

## SOLUTIONS IN BUSINESS AVIATION



Business Aviation
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# PMAs LOWER THE COST OF LEGACY AIRCRAFT OWNERSHIP

Stevens Aerospace and Defense Systems uses its vast engineering and technical skills to earn FAA-PMA approval to manufacture parts that lower the cost of owning older aircraft.







While the current boom in private and business aircraft operations has been great for our industry, it's straining an already thinning stock of replacement parts for thousands of older aircraft.

As one of the industry's most experienced MRO services providers, Stevens Aerospace and Defense Systems (Stevens) deals with this growing problem every day. And the company is calling on its 70-plusyear history to do something about it.

"If you operate an out-of-production airplane, it is hard to find new parts from the aircraft manufacturer today," says Mark Simpson, Quality Control Manager of Stevens' Greenville, South Carolina location. "And if you do locate parts, they can take a long time to get and be expensive. So, a few years ago, we got into the FAA-PMA [Parts Manufacturer Approval] business to provide our customers with better parts, in less time, and at lower cost than what is currently available elsewhere.

"With our decades of experience working on so many aircraft types, we've seen the same parts and components needing replacement time and time again," he adds. "We also run into situations where we need a specific part to complete an installation. It's easier to be able to make it in-house than to try to get it from someone else."

#### STEVENS CAN MAKE CUSTOM **PIECES SUPER-FAST**

Having PMA production capabilities is especially beneficial when the required part is a one-off custom piece. Instead of waiting weeks, Stevens can use its extensive in-house CNC-machining, 3D-printing, wiring harness facility, and metal/composite capabilities to fabricate parts in a fraction of the time and at much lower cost than it would otherwise take to get the customer's aircraft flying again.

"Today, saving time is as important as saving money to most of our customers," Simpson says. "Owners really need their airplanes available when they want to travel. Downtime is costing them a lot more than it did in the past."

As for what kinds of one-off or production parts the Stevens PMA artisans are making, Greenville's General Manager, David Crowder, says that because the FAA's PMA-approval process can be lengthy, they're approaching that on a "best-opportunity" basis.

"For example, we're currently manufacturing a series of blank-off plates for avionics pedestals," he says. "These are one-off type parts, and the outside provider was taking three weeks to deliver them. Using our in-house equipment, we can have one machined and installed in less than one day. And with our FAA-

PMA, we can now sell those parts to other shops that need them."

#### PROMISES MADE. **PROMISES KEPT**

Stevens' PMA production capabilities will continue to expand as its customers' needs grow.

"With every customer aircraft we see in our shops, it becomes clearer that they, and our industry, need a better way to produce these parts now," Crowder says. "We've made a big commitment to be that 'better source' provider by increasing our list of available PMAs."

One product type that is rapidly growing is the array of custom wiring harnesses the company produces in its 8,000-square-foot, AS9110-accredited facility at its Greenville location.

"Wiring harnesses are very specialized parts, and we have a team of skilled professionals dedicated to creating custom units for our in-house use and outside MRO customers," Crowder explains. "In most cases, we can build a harness to a customer's exact specifications faster and less expensively than they can themselves."

Says Crowder, "Whether it's a simple cover plate or a complex wiring harness, some may wonder why Stevens is devoting all this time, effort, and expense to making parts we could buy from someone else. That's not our way. Earning FAA-PMAs is one more way we can deliver on our company slogan: 'On Time. On Budget. On Target."

Adds Simpson, "That's what customers have come to expect from Stevens. And we deliver that every day."



- Over 70 years of MRO experience with aircraft ranging from turboprops to large-cabin business jets
- FAA-approved PMA capabilities mean parts can be made faster and at a lower cost
- PMAs are the only affordable source of new replacements for decades-old components



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AIN's fourth installment of Solutions in Business Aviation arrives alongside a global recovery in our industry. In most markets, business aviation activity has returned to—or is even exceeding—pre-Covid levels. That's not to say the industry is without challenges. We still face disruptions to the global supply chain, staffing shortages, and economic concerns.

