge. ✧

BUSINESS AVIATION

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NBAA PRESIDENT AND CEO
Ed Bolen

SENIOR VICE PRESIDENT, COMMUNICATIONS
Dan Hubbard

MANAGING EDITOR
Thom Patterson
470-622-3308, tpatterson@nbaa.org

SENIOR GRAPHIC DESIGNER
Collin King

ADVERTISING AND SPONSORSHIP SALES
Amanda Dumont
864-373-1168, adumont@idc.nbaa.org
Carly Heideger
410-584-1973, carly.heideger@wearemc.com

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FLIGHT BAG



FAA'S SMS NPRM

Get answers to the most common questions about the FAA's proposal for rulemaking that would require all Part 135 certificate holders, Part 91.147 air tour operators and certain others to implement a safety management system.

[nbaa.org/sms-mandate](https://www.faa.gov/sms-mandate)



STANDARD INDUSTRY FARE LEVEL RATES

Review new SIFL rates and members-only Personal Use Calculator for the first half of 2023.

[nbaa.org/sifl](https://www.nbaa.org/sifl)

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Resources: Safety

NBAA's mission is to foster an environment that enables business aviation to thrive, and making safety a core value is key to achieving that goal. The association offers numerous resources for all types of operators. nbaa.org/safety

INFLIGHT SAFETY

Access NBAA resources supporting safe operation of business aircraft while in flight, including loss-of-control, laser strikes, wildlife strike response and more.

nbaa.org/inflight-safety

HANGAR AND GROUND SAFETY

This resource has information on aircraft ground-damage prevention, the International Standard for Business Aircraft Handlers, OSHA compliance and fuel contamination. nbaa.org/hangar-safety

SMALL FLIGHT OPERATORS SAFETY GUIDE

This resource serves as a roadmap for smaller flight operations to begin taking steps toward constantly and consistently improving and maintaining safety. nbaa.org/sfdg

SAFETY MANAGER CERTIFICATE PROGRAM

This assessment-based certificate program provides introductory-level training on safety in business aviation operations.

nbaa.org/safety-cert

SINGLE-PILOT OPERATIONS

Operating as the only pilot aboard a complex aircraft in today's busy ATC environment demands a variety of skills. These resources serve as an introduction to valuable information for single-pilot operations.

nbaa.org/singlepilot

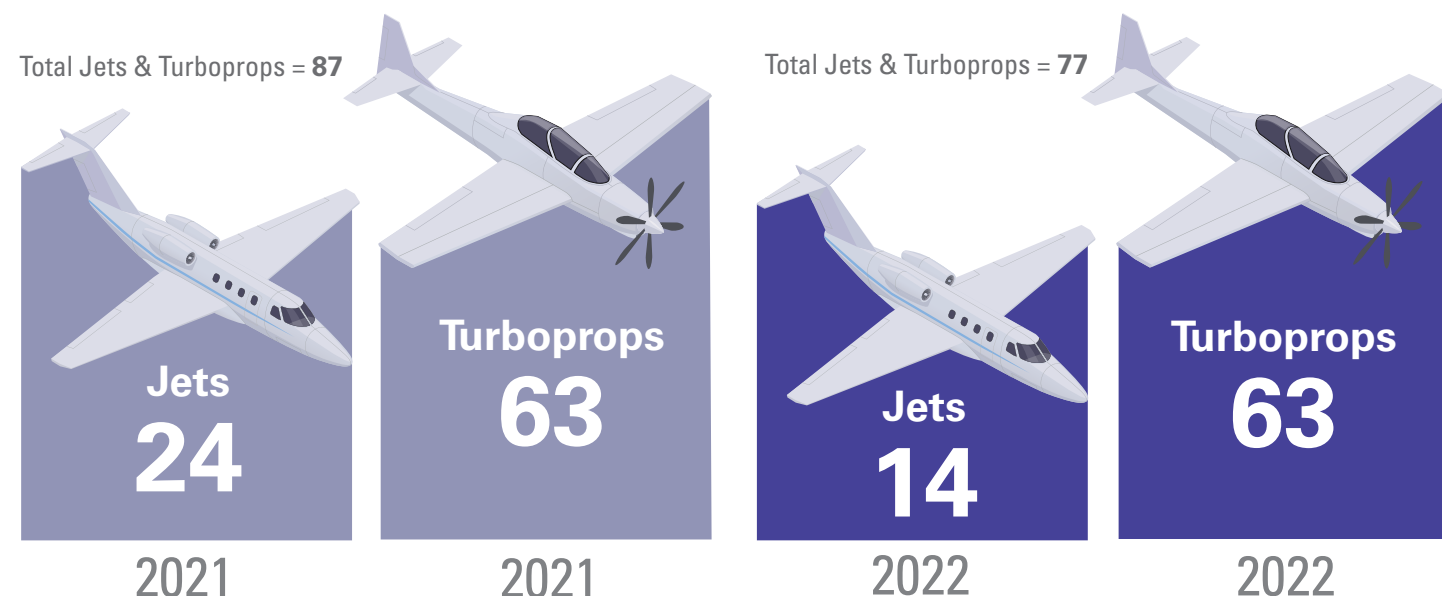
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U.S. runway incursions in 2022 in which a "collision was narrowly avoided" or there was a "significant potential for collision"

Source: FAA

By the Numbers: Global Business Jet/Turboprop Fatalities

Fewer people died in business jet accidents in 2022 than the previous year, according to reports compiled from official sources, while annual fatalities in business turboprop accidents remained unchanged.



SOURCE: AIN

FAA ISSUES AVIATION SAFETY CALL TO ACTION

A week after holding a rare Safety Summit, the FAA issued a Safety Alert for Operators (SAFO) on March 22 as an apparent response to a recent spate of serious runway incursions.

FAA SAFO No. 23002 urges pilots and flight attendants to share a mutual understanding of what defines a sterile flight deck and “the risks associated with extraneous communications during this time.” Flight crews are also asked to be aware of “the aircraft in relation to taxiways, runways and other aircraft.”

The document encourages pilots to review previous SAFOs related to collision risk during runway crossings, runway incursion prevention actions, as well as flight crew techniques and procedures to enhance safe airfield movements. It also reminds crews to utilize voluntary programs for reporting any safety concerns.

For more details, visit [FAA.gov](https://www.faa.gov) and this issue’s Regulatory Hot Topics department on page 12.





DAVID BOULTER was appointed acting associate administrator for aviation safety at the FAA in 2022. He leads over 7,500 professionals responsible for setting, overseeing and enforcing safety standards for all aspects of the aviation industry – airlines, manufacturers, repair stations, advanced air mobility, uncrewed aircraft systems and aviation professionals.

Beginning in Flight Standards as an aviation safety inspector, Boulter's roles included 14 CFR Part 119 management in legacy flight programs, and the flight program executive responsible for all agency aircraft operations.

Prior to the FAA, Boulter held civilian positions in Part 121 and 135 operations as a pilot, flight instructor, check airman, and chief pilot of a commuter airline. Boulter holds an Airline Transport Pilot Certificate with CL60, BE30, EMB-110, CV24-34-44 type ratings. He is a certified flight instructor ASEL, AMEL and instrument.

On Twitter
@FAANews

FAA Safety Chief Discusses the Need for Continued Vigilance

Q: How does the FAA engage with Congress on the reauthorization effort and what are your priorities for the bill?

In addition to the FAA's contribution to the reauthorization proposal submitted by the Office of Management and Budget, the FAA regularly provides technical assistance to legislative proposals at the request of members of Congress. The FAA also provides updates to Congress through hearings and briefings.

While the FAA defers to the White House on the final proposal for the 2023 FAA Reauthorization, the agency continues to share Congress' interest in maintaining the safest aviation system in the world.

Q: In light of the recent runway incursions and near midairs, what action is the FAA taking to investigate and prevent future incidents?

The FAA convened a Safety Summit in March to review and assess the safety measures and systems currently in place. An uptick in serious incidents demonstrates the need for continued vigilance and attention to mitigation of safety risks. The FAA stressed the need for operators to consistently analyze safety management systems data to enable better detection of emerging safety issues.

Following the summit, we published a Safety Alert for Operators, SAFO 23002, Aviation Safety Call to Action, which provides a list of items operators should consider. We encourage all operators to review the SAFO and review best practices for safe operations.

Our existing collaborations with industry

through the Commercial Aviation Safety Team (CAST) and the General Aviation Joint Safety Team (GAJSC) continue to monitor and act on safety data received from the Aviation Safety Information Analysis and Sharing system (ASIAS), which gathers data from the FAA, manufacturers, industry groups and operators. It pulls data trends that will allow identification of risks and mitigations.

Q: How is the FAA improving training?

An industry-led initiative guided by the FAA has developed standardized curricula as a new and voluntary way for Part 142 training centers to provide Part 135 training.

The Gulfstream G-V standardized curriculum and the Instructor/Check Pilot Qualification curriculum was published in February. More curricula should be published later this year.

The FAA appreciates NBAA and its members on the Training Standardization Working Group who are on the leading edge of this effort. The FAA's interest is producing a quality curriculum focused primarily on improving flight safety and training consistency along with administrative efficiency.

Thanks to recommendations from the Safety Oversight and Certification Advisory Committee (SOCAC), and the Flight Standards Transparency, Performance, Accountability, Efficiency ARC, we are looking at opportunities for the FAA and industry to conduct joint training.

We're conducting a skills gaps assessment in Aircraft Certification to assess the agency's technical workforce. A process is now in place for a competency review every three years.

Q: With the introduction of advanced air mobility (AAM) and electric vertical takeoff and landing (eVTOL) vehicles, how is the FAA taking proactive steps to ensure the new technology will be operated and integrated safely?

The FAA continues to make progress in the type certification of powered-lift aircraft and necessary modifications to operational regulations to ensure safe integration of these aircraft into our dynamic air traffic system. In addition to proposed airworthiness criteria for Joby [Aviation] and Archer [Aviation],

the FAA has also recently published proposed updates to the air carrier definitions in Parts 110 and 119 to include powered-lift.