In this year's edition of Solutions in Business Aviation, we once again bring together many of the leaders in our industry. They discuss the advancements we can look forward to and how they're answering the challenges we face. You will learn about the latest in engine technologies, the fuel that powers these engines, and how their manufacturers are working with airframers. You'll also read about the newest offerings from MROs, FBOs, and inflight communications. Associations play an important role in our industry, so they too have a voice in this year's edition.

It is a great privilege to be part of such an exciting business and to be associated with so many of its thought leaders.

Please enjoy our most recent edition of Solutions in Business Aviation.

Warm Regards, Karl H. Elken Vice President of Sales and Marketing kelken@ainonline.com



#### DIRECTORY

#### SOLUTIONS IN BUSINESS AVIATION



AEG has representatives around the world to help operators order SAF on an into wing basis, offset emissions at the time of order with carbon credits, or choose to pay for and receive the emission reduction benefits of SAF on a global basis through AEG's book-and-claim program. PAGE 11



#### **AOPA** FINANCE

For over 30 years, AOPA Aviation Finance has been using its unsurpassed experience and aviation knowledge to help pilots chart the most affordable course to aircraft ownership. PAGE 17



Aviation Clean Air's totally natural, patented bipolar needlepoint ionization system is the safest, most effective way to continually neutralize pathogens on every surface inside the pressurized area of your aircraft. PAGE 20

#### **BOMBARDIER**

With its significant investments in its worldwide service network, technician training, parts distribution, and digital portfolio, Bombardier is committed to being the home for supporting its family of business jets. PAGE 21

#### DUNCAN



Duncan Manufacturing Solutions has honed its leadership position by delivering high-quality parts on short timelines to support Duncan Aviation's MRO facilities, satellites, and external customers. PAGE 14

#### **EMBRY-RIDDLE** Aeronautical University

When it comes to addressing future needs in all aspects of aviation and aerospace, Embry-Riddle Aeronautical University stands apart. PAGE 28



When it goes live, Gogo Business Aviation's revolutionary 5G end-to-end network will deliver the seamless, ultra-fast online experience that today's always-connected users demand. PAGE 16



ISSSS ThrustSense with Lifeguard protection optimizes your engines' performance from takeoff to final approach. In addition, it adds an unmatched level of safety in single-engine situations. PAGE 27



Combining nearly 60 years of satellite communications experience to deliver the most flexible, secure, and cost-effective connectivity to business aviation customers worldwide. PAGE 25

#### KING AEROSPACE



For 30 years, King Aerospace has been providing a growing array of military and VVIP aircraft MRO services. It has earned a reputation for offering each of its customers the best solution at the best price and delivering what it promises on time. PAGE 10



When the Foresters first opened their FB0 in 1946, they vowed to provide personalized services for business aviation travelers. Today, that promise is stronger than ever. PAGE 24





The Naples Airport Authority has recently completed several improvements to the terminal and runways to ensure that every visitor enjoys a true Paradise Coast experience. PAGE 33



With more than 8,000 business jet engines operating worldwide, Rolls-Royce Business Aviation has implemented an array of services that consistently deliver differentiating experiences to every customer PAGE 22



Satcom Direct's new two-piece tail-mounted antenna system makes delivering global, high-speed connectivity to new and legacy super-midsize and long-range business jets just Plane Simple. PAGE 8

#### SHELTAIR

Touting three generations of service to general aviation and nearly 60 years of experience in aviation property development and FBO services, Sheltair has earned a national reputation for its superior customer focus and service-driven culture. PAGE 6



SmartSky Networks' patented air-to-ground (ATG) solution provides the responsiveness, dependability, and security to deliver a connectivity experience that meets the needs of passengers, crews, and operations. PAGE 30