Several rulemaking efforts have begun in support of operational certification. The FAA will utilize waivers and exemptions where required. Near-term operations will be piloted, type certificated electric VTOL (eVTOL) aircraft operating in currently defined routes and procedures.

To enable initial AAM operations, the FAA is developing a Special Federal Aviation Regulation (SFAR) Notice of Proposed Rulemaking (NPRM) to create

a regulatory framework to permit operation of powered-lift aircraft. The SFAR NPRM will propose alternate eligibility requirements to safely certificate initial groups of powered-lift pilots, as well as determine which operating rules to apply to powered-lift aircraft. Powered-lift will be type certificated as special class aircraft under the existing regulations. The public will have the opportunity to comment after the NPRM is published, expected by June 2023, with the final rule expected by December 2024. ✦

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More than ever, people want timely access to experts and authorities to help them make decisions about their business aviation operations. The NBAA News Hour webinar series allows participants to get answers to their pressing operational, legal, medical and other questions. All webinars are free to members and recorded for replay.

nbaa.org/news-hour

REGIONAL REPRESENTATION

Successful Safety Days: No Small Challenge

During recent testimony before the House Transportation and Infrastructure Committee, NBAA President and CEO Ed Bolen said, “Legislators, regulators and industry have made aviation the safest mode of transportation. But a great threat to that success is complacency. It takes constant improvement to be the best. It takes constant improvement to remain the best.” Locally organized safety days have emerged as one of business aviation’s first lines of defense against potential safety hazards. Organizing an engaging safety event, however, is no small challenge.

“What makes for a good safety day are inclusive activities,” said Nick Lietzow, a director for the Pacific Northwest Business Aviation Association (PNBAA). “We include a wide range of people from different aspects of business aviation.”

PNBAA is planning its 2023 Safety Day around the theme of complacency and how to avoid it. “It’s a trap that people can easily fall into,” Lietzow said. “Our keynote speaker will have a big presentation on this in the morning. Then, in the afternoon, she will be interacting with attendees to see what they’ve learned and discuss actionable takeaways they’ve learned to return to their flight departments with.”

In the Dallas-Fort Worth region, Case May, co-chair of the North Texas Business Aviation Association (NTBAA) Board of Directors said they created a different title for their Safety Day to add a bit of local flavor. “We call it a Safety Showdown, rather than a Safety Standdown,” May said. “We have a lot of great flight departments and resources to draw on from the Dallas-Fort Worth area and we call upon them.”

Post-COVID, he said, local members were

“What makes for a good safety day are inclusive activities.”

NICK LIETZOW

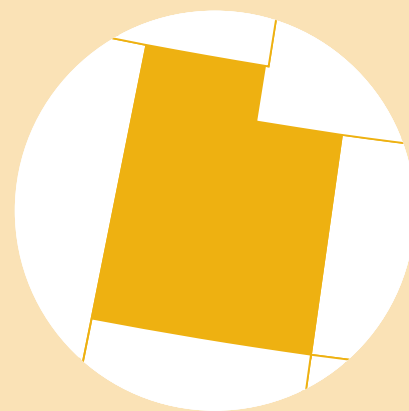
Director, Pacific Northwest Business Aviation Association

“extremely anxious to get back to our safety day. We also use this and other events to generate revenue for our scholarship program to help pilots, mechanics and flight attendants.” The group expects about 200 to 220 attendees at this year’s Safety Showdown in September, which will be held at Dallas Love Field’s (DAL) Frontiers of Flight Museum.

Van Allen Group CEO Jeff Agur helped launch the Georgia Business Aviation Association’s (GBAA) Safety Day in 2005, continuing to host it for the next 10 years. “At its height, we were attracting 250-plus attendees,” Agur said. Because of the foundation Agur built at GBAA, that group continues to host highly successful Safety Days.

“With the kind of attendance we enjoyed, it made it much easier to attract sponsors,” Agur said. That helped increase revenues, which allowed GBAA to host at a quality venue, which in turn helped drive attendance. “But we never paid our speakers. We believed putting them in front of our audience offered them plenty of marketing opportunities,” Agur said. “We began planning the next event 9-12 months out and always kept them to one day to make them efficient.” ❖

Review NBAA’s regional group resources at nbaa.org/regional.



UBAA’S SAFETY DAY PLANNING STARTS WITH RESEARCH

The Utah Business Aviation Association (UBAA) is planning its first Safety Day since March 2020, when the pandemic forced organizers to cancel the Salt Lake City event at the last minute. This year, UBAA President Jeff Hansen and his Safety Day Committee are taking the challenge of organizing the event somewhat in stride. They’ve begun creating content the good old-fashioned way, starting with simple street-level research.

“Our committee has been talking to flight departments and associated people around the state, asking about the issues they’re facing,” Hansen said. Those include local ATC topics, new de-icing procedures and how to make the not-yet-required expanded SMS rule a part of their operations.

“Straw polls, as well as a tie-in with NBAA, help us create the agenda. We also try to add a little entertainment angle when we can,” Hansen said, referring to previous Safety Days that featured astronauts, NTSB inspectors and former military pilots.

“We found that ending around 3:30 in the afternoon struck a good balance for everyone, especially those who might need to drive two or three hours to attend,” said Hansen. The event is scheduled for September.

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INDUSTRY CHALLENGE

Recent aviation safety incidents, several of which have involved business aircraft, highlight the urgency of the FAA's need to adapt to an ever-changing environment.

NBAA RESPONSE

At a rare FAA Safety Summit held in March, NBAA's Ed Bolen emphasized the need for all stakeholders to work together so that America continues to set the standard for aviation safety around the world.

Concerning Incidents Prompt FAA Summit, Safety Alert

The FAA has issued a Safety Alert for Operators (SAFO) following a rare Safety Summit convened by acting FAA Administrator Billy Nolen. These developments followed a spate of high-profile technical failures, runway incursions and other safety incidents that highlight the urgency of the agency's mission to adapt to an ever-evolving national airspace system.

These events are concerning [and] not what we've come to expect during a time of unprecedented safety in the U.S. air transportation system," Nolen said at the March 15 event.

SAFO 23002 includes the need to ensure mutual understanding by pilots and flight attendants of sterile flight deck procedures; emphasize situational awareness during on-airport operations; and utilize voluntary reporting programs for safety concerns.

In a summit panel discussion featuring industry leaders, NBAA President and CEO Ed Bolen emphasized the need for collaboration, communication and engagement among all stakeholders in ensuring that America continues to set the standard for aviation safety around the world.

As one example, Bolen pointed to the Notice to Air Missions (NOTAM) outage in early 2023 that grounded most commercial and business aircraft traffic for several hours, bringing national attention to the need to upgrade FAA systems.

"With urgency and funding, we can move forward with increased technology," Bolen said. "I want to congratulate the FAA for focusing on how we can shorten the timeframe for making the NOTAM system more resilient."

Bolen also emphasized the importance of safety management systems, or SMS, in bringing a data-based approach to continued safety enhancements, noting that many business aircraft operators have adopted SMS to mitigate

"These events are concerning [and] not what we've come to expect during a time of unprecedented safety in the U.S. air transportation system."

BILLY NOLEN

Acting FAA Administrator

risks and inform decision-making.

However, he also underscored the importance of ensuring that any new FAA SMS mandate is scalable to the diversity of operational types across the aviation sector, in consideration of the agency's proposed rule requiring Part 135 certificate holders and certain other business aviation operations to implement SMS.

"A saw is a great cutting tool. A scalpel is a great cutting tool. But they're not interchangeable," Bolen said. "Getting the rule right and scaling it for the diversity of all operations is really important." The SAFO further notes the need to adapt SMS programs to meet evolving industry conditions.

Following the panel, Bolen and other NBAA representatives participated in the summit's afternoon breakout sessions on several safety topics related specifically to commercial operations, general aviation operations, the air traffic system and airport and ground operations.

"We need to be leaders, and we're only going to be able to lead if we understand each other and work together on our common goals," Bolen concluded. "We've got to be safe. We've got to be perceived to be safe. Collaboration is key." ❖

Review NBAA safety resources at nbaa.org/safety

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NBAA THANKS ITS 75TH ANNIVERSARY LEGACY SOCIETY MEMBERS

2022 marked the 75th anniversary of the founding of the organization that would one day become the National Business Aviation Association. Since its founding, NBAA has been the leading advocate for the industry, working to ensure business aviation's future remains bright for years to come. In celebration of this milestone, NBAA recognizes the industry's pioneering spirit that brought us to where we are today with special recognition of the inaugural NBAA Legacy Society.



NBAA Legacy Society members stepped up their commitment with a charitable contribution to NBAA Scholarships as well as NBAA's overall mission. Their support will help develop future business aviation leaders and ensure our industry continues to thrive for many years to come.

NBAA also thanks other NBAA Legacy Society
members who wish to remain anonymous.

You can also learn more by contacting NBAA's Lyndse F. Costabile at 904-860-1886 or lyndse@idc.nbaa.org.

PRO TIPS



JASON STARKE



JEFF WOFFORD

Safety Managers: Making the Right Choice

The backbone of a truly effective safety management system (SMS) requires all department personnel – pilots, maintenance technicians, dispatchers, flight attendants, even senior management – to regularly report operational flaws as they encounter them. That feedback is used to create solutions that prevent those flaws from becoming serious hazards, while achieving high levels of safety and professionalism. Finding a safety manager to oversee an SMS, however, requires the identification of a few simple yet unique skills.

Jeff Wofford, CAM, recently retired director of aviation at CommScope Aviation, believes a good safety manager must understand the business of business aviation. “The biggest hurdle is finding someone who wants the job, because the safety manager role is very underappreciated,” said Wofford, who formerly served as NBAA Safety Committee chair. “The manager’s job is to keep [an SMS] well-oiled and functioning as an effective

“Nowadays, the safety manager is not expected to necessarily be a subject matter expert in any particular area.”

JASON STARKE

CAM, Director of Safety, Baldwin Safety and Compliance

tool. That person needs to be organized, creative and have a thick skin because they need to hold people accountable.”

“Nowadays, the safety manager is not expected to necessarily be a subject matter expert in any particular area,” said Jason Starke, CAM, director of safety at Baldwin Safety and Compliance. Safety managers – whether they’re pilots, mechanics, dispatchers, or others – should have “a knowledge of safety risk,

hazard risk mitigation and the hazards in the environment,” Starke said.

It’s popular to require safety managers to assume an additional duty, like a line pilot or a mechanic. But Starke is seeing “a shift towards full-time [safety managers], which I think is a good thing.” Their tasks “include implementing safety management training for everybody in the organization.”

Good safety managers act like company cheerleaders, Starke said, to get people engaged and establish a reliable reporting system. The challenge involves “convincing people to report everything, even when it’s as simple as a fat-fingered entry into the FMS or a wrong radio call,” he said. The solution to reluctance comes with buy-in from top management.

It’s important to have a passion for safety and a thirst for safety knowledge, said a safety manager for a large jet operator in the South. Focused risk management and mitigation comes from a strong safety culture and a non-punitive reporting system “that makes sure we’re staying true to what we say we should be doing.” ❖

Review NBAA’s resources for safety management systems at nbaa.org/sms.

NBAA THANKS ITS LEADERSHIP COUNCIL MEMBERS

NBAA is celebrating its 75th anniversary as the leading advocate for business aviation with a series of initiatives designed not only to recognize the milestones marking the industry's pioneering spirit, but to inspire the next generation of leaders to be a part of the business aviation community. Visit nbaa.org/leadershipcouncil to learn more about how you can become a Leadership Council member, and join this esteemed community of business aviation advocates:

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As of April 2023

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Gogo AVANCE Brings Benefits to Passengers and Pilots

Inflight connectivity isn't just a "must-have" tool for passengers in the cabin of a business aircraft. It has become a necessity for safety-minded pilots and operators everywhere as the availability of inflight WiFi connectivity systems have become more advanced and less expensive with offerings that extend to even the smallest aircraft, including turboprops.

Gogo Business Aviation has long been at the forefront of aircraft WiFi's development and growth. Its AVANCE connectivity platform offers a completely seamless system providing WiFi solutions everywhere on the aircraft, from the cabin to the flight deck.

"We launched AVANCE in 2017, and since that time, AVANCE has been the most successful broadband inflight connectivity system in business aviation history," said Dave Mellin, director of communications of Gogo Business Aviation. "Today, we have approximately 3,400 aircraft flying with an AVANCE L3 or L5 installed, and we've surpassed 1.6 million flights with AVANCE onboard."

Gogo also touts AVANCE as a stepping stone to its soon-to-be-launched 5G system, due for release in the fourth quarter of 2023,

as well its upcoming global broadband system. (For more on Gogo 5G and its upcoming broadband platform, see the accompanying sidebar story.)

As an air-to-ground system, Gogo AVANCE offers connectivity all across the Continental U.S. into Canada, and it is also available in Alaska. The AVANCE systems provide the upgrade path to broadband connectivity when Gogo launches its new global service in 2024. Until then, AVANCE provides unparalleled connectivity benefits that pilots say have improved safety, especially when it comes to monitoring current weather conditions. Pilots and operators also rave about the ability WiFi-based AVANCE offers to communicate in real time via cell phone with important ground-based contacts.

For most business aviation pilots, Gogo's AVANCE L3 platform offers the most benefits for the money.

"The AVANCE L3 system was designed to be smaller and lighter than the L5 system, so it has been very popular with smaller aircraft operators," Mellin said. "Two years ago, we announced that the L3 would be a line-fit option from the factory on the Cirrus

Vision Jet, the first GA aircraft to add broadband connectivity as a factory option. It's been a big success and dozens of Vision Jets have the system onboard today, and we expect that other GA aircraft will be adding connectivity in the future."

In another major plus for users, in the summer of 2020 Gogo lowered the service level for AVANCE from 10,000 to 3,000 feet, which made the service more useful for smaller aircraft flying shorter missions, and gave the system's already tremendous popularity a huge boost.

Connectivity Safety Benefits

But don't just take Gogo's word for it. Professional pilots and business aviation enthusiasts rave about the safety benefits AVANCE offers.

"The most noteworthy benefit that I see from inflight connectivity is the ability to obtain updated weather reports and forecasts during flight," said Jeff Poeppelman, who is chief pilot at a Midwest-based Fortune 100 company. "The applications and inflight connectivity improve our pilot's weather avoidance decision-making. We've seen a direct improvement in both customer service and safety due to connectivity."

Poeppelman flies the company's Challenger 650 business aircraft with the Gogo AVANCE L5 system. "Our company uses aircraft as business tools to maximize productivity and efficiency, and our passengers rely on connectivity to maintain the highest level of productivity while traveling. While inflight, our passengers routinely collaborate with colleagues on the ground – but have also connected with business partners on our other airborne aircraft."

For Joey Meier, who is director of operations and chief pilot for JRM Air, monitoring weather and being able to connect to anyone needed on the ground are two huge benefits of AVANCE WiFi connectivity. JRM is a private company based in Mooresville, NC, which manages the travel requirements for NASCAR racer Dale Earnhardt, Jr., his family and his various business interests and sponsorships.

Meier flies a 2019 Falcon 2000LXS Plus business aircraft. As an example of how WiFi connectivity has improved inflight safety and improved overall performance, he points to an experience where being able to connect via cell en route has helped him complete missions where he might have had to turn back.

"We were in Las Vegas and were flying home to Statesville," Meier said. "North Carolina was in the middle of a pretty major

snowstorm."

Statesville Regional Airport (SVH) is a non-towered community airport. Given that and the demands on the city and county to clear roadways of snow, the airport is a second priority for snow removal, according to Meier.

"The FBO is closed late at night," he said. "So, I called the guy who is plowing the runway. I had his cell phone number. I asked what his schedule was for clearing the runway. He said, 'I'm doing this and that.' I told him that if he cleared the runway and gave me a decent path, we would continue the flight home. He said that shouldn't be a problem but asked me to call him ahead of time."

Meier and company took off for the trip back home. About an hour later he called the snowplow guy from the flight deck to see if the runway would be cleared when they arrive.

"He said, 'I'm clearing your runway, it's in good shape right now, you should have no problem,'" Meier said. "We kept going, and about 30 minutes away before we started a descent we called and he said the runway was in good shape."

He even cleared a track to the hangar so Meier could easily taxi in once he landed. "We were the only plane out of eight or 10 that completed that mission because we were the only ones who had the phone number of the guy cleaning the runway," said Meier.

Being able to connect directly to important ground contacts also has come in handy for Marc Dulude, a long-time pilot who flies a CJ3+ privately for business.

"Sometimes things happen in the air," Dulude said. "In my particular case the autopilot went out at 45,000 feet. So, I'm hand-flying the airplane now."

Dulude ended up flying without autopilot for 1-1/2 hours.

"During all of that time I was texting and talking with ground support people to try and diagnose what had happened and see if I could get my autopilot back on," he said. "I just took advantage of having inflight connectivity and being able to reach out to the technical experts on the ground. I told them, 'I've gone through the checklist, and it's not producing the results, do you have any ideas for me?' They offered up some ideas, and I did get the [crew alert system] message and information on the problem to clear. All this was only possible because of Gogo's inflight connectivity." ❖



NEXT UP: GOGO'S AVANCE 5G PLATFORM AND GLOBAL BROADBAND LEO SYSTEM SOON TO LAUNCH

Gogo Business Aviation continues to innovate and improve its AVANCE program to keep up with the increasing needs of business aviation users. First up is Gogo's long-awaited 5G system, which is due to launch later this year. After some delays, the 5G system with 150 towers already is in place. But issues with the chipset to power the platform have caused a delay.

"The 5G chipset we need to enable 5G connectivity hit a snag last year in testing, and they had to go back and redesign the chip," said Dave Mellin, director of communications for Gogo. "That design issue was corrected and the chip is in fabrication now, and we expect to receive it mid-2023 at which point we'll install it and begin testing."

Gogo plans to launch the system in full in the fourth quarter of 2023.

"The 5G nationwide network was completed last year, so that's ready to go, and we're going to begin to expand our 5G network into Canada later this year as well," Mellin said. "So, we're progressing across all aspects of the service, and we're on track to launch later this year."

Dealers already have placed orders for the 5G system and are installing the full 5G provisions today. Gogo also has published an installation manual enabling dealers and MROs to effectively manage installs.

Global Broadband

Gogo's forthcoming global satellite broadband service, via the OneWeb low-earth orbit (LEO) satellite constellation is nearing completion. While the war in Ukraine interrupted the final satellite launch and system deployment, Gogo now expects to launch its global broadband system in the third quarter of 2024.

Meanwhile, outfitting for the system should be fairly easy for installers.

"Installing just one LRU and the electronically steerable antenna (ESA) will enable broadband connectivity on any business aircraft," said Mellin. "Midsize and smaller aircraft that operate outside North America have no broadband options today. The traditional satellite systems are much too big and heavy for a smaller aircraft operator to add to their aircraft. However, Gogo's global LEO system will now fit on large turboprops and super-light jets, making connectivity a reality on those aircraft, regardless of where they fly in the world. And Gogo's system will be much more affordable."

Gogo's LEO global broadband system will be the first complete, LEO global broadband experience designed specifically for business aviation by business aviation experts. It will make its AVANCE L3 and L5 platforms available to any user anywhere in the world.

For more information, visit business.gogoair.com.



GOGO AVANCE CONNECTIVITY IS TAKING SAFETY TO A WHOLE NEW LEVEL

Inflight connectivity isn't just a "must-have" tool for passengers in the cabin of a business aircraft. It's a necessity for safety-minded pilots and operators everywhere – and inflight Wi-Fi connectivity systems have become more advanced and less expensive, with offerings that extend to even the smallest aircraft.

Real-time professional pilots and business aviation enthusiasts rave about the safety benefits inflight connectivity offers.

Learn more about the capabilities inflight Wi-Fi brings to the cockpit: [**gogo.to/ancebook**](https://gogo.to/ancebook)



Scan QR code
to learn more

LESSONS LEARNED

FROM BUSINESS AVIATION ACCIDENTS



DESPITE CONSTANT INDUSTRY EFFORTS TO IMPROVE SAFETY, ACCIDENT INVESTIGATIONS OFTEN REVEAL FAMILIAR AND SHARED CAUSAL FACTORS. LESSONS LEARNED FROM THESE THREE ACCIDENTS COULD SAVE LIVES.