Stevens Aerospace and Defense Systems uses its vast engineering and technical skills to earn FAA-PMA approval to manufacture parts that lower the cost of owning older aircraft. PAGE 1



Tango Flight's unique curriculum brings aviation and engineering together to teach high school students the science, technology, engineering, and math skills they will need in their careers. PAGE 26



Volato is simply the most flexible, friendly and rewarding way to own, charter or experience a luxury private jet. PAGE 34



Western Aircraft's MRT combines 65 years of experience with the best factory training and latest tools to get your AOG resolved quickly and safely. PAGE 18



West Star Aviation's strong focus on satisfying its customers extends from the shop floor out through every opportunity it has to "touch" owners and their aircraft. PAGE 7

#### Three Generations Defining Aviation Excellence



Touting three generations of service to general aviation and nearly 60 years of experience in aviation property development and FBO services, Sheltair has earned a national reputation for its superior customer focus.

When Jerry Holland started his residential and commercial construction business in 1963, he did not expect his venture to evolve into an aviation development pioneer and become the largest and most successful family-owned FBO network in the country.

"My father built his first hangar in the early 1970s, and that's when he became interested in airport property development," explains his daughter, Sheltair President Lisa Holland. "After developing several hangar facilities at Fort Lauderdale Executive Airport, he acquired Walker's Cay Aviation at Fort Lauderdale International Airport in 1986, giving birth to the Sheltair brand.

"He's always done things differently," she proudly states. "Anyone can fuel an airplane, but we pride ourselves in our ability to build infrastructure for the industry's future, developing premium FBO facilities, and our commitment to support the communities we serve."

Under this promise, Sheltair is continuously reinvesting in enhancing and expanding its existing network and still actively pursuing new strategic real estate and FBO locations.

#### **Family and Safety Come First**

While Sheltair's first-class FBO services and premier development philosophy are indeed unique, Lisa Holland acknowledges that their family values and safety focus are what sets them apart. Making staff and customers the core of its "aviation family," the company strives to deliver aviation's safest and finest products while supporting the development and success of its people.

"Our guests appreciate that they are heard and known by our Sheltair team members," Holland continues. "Everything we do revolves around delivering an exceptional guest experience."

Holland stresses that the company's commitment to safety is paramount. All of the network's FBOs are IS-BAH Stage II certified and ICAO registered and have earned NATA's Safety 1st certification.

While meeting the needs of today's employees and customers is the priority, Sheltair has also set its sights on the future of aviation by empowering young generations. For this reason, Kai Seymour, grandson of Jerry and son of Lisa Holland, joined Sheltair in 2020 after graduating from the University of Tampa. At the same time, in partnership with Avfuel, Sheltair founded the Future Takes Flight Scholarship, and pledged commitments to educational programs Project Liftoff in Daytona and Project Skylab in Lakeland, by Embry Riddle and the Aerospace Center for Excellence, respectively.

"We need to promote and facilitate the path for aspiring young generations of aviators in our communities," Holland says. "Providing that guidance and support is part of who we are."



- Sheltair is the largest privately owned aviation network in the United States, proudly operating 14 award-winning FBOs consistently ranking as best in business in the AIN FBO Survey.
- Owned and operated through three generations of the Holland family, the company manages a portfolio of over four million square feet of aviation-related properties across the
- For nearly 60 years, Sheltair's core values of safety, integrity, premium quality, high level of service, and efficiency have been the foundation that governs how the company conducts its business.





## PERSONAL ATTENTION CREATES A BETTER CUSTOMER EXPERIENCE

West Star Aviation's strong focus on satisfying its customers extends from the shop floor out through every opportunity it has to "touch" owners and their aircraft.

Maintaining an airplane is the easiest part of an MRO's business. Just follow the instructions. The hard part is consistently satisfying each customer's individ-

ual needs. There are no instructions for that. Or are there?

"Anyone can claim to be customer-focused but that doesn't necessarily mean they are," states Debi Cunningham, West Star Aviation's Vice President, Marketing. "We built our business on great customer relationships and constantly strive to be one step ahead in providing what they want."