DEC. 8, 2014

EMBRAER PHENOM 100 – APPROACHING TO LAND AT MONTGOMERY COUNTY AIRPARK (GAI) GAITHERSBURG, MD – SIX FATALITIES, INCLUDING THREE PERSONS ON THE GROUND

NTSB PROBABLE CAUSE: “The pilot’s conduct of an approach in structural icing conditions without turning on the airplane’s wing and horizontal stabilizer deice system, leading to ice accumulation on those surfaces, and without using the appropriate landing performance speeds for the weather conditions and airplane weight... which together resulted in an aerodynamic stall at an altitude at which a recovery was not possible.”

Several aspects of this accident point to the importance of professionalism when operating an aircraft, especially as a single pilot.

“This pilot was plainly in a hurry, with very little time elapsed between engine start and taking the runway,” said NTSB Office of Aviation Safety Director Tim LeBaron, who served as the Board’s investigator-in-charge (IIC) for this accident. “Throughout our investigation we found several basic things that all pilots should be doing every time they fly, which he simply wasn’t doing.”

While the accident pilot’s failure to engage aircraft deicing systems in snowy conditions may have been an oversight, LeBaron noted the investigation found the pilot had briefly engaged deice earlier in the flight, indicating a possibly deliberate choice to avoid doing so on the approach due to the resulting higher Vref speed when landing on GAI’s 4,200-foot runway.

Mark Larsen, CAM, NBAA director of safety and flight operations, noted similarities to another Phenom 100 landing accident at Berlin, Germany Schonefeld Airport in February 2013, as well as a February 2021 accident at Le Bourget Airport in Paris.

“In its final report on the Paris crash, the French BEA cited essentially identical circumstances to Berlin and Gaithersburg,” he said. “All three accidents appear linked to concerns about the effects from deicing systems on landing performance calculations.”

Following the Gaithersburg accident, the NTSB issued three safety recommendations, including one for NBAA (A-16-014) to work with turbofan aircraft OEMs to develop enhanced training guidelines pertaining to risk management in winter weather operations.

The NTSB noted such guidelines are particularly important for single-pilot operators and in consideration of “pilot performance deficiencies” identified during the accident investigation.

“We found there was very little checking on system knowledge, especially on the recurrent level, and pilots had a lack of understanding of why we do things and why we put procedures in place,” said Daniel Ramirez, who was part of the accident investigation team as a technical advisor from the manufacturer.

LESSONS LEARNED

FROM BUSINESS AVIATION ACCIDENTS

AUG. 21, 2019

**TEXTRON AVIATION CESSNA CITATION 560XL -
RUNWAY EXCURSION ON TAKEOFF FROM
OROVILLE MUNICIPAL AIRPORT (OVE)
OROVILLE, CA – 10 UNINJURED, AIRCRAFT
DESTROYED**

NTSB PROBABLE CAUSE: “The pilot’s failure to release the parking brake before attempting to initiate the takeoff [and] the flight crew’s delayed decision to abort the takeoff. Contributing to the accident was the lack of a **NOTAKEOFF** annunciation warning that the parking brake was engaged, and lack of a checklist item to ensure the parking brake was fully released immediately before takeoff.”

The presence of more than 6,000 feet of twin tire transfer marks on the taxiway and runway, leading to the burnt wreckage of the Citation Excel, presented NTSB investigators with “a pretty good idea what happened,” noted NTSB investigator and IIC Joshua Cawthra. “After that, our focus turned to the sequence of events that led up to the moment they took the runway.

The NTSB investigation revealed a combination of task saturation, impeded sightlines (that prevented the first officer from seeing the parking brake handle hidden by the captain’s left leg) and lack of redundant procedures and cockpit warning systems to prevent a departure attempt with the parking brake engaged.

While such an accident may seem like an outlier, Cawthra noted such incidents may happen much more often than many might think. “How many times do crews taxi for departure,” he noted, “and set the parking brake so they aren’t holding down the brakes while waiting?

“We can only get so much data on this type of situation, as sometimes the crew catches it,” Cawthra continued. “Of course, they won’t say why they aborted. They simply taxi back, let the brakes cool and then they take off. It’s probably something that happens much more often than we’re aware of.”



**"HOW MANY TIMES DO CREWS TAXI FOR
DEPARTURE AND SET THE PARKING BRAKE
SO THEY AREN'T HOLDING DOWN THE
BRAKES WHILE WAITING?"**

Joshua Cawthra
NTSB Investigator

JULY 26, 2021

**BOMBARDIER CHALLENGER 605 ON CIRCLING
APPROACH TO TRUCKEE TAHOE AIRPORT
(TRK) TRUCKEE, CA – SIX FATALITIES**

NTSB PROBABLE CAUSE: Not Yet Released

From the Preliminary Report: “Multiple eyewitnesses observed the airplane before the crash. Some reported that the airplane caught their attention because of its low altitude and abnormal flight path into Runway 11. According to witnesses, the airplane was in a nose-down attitude and steep left turn during its last few seconds of flight.”

Circling approaches represent one of the most challenging operations for business aviation flight crews, in part due to lack of training in real-world scenarios.

Michaela Satter, co-chair of the Loss of Control-Inflight (LOC-I) Working Group to the NBAA Safety Committee, recalled an audience comment from a presentation on this accident that she conducted with fellow working group co-chair Warren Pittorie at the 2022 NBAA Business Aviation Convention & Exhibition (NBAA-BACE).

“This pilot noted they regularly practice circling approaches during recurrent training, but usually at giant airports like New York LaGuardia or Chicago O’Hare,” she said. “There is very little training on real-world scenarios such as going into a high density-altitude airport between mountains after being kept high by ATC until they’re within a few miles of the field.”

The NTSB further noted that the Challenger crew had briefed for a straight-in approach to Runway 11, but ATC routed the flight toward Runway 22 with a circling approach to Runway 11.

“Flight crews must weigh ATC instructions against what you’ve already set up for,” Larsen said. “If that instruction presents significant challenges, you should inform ATC that you are unable to comply with that instruction and consider your options. You can request to fly the approach

“FLIGHT CREWS MUST WEIGH ATC INSTRUCTIONS AGAINST WHAT YOU’VE ALREADY SET UP FOR. IF THAT INSTRUCTION PRESENTS SIGNIFICANT CHALLENGES, YOU SHOULD INFORM ATC THAT YOU ARE UNABLE TO COMPLY WITH THAT INSTRUCTION AND CONSIDER YOUR OPTIONS.”

Mark Larsen

CAM, NBAA Director of Safety and Flight Operations

you’ve mentally prepared for, absent a larger hazard necessitating a change to your plan. As necessary, slow down or take a turn or two in holding to get everything set up and briefed prior to commencing the approach.”

In a March 2023 Safety Alert, the NTSB noted 10 fatal accidents between 2008 and 2023 involving circling approaches. “The [Truckee] flight crew had many options available to them that would have increased the likelihood of executing a stabilized approach and successful landing, such as requesting the approach they originally planned for, briefing the approach they accepted, or performing a missed approach procedure,” the alert stated.

Other non-standard elements to the accident approach were apparent mismanagement of the aircraft’s autothrottles, and deployment of both spoilers and full flaps earlier than normal on the approach.

“Scenarios like this are taught in primary training or toward your commercial pilot certificate,” Pittorie said. “Either we aren’t learning what we need to, or we’re forgetting those lessons. And, it’s all too common in these situations that we find the pilots take shortcuts, or do certain things that are either prohibited or just not recommended.” ❖



Scaling SMS to Meet Your Operation's Needs

The recently issued FAA notice of proposed rulemaking (NPRM) that would require most business aviation operators to implement a safety management system (SMS) highlights the importance of scaling an SMS to the size and specific needs of your operation.

"Your SMS must be manageably handled by the size of your staff," said Jeff Deitz, director of flight operations for a Tennessee-based company. "If it's too much work and takes too much effort, it will not be very effective."

The International Civil Aviation Organization (ICAO) codified its requirements for SMS under Annex 19 in 2013, mandating SMS programs for all international commercial operators, maintenance organizations, aircraft design and manufacturing companies, and certified airport operators.

Two years later, the FAA adopted 14 CFR Part 5 governing SMS requirements for Part 121 commercial air carriers, but leaving other industry segments, including business aviation operators, to develop SMS programs voluntarily. This conflicted with Annex 19 requirements for operators flying internationally.

The FAA NPRM addresses this disparity, while also calling on Part 91.147 air tour operators and certain Part 21 Type Certificate (TC) and Production Certificate (PC) holders to develop their own SMS programs.



Scaling SMS to Meet Your Operation's Needs

ONE SIZE DOES NOT FIT ALL

However, many business aviation stakeholders have expressed concern over the FAA's approach in adapting SMS frameworks developed for Part 121 commercial airlines to the unique needs of business aviation operators.

"Developing an SMS can certainly be a daunting process," said Mike McCullough, assistant director of operations for Aviation Resource Management, Inc. and chair of the NBAA Domestic Operations Committee Part 135 Subcommittee. "What works for one operation may not be appropriate for another."

McCullough emphasized that all SMS is built around four pillars defined by the FAA's SMS Advisory Circular (AC 120-92B): safety policy, safety risk management, safety assurance and safety promotion.

While those pillars provide a valuable framework, "there certainly are elements that a large flight department may incorporate into their SMS that aren't necessarily beneficial or cost-effective for a smaller operator," he continued.

Andrew Karas, program director for the International Standard for Business Aircraft Operations (IS-BAO) – a recommended code of best practices for the industry, which has SMS at its core – at the International Business Aviation Council (IBAC), termed development of SMS, "a very personal process.

"The organization owns how they implement SMS and conform to their requirements," he added. "Operators must conform to the basic framework, but there is also the opportunity to innovate."

"The essential requirements of SMS set the direction for flight departments," noted Stephane De

"Developing an SMS can certainly be a daunting process. What works for one operation may not be appropriate for another."

MIKE MCCULLOUGH

Assistant Director of Operations for Aviation Resource Management, Inc. and Chair of NBAA Domestic Operations Committee Part 135 Subcommittee

Wolf, IS-BAO Operations Specialist for IBAC. "The end user must determine how to translate those requirements to their operation.

"Among other things, Part 5 expects an organization's SMS to describe its operations to become more 'situationally aware' and comprehensively identify operational hazards and risks. Organizations are also expected to keep that system description up-to-date when their risk landscape changes, and ideally update their description ahead of a change."

For example, "emergency response planning may be vastly different, depending on the organization's resources," said De Wolf. "Company manuals and recordkeeping processes will also scale to the budget and expertise available."

Similarly, a large-scale maintenance operation may have sophisticated tool-control processes in place, "whereas a small operator with just one mechanic may use a clipboard with a list of tools and a grease pencil," Karas said. "Each solution works

for those specific operations.

"At the same time, regulators may have difficulty understanding what a small – or even very small – organization is capable of doing, and how to adjust and adapt the framework so that it can work for everybody," he added.

While not part of the specified SMS framework, many flight operations have implemented FOQA (flight operations quality assurance) to gather data on flight parameters to better inform their SMS.

"We build up [our flight operation] as needed and scale it back as needed," McCullough said. "Data tracking systems were prohibitively expensive back when we ran half a dozen aircraft; now, the prices are more reasonable, but our fleet size is smaller. We're constantly evaluating the cost/benefit."

ADAPTING TO FIT THE MISSION

While their needs may differ, smaller operations can gain insight from larger companies. "We didn't have an SMS here when I began in 2014," Deitz said. "I brought that philosophy from my former company, which operated as many as five aircraft at a time."

Karas also emphasized the importance of scalability. "Whatever works for your specific operation is the answer," he declared. "An SMS is

"An SMS is about the outcome of your performance."

ANDREW KARAS

IS-BAO Program Director



about the outcome of your performance, not necessarily how you got there.”

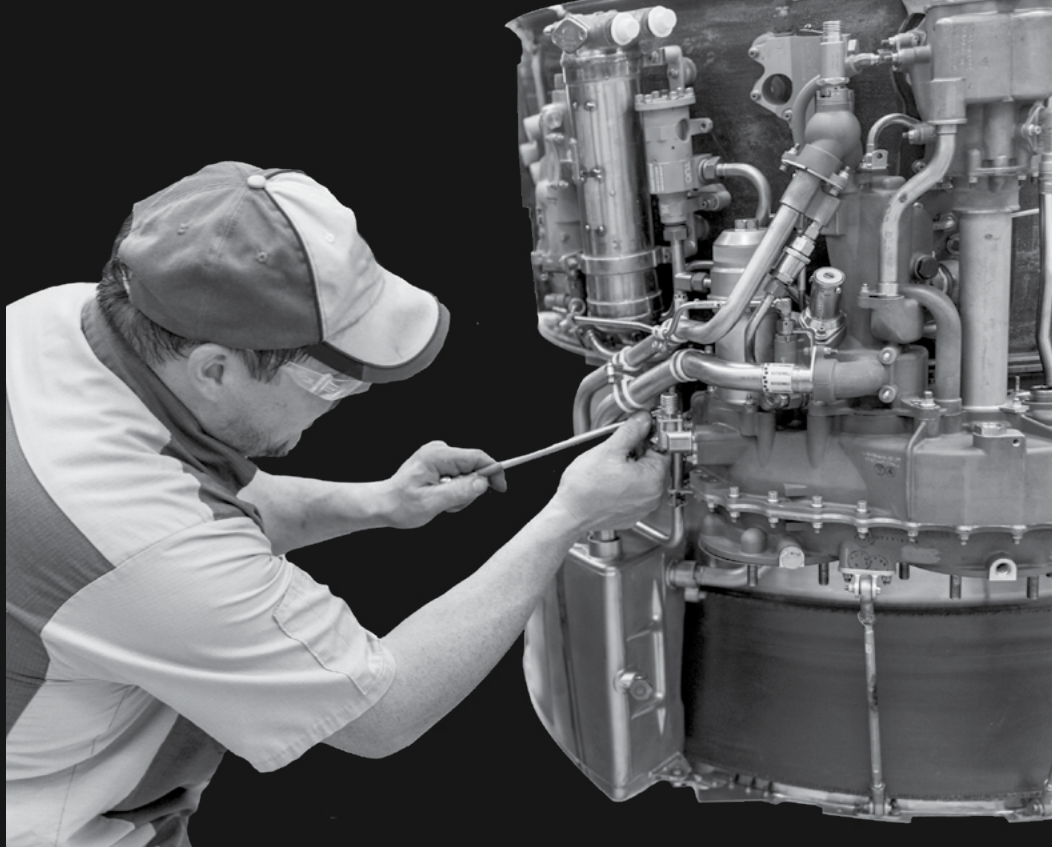
Regardless of the unique variables impacting implementation of SMS, Deitz said all programs should have a common foundation. “The SMS process starts before you take steps toward implementing one,” he said. “You must educate your team in the fundamentals of SMS – and first and foremost, there must absolutely be a culture of trust.

“I’ve worked at flight departments that botched SMS implementation, and it was because people didn’t trust the system or saw it as threatening,” he said. “Your department’s culture must be open to the process and open to doing the work to make what might already be a very good flight department even better.”

Despite his concerns, McCullough believes expanding Part 5 will ultimately have positive results.

“Taking a deeper dive into systems processes and standardization will probably be helpful,” he said. “Accident and incident rates will decrease, and insurance rates should follow. Hopefully we’ll fill in some of the holes in the ‘Swiss cheese’ that we see in many accidents.” ❖

Review NBAA’s SMS resources at nbaa.org/sms.



NBAA CALLS FOR TAILORED SOLUTION FOR FAA PART 5 SMS MANDATE

Upon release of the FAA’s Part 5 NPRM in January 2023, NBAA expressed its support for the overall intent of the proposed rule but also noted the agency’s approach to that effort – essentially applying a Part 121 SMS framework to other industry segments – doesn’t fit the often-unique requirements of business aviation operations.

Ahead of the NPRM’s April 11 deadline for comments, NBAA issued a Call to Action for business aviation stakeholders to comment on the FAA’s proposal and solicited feedback from members to inform the association’s own response to the NPRM.

Mark Larsen, CAM, NBAA’s director of safety and flight operations, emphasized the FAA’s final rule must provide scalability and flexibility for the smallest operators, while also aligning with ICAO requirements under Annex 19.

That may lead to new and diverging requirements for organizations with a mature ICAO-aligned SMS, he continued. The FAA must also recognize such existing programs and provide guidance to align active SMS with the new Part 5 requirements.

“We share with the FAA the need to keep safety in focus, on the ground and in the air,” Larsen said. “We also know that the best approaches to safety systems come from collaboration between stakeholders in government and industry.”



PAVING THE WAY TO AAM SAFETY

The next big aviation evolution is coming. Here's what the industry and regulators have been doing to prepare for safe operations.



The emerging advanced air mobility sector (AAM) promises to deliver huge benefits and capabilities to the aviation industry, including lower noise levels, less maintenance and zero fossil-fuel emissions. In anticipation of this coming tectonic shift, what are industry and government entities doing now that will help pave the way to safe operations?

Safe introduction of AAM into the U.S. aviation system requires coordination of an entire ecosystem of moving parts. Aircraft certification, operations and pilot training, airport infrastructure and airspace integration are just a few of the areas experts are working to address before AAM operations kick off.

Here are some of the initiatives underway to ensure a path to safe AAM operations.

AIRCRAFT CERTIFICATION

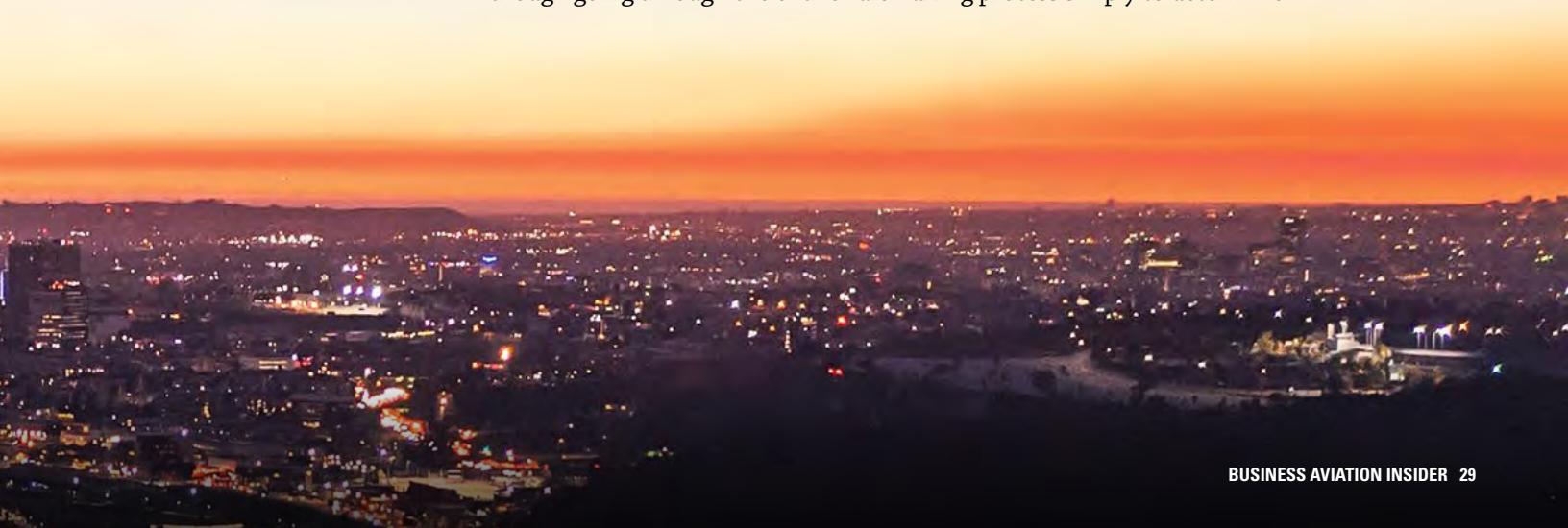
Many of these aircraft will be electric vertical takeoff and landing aircraft (eVTOL). The FAA considers these aircraft to be “powered-lift.” There are no airworthiness standards directly applicable to powered-lift aircraft. As a result, most aircraft used in AAM will be considered “special class,” certificated under 21.17(b). However, “special class” does not mean preferential treatment. In fact, a special class certification project actually goes beyond normal certification standards, which are pretty broad.