How do the people at West Star do it? Simply, they take the time to ask and then listen to what their customers have to say.

"When we learn about issues customers have at other companies; we make sure they are not going to happen at West Star Aviation," Cunningham

says. "We don't do what we think customers want. We ask them. That way, we know for sure."

#### REACH OUT AND TOUCH SOMEONE.

Cunningham says that West Star Aviation's customer touchpoints include quarterly mini-polls, email blasts, and simply having their RSMs and TSMs call them to learn what they're thinking, which is probably the most effective tool.

She feels that in today's rapid-fire business aviation market, her company's customer-focused efforts are a clear differentiator between it and other MROs.

"Today, we are providing what customers are telling us they want," Cunningham says. "Whether it's our new customer por-

tal, our customer app, or any of our other initiatives, we are totally focused on satisfying our customers' needs. That's who we are."



#### THE SOLUTION

- Solid 75-year history built on a commitment to delivering the best customer experience
- Four full-service MRO locations, plus five satellite locations for all major corporate jets
- AOG team dedicated to getting customer aircraft back in the air fast (855-638-5381, AOG@wsa.aero)

#### weststaraviation.com

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## **Global Connectivity** Just Got a Lot Simpler



Satcom Direct's new two-piece tail-mounted antenna system makes delivering global, high-speed connectivity to new and legacy super-midsize and long-range business jets just Plane Simple.

As an unprecedented number of first-time business jet buyers rush to take advantage of the benefits of ownership, the last thing they want is to have their new aircraft spend months in the shop having a satellite connectivity system installed. But that's unavoidable. Or is it?

"The legacy satcom hardware was developed from airline systems and then shoehorned into a business jet," explains Chris Moore, President, Satcom Direct. "The installation is complex and expensive. Many of the components have to be installed in the aircraft's baggage holds, which takes up a lot of valuable space. It's not the best solution."

#### Five minus three equals Plane Simple

Before introducing Plane Simple, 25-year-old Satcom Direct had already positioned itself as a truly global connectivity pioneer. Its complete end-to-end portfolio includes everything required to deliver high-speed satellite cabin and cockpit Wi-Fi.

But, while the rest of its network is well in hand, Moore and the company's engineering team saw the legacy airliner-derived antennas as the weak links in the system. They were just too big, complex, and prohibitively

expensive to install.

"We took a holistic view of the antenna system," Moore says. "What benefits would a totally new approach bring to business travelers? Making the antenna smaller would lower the cost of installation, and adding it to our software, hardware, and infrastructure portfolio would streamline connectivity acquisition and support, making it attractive to more users. That was the thinking behind our Plane Simple antenna system."

The new system has just two components the compact antenna and the remote modem/ LRU. As Moore explains, that greatly simplifies installation because just a couple of cables connect the antenna to the Satcom Direct modem unit. And that unit can be installed in an unpressurized portion of the aircraft, which saves valuable cabin space.

"Installations can be done in a fraction of the time compared with legacy five-part systems," Moore says. "It is the only system designed specifically for business aircraft from the ground up. The market is enthusiastic about what Plane Simple brings to so many aircraft."

With regard to aircraft types, Moore says that if there's room in the tail for a 12-inch antenna, then Plane Simple is the ideal candidate for installation. The company already has FAA and

EASA STC approvals on many popular newer and legacy super-midsize to large-cabin business jets, and the list continues to grow.

#### It's not about the antenna; it's all about the experience

While Moore notes that the compact Plane Simple antenna system is an engineering marvel, he stresses that what's most important is what it means to so many aircraft owners.

"From a passenger's perspective, it's not about the technology; it's about the connected cabin experience," he says. "Now, more passengers can do what they want and need to do anywhere in the world. That's what's important to us.