“Special class recognizes that the FAA can draw from all airworthiness standards, combine those standards as appropriate for that specific project and add additional requirements, which could be considered under ‘special conditions’ for other aircraft,” said Walter Desrosier, vice president of engineering and maintenance at the General Aviation Manufacturers Association (GAMA).

For a typical aircraft certification process under normal airworthiness standards, unique design characteristics are certified through special conditions, which go through the full rulemaking process, including public comment.

“For these aircraft certificated under 21.17(b) as special class, there’s a different level of transparency and scrutiny,” said Desrosier, who explained a special class aircraft’s entire airworthiness standard will go through rulemaking and will be published for public comment. “Published 14 CFR airworthiness standards do not go out to public comment for each normal-category aircraft. The airworthiness criteria for each special class aircraft do.”

Although going through the entire rulemaking process simply to determine



PAVING THE WAY TO AAM SAFETY

airworthiness criteria can slow manufacturers' progress, there are benefits to seeking public comment. Desrosier says many experts from industry and other aviation authorities have provided input into the two special class airworthiness standards published to date – the Joby Aviation JAS4-1 and Archer Aviation M001.

Much has been made of where AAM aircraft will fall in the FAA's traditional safety continuum. Desrosier reports the safety continuum philosophy, which is based on risk and societal expectations of safety, has greatly improved safety in GA aircraft. However, simply setting the highest design standard in one area does not necessarily provide the desired outcome, which is a safe operation.

The design of the aircraft, the technology of the aircraft, the type of operations, as well as who operates the aircraft and the environment in which the aircraft will operate, are all key considerations in determining the appropriate application of the safety continuum. The certification processes currently underway consider these variables.

OPERATIONS AND PILOT QUALIFICATIONS

The FAA's 2022 determination that these aircraft are powered-lift created a bit of a regulatory quandary, as powered-lift aircraft are not referenced in many operations or pilot qualifications regulations. Industry experts and the FAA are working to determine operational and pilot training requirements, as well as best practices.

The FAA recently published an NPRM to update air carrier definitions, allowing powered-lift operations to conduct commercial

operations under Part 119. Soon, the FAA will publish a Special Federal Aviation Regulation (SFAR) proposal to further describe operational rules for powered-lift aircraft, presumably for Part 91 and 135 rules, among others. The SFAR will also describe pilot training and qualifications requirements.

"Until we have a clearer, better-defined picture of what the world will look like upon entry into service, our ability to shape pilot training and develop operational policies is limited," said Paul McDuffee, senior manager of regulatory policy at Sernal. "Entry into service for most AAM operations will be in piloted aircraft. Still, there's much work to be done in coordination with regulators and airspace managers."

In the meantime, aircraft manufacturers and future operators are working behind the scenes to evaluate their own aircraft and training needs, utilizing simulators to evaluate training techniques.

Once operations begin, commercial AAM flying will likely be conducted under Part 135, meaning the recent NPRM mandating safety management systems (SMS) for Part 135 operators will apply. This sets a level playing field for safety management across all segments of Part 135 operations.

AIRPORT INFRASTRUCTURE

It is likely AAM operations will launch at existing airports and heliports, as acknowledged in the FAA's NPRM updating air carrier definitions. The aircraft will operate similar to helicopters when in these environments, though specific requirements are unknown until the SFAR is published.

As AAM operations increase in frequency and scale, vertiports will

be developed to support operations.

The FAA published Engineering Brief (EB) 105 in 2022 to provide interim guidance related to ground infrastructure development. The EB outlines initial guidance for vertiport standards for facilities serving aircraft with a maximum gross weight of 12,500 pounds or less that utilize electric propulsion. The FAA Office of Airports is developing a new vertiport Advisory Circular (AC) to establish more permanent requirements for new vertiport infrastructure, which is expected to be published in 2025.

These guidelines for infrastructure development, coupled with the upcoming operational regulations, will ensure safe operations in the airport, heliport and, eventually, vertiport environment.

AIRSPACE

How will these aircraft operate and integrate into the National Airspace System (NAS)?

For initial operations, the only real consideration is whether the aircraft will operate under airplane or helicopter rules, which should be determined by the upcoming SFAR. No significant changes are necessary for piloted operations at the scale expected at initial entry to service.

"We intend to operate in the same world we do today, using the same principles and tenets of good, safe legacy aircraft in the NAS," said McDuffee. "That's the industry expectation now and in the future."

Jeffrey Vincent, now the executive director of the FAA's Office of Drone Integration, formerly the vice president for Air Traffic Services, does not anticipate any concerns with AAM integration into the NAS, at least during initial operations. At a recent NBAA News Hour, Vincent

expressed his confidence that the current NAS can accommodate these aircraft.

“We don’t have to come up with a new air traffic system to accommodate advanced air mobility vehicles,” Vincent said, although he acknowledged there is work to be done before AAM reaches full-scale operations and particularly before autonomous aircraft enter the NAS at scale.

As aircraft evolve to more automated operations and the frequency of flights increases, airspace integration policies will also need to continue to evolve.

INTERNATIONAL CONSIDERATIONS

The International Civil Aviation Organization (ICAO) addresses powered-lift airman certification requirements as well as operational requirements in its Standards and Recommended Practices (SARPs) and guidance materials.

For pilot certification, ICAO SARPs state a pilot with an airplane or helicopter category rating may receive type-specific training in a powered-lift and add a powered-lift type rating to that existing license (“certificate” in the U.S.). That pilot is then qualified to fly that specific powered-lift aircraft type.

The type rating concept for qualifying pilots allows aviation authorities to have a transition period to qualify powered-lift pilots, but prevents “privilege creep” that could occur if authorities were to require only a broad powered-lift category rating. A powered-lift category rating, theoretically, would allow a pilot to fly any powered-lift aircraft. The powered-lift aircraft currently under development, though generally rather

simple to fly, are too dissimilar for a standardized pilot qualification.

ICAO also addresses powered-lift operations through its Guidance Document 10010, which directly applies to tilt-rotors but is more broadly applicable to powered-lift aircraft. The guidance essentially says powered-lift should utilize helicopter rules in most cases, except where airplane rules make more sense. For example, powered-lift aircraft are capable of gliding on the wing, so airplane overwater rules are more appropriate for powered-lift than are helicopter rules. Conversely, because the powered-lift aircraft are highly maneuverable and are capable of taking off and landing vertically, helicopter rules are more appropriate for minimum altitudes, airport operations and weather minimums.

These two documents, developed by industry experts and aviation authorities worldwide, lay the groundwork for safe operations, allowing ICAO member states to develop their own regulatory regimes for AAM within the ICAO framework. ✦

Review NBAA’s AAM resources at nbaa.org/aam.



GOING FOR GOLD AAM AT THE OLYMPIC GAMES

AAM operations might be a reality sooner than you think. Organizers of both the 2024 Summer Olympic Games in Paris and the 2028 Summer Olympic Games in Los Angeles hope to feature AAM as part of the transportation offerings during those events. While the scale of the 2024 operations might be limited, by 2028, AAM could be a real player in the transportation of athletes and spectators.

Industry and federal, state and local agencies are working together to ensure a safe path for those operations.

NBAA is also doing its part by providing critical links between emerging technologies, including AAM, and legacy operations. One association initiative, the NBAA AAM Roundtable, is a forum for policy planning and operations integration. The roundtable provides a voice for manufacturers developing eVTOL aircraft and related infrastructure with regard to airport access, airspace management, local community engagement and other priorities and is an important connection to NBAA’s traditional membership.

A full-page photograph showing three people walking across an asphalt tarmac. In the background is a yellow and blue Beechcraft twin-engine propeller airplane. The man on the left is wearing a black jacket and jeans. The woman in the middle is wearing a blue sweatshirt and jeans. The man on the right is wearing a patterned shirt and jeans. The sky is blue with some clouds.

Farm to Labeled

After 96 years, Stamoules Produce bought its first airplane to bring its new labeled pistachio brand to market.

By Lowen Baumgarten

Photos by Morgan Anderson Photography



Left to right: Spero, Elena and Dio Stefanopoulos and Stamoules Produce's King Air 360.

MEMBER PROFILE

In a flash of bright orange, blue and purple, a King Air 360 dips below the trees over California's Central Valley, landing in the middle of an orchard about an hour west of Fresno. The Stamoules Produce sales team has returned to Mendota, CA.

Fed by 100-mile-long canals, Mendota is "the cantaloupe center of the world" – a swath of fertile land that produces fruit, nuts, corn and vegetables from about 700 farms. And for the last two years, it has received 0% of its allocated irrigation water.

"About four or five years ago, they told us we're pretty much not going to have water," explained Elena Stefanopoulos, Stamoules' business and financial manager. "That's why we started to shift over to pistachios. Because they're more durable."

through California's prolonged drought.

A PILOT IN THE FAMILY

"Certain crops are more demanding of water," said Spero, named for their grandfather, "and when there is not good canal water, you have to rely on well water. Almonds, melons and sweet corn are very sensitive to brackish well water. They can't handle it like pistachios can."

For the past several years, Stamoules Produce has been planting pistachio orchards and planning to launch their own consumer brand, Opa Pistachios. They are building a hulling plant and a packaging facility. And, to introduce the new brand to wholesalers and grocery chains, they paved a 4,900-foot runway on the farm and bought the King Air 360, their first airplane.

"Now that we've started selling our own brand, [flying there] helps build a relationship. It's more substantial than a phone call."