"Whether it's emailing or streaming or a Zoom call, the capabilities they need are available to multiple passengers, pretty much from any location," Moore continues. "From our enhanced network operations center to routers and the aircraft hardware, we've invested heavily in the infrastructure to deliver reliable and secure connectivity services."

With regard to security, Moore says that along with its private and corporate customers, Satcom Direct provides connectivity for segments of the U.S. military. With that in mind, all customers can communi-





#### **WE EARN OUR WINGS EVERY DAY**



For 30 years, King Aerospace has been providing a growing array of quasi-military and VVIP aircraft MRO services. It has earned a reputation for offering each of its customers the best solution at the best price and delivering what it promises on time.

Two of aviation's most demanding customers are the U.S. military and VVIP aircraft operators. King Aerospace has been at the top of both groups' preferred-MRO-provider lists for 30 years.

"I started the company in 1992 in our garage," says King Aerospace's founder and Chairman, Jerry King. "Our first government contract was providing support for U.S. Air Force E-9As [military versions of the de Havilland Canada Dash 8 turboprop]. We had that contract for 18 years.

"Today, we are very specialized in upgrading and maintaining a variety of our military's special-missions aircraft. We have 15 locations around the world in support of our quasi-military contracts and our warfighters on a 24/7/365 basis."

Given the company's successful background in working on large military aircraft, it wasn't a stretch to extend its array of MRO capabilities into the commercial VIP and VVIP aircraft segment.

"King Aerospace Commercial Corporation is focused on high-end conversions, interior upgrades, paint, and MRO on Boeing BBJs, along with some special-missions support for the military," says Jerry's son, King Aerospace President Jarid King. "We're proud that 60 percent of the U.S.-based BBJ fleet visits our shop annually for all kinds of work."

While the level of service and expertise the company provides is second to none, Jarid stresses that the company's culture is the defining factor in its success. "King Aerospace's logo is military-aviation-inspired wings," he says. "We proudly wear them over our hearts. It's the heart and passion of the people who are King Aerospace that sets us apart. Customers can see the difference in the way we approach every project.

"Our job is to make a significant difference in the lives of others," Jerry adds. "We just happen to work on airplanes."



- Offering MRO for over 60 percent of the U.S.based Boeing BBJ fleet
- Committed to never missing a delivery deadline
- Celebrating 30 years of providing top-tier military and VIP aircraft MRO services





Access to on-demand Sustainable Aviation Fuel

### SIMPLIFYING YOUR TRANSITION TO SAF

AEG has representatives around the world to help operators order SAF on an into wing basis, offset emissions at the time of order with carbon credits, or choose to pay for and receive the emission reduction benefits of SAF on a global basis through AEG's book-and-claim program.

SAF is a constant topic in our industry and AEG is committed to ensuring access to SAF and other emission reduction tools is as simple as possible for aircraft operators. AEG has the global reach and technology solutions to take SAF concerns off your list of worries today.

Through AEG, SAF is now available to customers through all their regular procurement channels: term supply contracts, adhoc requests through AEG's 24/7 dispatch, instantaneous authorizations via AEG's web portal, and via AEG's mobile app.

"AEG is one of the world's leading independent energy logistics and aviation services companies," states AEG's Vice President of Global Supply, Stephen J. Leonard. "Our model and technology platform allow us to remain nimble and highly responsive to customer needs, including SAF, on a global scale.

"Participating in SAF can be challenging for operators due to the limited supply and lack of visibility to expected costs." Leonard explains. "We are tracking into wing SAF pricing and availability daily. Our network and experience are in place to help any operator achieve their goals of environmental integrity through the integration of SAF and carbon offsets into their regular fuel programs."

#### Supporting SAF through Book and Claim

AEG has introduced a unique book-and-claim service.

"It's an innovative program where SAF is released into an aircraft in one location but marketed to a customer in another location where physical SAF is unavailable," Leonard states.