KATIE STEFANOPOULOS
Pilot, Stamoules Produce

Elena and her two brothers, Spero and Dionysos ("Dio") Stefanopoulos, run the farming business founded by their grandfather in 1927. A Greek immigrant who had waited tables at the Waldorf Astoria in New York City and served in World War I, Spero Stamoules planted cantaloupes in Mendota with seeds scraped off the plates he cleared.

From fewer than 40 acres of cantaloupes, Stamoules Produce expanded into honeydew, onions, bell peppers, broccoli and sweet corn, spanning over 17,000 acres today. They have prospered, but also struggled, along with the rest of Mendota,

Dio's wife, Katie Stefanopoulos, is a 7,500-hour pilot who flew King Airs out of Fresno Yosemite International Airport (FAT) for years. When she joined the family business, they discovered a new way to meet customers across the country.

"We're going to Arizona next week with six of our sales reps, to meet wholesalers and grocery buyers," said Katie. "Our sales team has never met 90% of their customers. It was always by phone. Now that we've started selling our own brand, [flying there] helps build a relationship. It's more substantial than a phone call."

On longer legs and when the airplane

MEMBER PROFILE



Bruce Kalashian is a contract pilot for the company who has known the Stefanopoulos family for decades.

is carrying a full load of passengers, Katie will fly with Bruce Kalashian, a contract pilot who has known the Stefanopoulos family for decades. Since taking delivery in 2020, Stamoules has flown about 150 hours per year in the King Air 360, often making day trips to visit customers in Oregon, Nevada, New Mexico and other western states.

"We'll start small, and eventually we'll go as far as New York, Canada and Mexico," said Elena. "Walmart, Kroger... we can go meet everybody now, because of the airplane."

150 TRUCKLOADS PER DAY

Stamoules Produce was the launch customer for the King Air 360 in November 2020. The family initially looked at the Pilatus PC-12, but Katie insisted on a twin-engine airplane for added safety. They considered a 250 and had settled on the 350 for added cabin space and range, before Textron called and offered them the chance to take delivery of the first 360.

The aircraft performs the same as a 350, said Katie, with the addition the Collins Aerospace Pro Line Fusion avionics, digital

"Walmart, Kroger... we can go meet everybody now, because of the airplane."

ELENA STEFANOPOULOS *Stamoules Produce Business and Financial Manager*

pressurization and an autothrottle system. "I had experience with glass, but the autothrottle took a little getting used to," she said. "It actually helps you manage your attention on takeoff and take care of the rest of the aircraft."

She and Kalashian trained on the 360 for two weeks at FlightSafety in Tampa, FL, which is where they return for recurrent training. Kalashian flies single-pilot on shorter missions when Katie is not available, covering about 15 to 20 flights per year.

Early on, Katie instituted a business continuity policy that Dio, Spero and Elena would not fly at the same time, if avoidable. She is also careful about assessing the weather and her own fatigue. The airplane is covered by Textron's ProParts airframe and avionics program and the engines are under warranty. After harvest season ends,

she flies to a Textron service center in Sacramento, CA, for its two-week annual inspection.

The airplane is hangered at Fresno Yosemite, close to where many of the sales reps live. The runway at the farm allows direct access to Stamoules' main sales office, processing facility and headquarters.

The busy season in Mendota begins with spring planting, continues through summer harvest and fall shipping months. In October, 150 trucks loaded with nuts and produce leave their facility every day. Stamoules employs 50 full-time staff and as many as 3,500 seasonal workers, and even with the Central Valley's water supply dwindling, "we want to keep those jobs," said Elena.

INBOUND CALLS

After 96 years in the produce business,

For its first 50 years, Stamoules Produce grew mostly fruits and vegetables. The farm began growing pistachios in the 1960s.



Stamoules has solid relationships with both foreign and domestic customers.

“Right now, for produce, people call us. They know the Stamoules label, and our sales team fills orders,” said Spero, who heads planting, harvesting and sales operations. “Hopefully, we want to put ourselves in the same position with the pistachio brand.”

First, they have to introduce customers to the Opa brand. “We know how to move produce, but we’re less familiar with nuts and the consumer market,” said Elena. “So, we thought, why not get our own plane, go out and meet our customers?”

While Stamoules has grown some pistachios since the 1960s, when their grandmother planted the first 19 acres, they grew mostly fruit and vegetables for over 50 years. For the nuts they did grow, they

contracted with other farmers to harvest and haul them. By 2008, when Stamoules’ pistachio acreage had increased, they arranged to sell their nuts to The Wonderful Company.

“Packaging and launching our own brand is going to be very new to us,” said Spero. “Now we’re venturing into a different world of marketing.”

Stamoules has invested \$20 million in the hulling plant and a packaging facility is planned. Dio, the architect of the family, designed a logo and several packaging concepts.

“We like to meet people, shake their hand, give them something with the Opa brand,” said Dio. “And every time we jumped in the airplane to go and meet a broker and ask if they’re willing to take on this new brand that we’re developing, they said, ‘Yes, absolutely.’” ❖

Learn more about Stamoules Produce at Stamoules.com.



JOINING THE FAMILY BUSINESS

With 7,500 flight hours, Katie Stefanopoulos had a varied and extensive career in aviation before Stamoules Produce bought its first airplane and she became the pilot for the California-based family business.

She earned her private pilot license in high school, but originally planned to go to law school.

“My father was a commercial charter pilot, and we had a Cessna 150 growing up, so I went to ground school when I was a teenager,” Katie said. “Then, I was at [University of California,] Davis and I was in the Flying Aggies, and I would fly home, and I just loved it more than my legal internship.”

After earning her ratings, she took a job as a flight instructor which was followed by flying a Cessna 182 for gas pipeline patrol. She also flew cargo for FedEx out of Oakland, CA, for six years, ultimately becoming the safety officer for that operation before moving to Fresno, CA, where she flew charter and medevac for several years.

“I had made some contacts in Fresno, so I was flying as an independent contract pilot when I was married, until I got pregnant,” said Katie. “I was flying until my fifth month. We had the idea to get the airplane and I took on this new role with the family business.” Now she oversees a flight operation herself.

SNAPSHOT: STAMOULES PRODUCE



Aircraft: One King Air 360



Base: Headquartered at California's Fresno Yosemite International Airport (FAT)



Personnel: A contract pilot, Bruce Kalashian, who reports to pilot and flight department manager Katie Stefanopoulos



PHOTO © MORGAN ANDERSON PHOTOGRAPHY

Management: Realizing Safety Benefits From Data Sharing

Increasing recognition of the safety benefits from flight data sharing programs is helping to drive growth and acceptance of these technologies throughout the owner-flown, turbine-powered aircraft community.

The TBM Owner Pilot Association (TBMOPA) first recognized the potential advantages of data sharing in late 2017, with member Dierk Reuter working with TBM instructor Bill Panarello to track landing mishaps involving the single-engine turboprop aircraft.

"After a number of logs were examined, Bill had a eureka moment: 'Dierk, we can predict from past data which pilots are likely to have a landing incident!'" Reuter recalled. "This led to the creation of an online [form] where owners upload their log files and automatically receive an analysis of their performance."

Daher later adopted this process into its "Me & My TBM" owner app. Owners of TBMs equipped with Garmin avionics may also manually upload data after each flight, with automatic uploads enabled by Pratt & Whitney Canada's Flight Data

"It's a very powerful motivator."

CHARLIE PRECOURT

Former Astronaut and Citation Jet Pilots Association Safety Committee Chair

Acquisition Storage and Transmission (FAST) System installed on newer TBM aircraft.

"It took a little while to warm up to uploading my data and recognizing what I should be looking for," said TBMOPA Chair Andrew Cragg, "but it has now become a routine part of every flight I take. Analyzing that data post-flight has become every bit as important to me as performing a thorough pre-flight inspection."

Former astronaut Charlie Precourt brought his NASA experiences with data sharing and flight operations quality assurance (FOQA) programs to the Citation Jet Pilots (CJP) Association,

where he serves as chair of the group's safety committee.

In 2020, a group of 10 volunteers equipped their Citations with data-gathering equipment. Participating pilots received an email showing their flight performance data within minutes of landing, enabled by CJP partner CloudAhoy.

Results and feedback from that initiative led CJP to launch a dedicated member FOQA program in early 2023. Data sharing is also a key part of CJP's recently unveiled "Safe to Land" initiative to help pilots maintain a stabilized approach to the runway and recognize opportunities to correct deviations, or go around.

Precourt shared his experience with the program from a recent flight. "I wasn't even out of my aircraft yet, and there was the email waiting showing that I scored 100% on a true IFR approach in icing," he said. "It's a very powerful motivator."

As with the TPMOPA initiative, de-identified operator data is also gathered and aggregated to help CJP identify potentially hazardous trends among participating members, which can then be addressed and mitigated. Availability of lower-priced data gathering solutions further encourages pilots to participate in these efforts.

Reduced insurance costs for participating owner-operators is one of many potential safety benefits associations hope to realize from data sharing, with such programs often revealing patterns that could lead to unintended consequences.

"One operator [utilizing FOQA] found their pilots consistently floated down the runway on landing," said David Miller, CJP's director of programs and safety education. "Turns out they had an unwritten contest to see how many of their passengers would applaud a soft landing."

"When asked about it, the pilots acknowledged it could be an unsafe practice, and they changed their behavior," he added. ✦

Review NBAA's safety data sharing resources at nbaa.org/data-sharing

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Management: Safety and Sustainability Go Hand in Hand

Safety and sustainability may seem like separate topics, but in fact, experts say they're increasingly interrelated.

"Safety and sustainability are getting a lot of attention now. Sustainability is basically where we were with safety in the 1990s," said Darryl Young, director of international trip planning at AEG Fuels. "Then, we didn't think there would be much regulatory or other impact on Part 91 operations regarding safety."

Much like earlier perspectives on safety, some people only see the costs associated with sustainability or, consider it a political issue.

"Sustainability is a similar story that safety was back then. No one wants to increase their costs, but we need to show the value of the flight department," Young said.

Motivation to support sustainability often comes from leadership, which could feel pressure to move quickly, but it's important to assess the risk from change, said Stewart D'Leon, NBAA director of environmental and technical operations. "Sustainability efforts should trigger your

"Sustainability is becoming increasingly important; however safety must never be compromised or overlooked."

BAS DE BRUIJN

Member, NBAA Environmental Subcommittee

SMS risk assessment and change management processes."

Small operational changes can have a big impact on sustainability and can result in increased efficiency, a win-win situation. Consider reviewing policies around flight planning standards, such as cruise speeds and levels, optimizing for fuel burn versus time enroute. Create an APU use policy before and after flights. Before making changes, consider the safety

impacts and conduct a risk assessment, said Bas de Bruijn, a member of NBAA's Environmental Subcommittee.

Purchasing sustainable aviation fuel (SAF) is one completely safe step towards making a flight department sustainable. SMS risk analysis processes can demonstrate the safety of SAF.

Erik Dagley, who's also a member of NBAA's Environmental Subcommittee, ran a detailed risk assessment for his organization about future technologies, products and processes.

Dagley considered the enterprise level and operations level, with operations split into flight and ground functions. His efforts uncovered very few risks to adopting sustainability efforts. At the enterprise level, the only risks are financial – that is, additional expenses. For operations, one example he identified is a pilot being forced to fly into an airport with SAF to meet sustainability goals but the airport is unfamiliar or atypically large.

"Even that isn't a considerable risk," said Dagley. "I went so far as to ask if we are introducing products to the aircraft cabin that introduce new risk to the waste system or aircraft interior. After that level of review, I could not come up with anything that would have any impact on safety."

Dagley acknowledges ground operations are a little different. For example, utilizing an electric tug without a robust enough electrical system could create risks.

"The only real effect of any tangible initiative currently available in the short term is just money," said Dagley. "So much of aviation is already highly regulated, including new technology, that risk mitigation has already happened prior to getting to you."

Overall, most sustainability initiatives have – at worst – a neutral impact on safety.

"Sustainability is becoming increasingly important; however, safety must never be compromised or overlooked," de Bruijn said. ❖

Learn about creating a sustainable flight department at nbaa.org/sustainability



WORKERS' COMPENSATION PROGRAM PAYS MILLIONS IN DIVIDENDS

The NBAA Workers' Compensation Insurance Program, in partnership with Old Republic Aerospace, presents an opportunity for you to be rewarded for providing your employees with a safe work environment. Since the program's inception in 2009, participant policyholders have received more than \$9.1 million in dividends.

Your current insurance provider can connect you to the program. For more information, contact Craig Benn at cbenn@ORAero.com

MEMBER CENTRAL



Workers' Compensation Program Pays Millions in Dividends

Old Republic Aerospace is pleased to announce its distribution of dividend payments across the 2019, 2020 and 2021 years of the NBAA Workers' Compensation Insurance Program. Since the program's inception in 2009, participant policyholders have received more than \$9.1 million in dividends.

Working with NBAA for almost 15 years, Old Republic Aerospace provides association members a high-quality, cost-effective solution to aviation workers' compensation coverage, along with the opportunity to earn a cash dividend.

The NBAA Workers' Compensation Insurance Program offers members the opportunity to be rewarded for providing employees with a safe work environment and, as a result, reduce the ultimate cost of insurance protection. Old Republic

Aerospace has a proven track record, and has been dedicated to the aviation marketplace for the past 40 years.

As a member of the Old Republic Insurance Group, one of the 50 largest shareholder-owned insurance organizations in the U.S., Old Republic Aerospace provides the peace of mind that comes from being insured by a Fortune 500 company rated A+ by A.M. Best that has been committed to excellence for the past 100 years.

NBAA members don't have to change insurance brokers to take advantage of this exclusive member benefit. Your current insurance provider can easily connect you to the program. ✨

Learn more at nbaa.org/workerscomp



Member Benefits



DON'T MISS THE EBACE2023 COFFEE SOCIAL

If you are attending the 2023 European Business Aviation Convention & Exhibition (EBACE2023), join us in Booths J90 and L90 for coffee, networking and a sweet treat. Take a commemorative photo at the EBACE photo booth and connect with industry peers and decision makers. EBAA and NBAA staff will be available to answer your questions and help you learn how membership can help make your business even more successful.

ebace.aero/coffee

IBAC CREW CARD FOR BUSINESS AIRCRAFT CREW MEMBERS

The International Business Aviation Council (IBAC) Crew Card provides business aircraft flight crews with a convenient, internationally recognized form of identification.

The white, blue and red card was created to ease ramp access and assist in customs identification.

Much like the identity cards issued to commercial crews, the IBAC card provides an additional level of assurance to security officials that the person carrying the card is a bona fide business aircraft crew member.

ibac.org/crew-card

Professional Development

NBAA's new Certified Aviation Manager (CAM) Recertification Award for Tenure (CRAFT) program recognizes the continued renewal of the CAM credential. CRAFT rewards CAMs for their commitment to consistent and unbroken recertification history.

To support the tenet of commitment, the CAM Governing Board recognizes CAMs for "walking the walk." NBAA and the CAM Governing Board have developed recognition levels based on an individual's tenure as a CAM. CAMs automatically earn the recognition after recertifying at the levels outlined below.

CAM:

- Issued upon the initial successful passing of CAM exam.
- Recognition continues through the first and second recertification.
- CAM digital certificate and badge.
- Traditional CAM lapel pin.

CAM Silver:

- Issued at the third and fourth recertification.
- Silver digital CAM certificate and badge.
- Silver-colored CAM lapel pin.
- Recognition at NBAA-BACE and other NBAA events.

CAM Gold:

- Issued at the fifth and subsequent recertifications.
- Gold digital CAM certificate and badge.
- Gold-colored CAM lapel pin.
- Recognition at NBAA-BACE and other NBAA events.

For more information about obtaining the CAM credential, visit nbaa.org/cam. If you have specific questions, email cam@nbaa.org.

New Certified Aviation Managers

More than 800 business aviation professionals from all segments of the industry have earned the Certified Aviation Manager (CAM) credential. The CAMs listed below are among the latest to join this elite group.

Joiwind Alexander, CAM
Client Aviation Manager

Joe Barnes, CAM
Asst. Chief Pilot
Airborne Customer Support
Gulfstream Aerospace Corp.

Donald L. Brown, CAM
Director of Maintenance
Thermo Fisher Scientific

Melissa L. Cartiea, CAM
Captain
ACT Two Inc.

Chris Clements, CAM
General Manager
Lloyd's Aviation

David Constantino, CAM
Assistant Chief Pilot
WestRock

David Guntorius, CAM
Senior Captain/Standards Pilot
Walmart Inc.

Jason Moe, CAM
Senior Captain
Halliburton Co.

Gregory A. Mullett, CAM
Senior International Captain
Eli Lilly & Company

Zachary P. Riggs, CAM
FDM/Captain
Pella Corp.

Selene Russo, CAM
Lead Pilot
Clay Lacy Aviation

Jason D. Thomas, CAM
Captain



Events Calendar

May

May 2 - 4

Maintenance Conference | Hartford, CT

May 23 - 25

European Business Aviation Convention & Exhibition (EBACE2023) | Geneva, Switzerland

June

Jun. 8

Business Aviation Taxes Seminar | Chicago, IL

Jun. 14

White Plains Regional Forum | White Plains, NY

October

Oct. 15 - 16

Tax, Regulatory & Risk Management Conference | Las Vegas, NV

Oct. 16

Single-Pilot Safety Standdown | Las Vegas, NV

Oct. 17 - 19

National Safety Forum | Las Vegas, NV

Oct. 17 - 19

Business Aviation Convention & Exhibition (NBAA-BACE) | Las Vegas, NV

Insider Resources

Integrating Space Operations into the National Airspace

FAA's Elizabeth Assink works with NBAA and other stakeholders to facilitate collaboration with space operators for safe airspace integration.

Space operations originating in the U.S. continue to grow, with over 500 licensed launches to date and more than a dozen licensed spaceports. These operations support research, communications and even tourism. FAA Space Operations Collaborative Decision Making (SpCDM) Manager Elizabeth Assink leads a team of government and industry partners who are working to ensure this rapidly growing industry integrates into the National Airspace System (NAS) safely and efficiently.

“The focus of the Space Collaborative Decision Making program is information exchange and dialogue. The FAA works with all of these groups on a daily basis, but this group allows for reflective discussion,” said Assink. The SpCDM is made up of government and industry entities, both civilian and military, working with the FAA’s Air Traffic Organization (ATO).

The SpCDM is a result of the 2019 Airspace Access Prioritization Aviation Rulemaking Committee (ARC) recommendation, based on the tremendous success of other aviation CDM programs. Notably, NBAA’s Senior Director of Air Traffic Services and Infrastructure Heidi Williams served as an ARC industry leader. Launched in 2021, the SpCDM is chartered for three years.

The rapidly changing ecosystem that makes up the aerospace industry drove the three-year duration, Assink said. After three years, the SpCDM can be renewed or revamped to meet the needs at that time.

Currently the group is working on several tasks, including organizing a library of resources for industry and government use and developing best practices for international space operations. Another subgroup is working to share information produced by the Space Data Integrator, which provides real-time telemetry data to use airspace more efficiently by releasing hazard areas as they clear.

All stakeholders are represented in the SpCDM, including business aviation, Assink said, pointing out that NBAA has participated since the beginning.

“Overall, the Space CDM provides a public/private forum and continues to have open dialogue between aerospace industry and government to ensure more efficient and safe space operations in the NAS,” she said.

“If you can get people to understand each other and know each other, we have those relationships and that trust to work with each other for a common purpose.” ❖

ELIZABETH ASSINK manages Space Collaborative Decision Making (SpCDM) under the FAA’s ATO Space Operations group. Previously she stood up the FAA ATO System Operations UAS Security Office. Prior to the FAA, she launched multiple offices at the Transportation Security Administration and worked in counterterrorism training. She also has served as a UN regional supervisor for national elections in Bosnia and as a former Peace Corps volunteer.



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NBAA INSIDER DAILY

Weekday-morning email news service

NBAA has introduced a weekday-morning email news service – NBAA Insider Daily – to bring members the latest original content and thought leadership from the association, as well as career opportunities and aviation news from trusted sources around the web.

nbaa.org/news/nbaa-insider-daily



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