"The program allows for operators to support the continued introduction of SAF by paying for the replacement of a conventional jet fuel molecule without incurring the added cost and carbon emissions from transporting the material extended distances," he continues. "Participating in our book-and-claim service will help customers prepare for upcoming SAF mandates and incentives. We believe it's a smart and efficient way to begin their company's transition to sustainable fuel sources."



#### THE SOLUTION

- Committed to Sustainable Aviation Fuel (SAF) offtake around the world to begin marketing the physical product to operators on demand.
- Customers can now search for SAF availability by airport and place orders for into wing supply with ease through AEG's online platform.
- AEG's offering aims to provide visibility and tools to broaden the adoption of SAF by incorporating SAF purchases into operator's regular procurement channels.

aegfuels.com | sustainable@aegfuels.com



#### What advancements do you see contributing to the continued growth of the business aviation market?



Stephen Leonard **Director of Global Supply AEG Fuels** 

Our industry's transition to SAF and continued focus on sustainability initiatives will allow the business aviation market to keep pace with the world's evolving requirements for impactful corporate

environmental, social, and governance (ESG) programs. At AEG, we are making meaningful advancements in SAF production technology to make sustainability the simple choice.



Adam Meredith President, Aviation Finance

Approximately 60 percent of our loans are to firsttime buyers—typically, entrepreneurial owner/single-pilots looking to better optimize their personal/ business time. Consequently, any safety, workload,

or reliability advancements are what have grown the market and will continue to do so." Like the parachute with Cirrus in '98, I expect autoland with Piper and TBM in '20 will be very impactful.



Jonathan Saltman Member **Aviation Clean Air** 

The pandemic has made travelers more aware of the dangers of pathogen transfer. Keeping aircraft cabins purified and assuring passengers of the quality of the air they breathe are critical to the industry's contin-

ued growth. ACA's patented proactive system has been installed on thousands of business aircraft since 2014 and is proven to effectively neutralize 99.9 percent of viruses, pathogens, and bacteria.



**Christopher Debergh** VP, OEM Parts and Services **Bombardier** 

The continuing distribution and use of SAF will transform the market, as will digital enhancements to key processes and the development of new skilled technicians to replace the large number of retiring

professionals in the coming years.



Jeff Lake **President Duncan Aviation** 

The convenience, safety, and productivity of business aviation will continue to create demand. We will see sustained industry growth with technological advancements in cabin management, environmental systems,

connectivity, sustainability, eVTOL, cybersecurity, and ATC improve-

ments like DataLink. There are exciting changes in business aviation and we look forward to supporting new operators and existing ones.



P. Barry Butler, Ph.D. **President** Embry-Riddle

Innovations in design and technology will lead the way in supporting the growth of the business aviation market. Advances in automation and flight control systems are driving improvements in aircraft perfor-

mance. Strong industry relationships help Embry-Riddle Aeronautical University shape degree programs that prepare our graduates for the opportunities to develop, maintain, and fly business aviation aircraft.



Sergio Aguirre President and COO **Gogo Business Aviation** 

Inflight connectivity has become of paramount importance in business aviation. The pandemic made it more important than ever with the increased use of video conferencing and other streaming services.



Tom Grunbeck Director, Autothrottle Systems **Innovative Solutions & Support** 

As technology advances and the industry moves forward, systems such as autothrottles, autoland, Fadec, artificial intelligence, EVS, HUD, and so on will become the norm for all aircraft. These

technologies will improve overall efficiencies and introduce capabilities that will make operations harmonious and the airspace more economical and safer for all.



Matthew Halsey Senior Advisor, Business Aviation **Product Management** Intelsat

With the move to 5G and software-defined capabilities, users expect a seamless experience no matter where they are. Intelsat's next-generation network

will adapt to ever-increasing customer needs in real-time through the implementation of 5G standards-based technologies in our ground network, software-defined satellites in multiple orbits, and software-defined aircraft terminals.



Jerry King Founder and Chairman King Aerospace

The need for face-to-face interaction continues to drive business aviation. Videoconferencing and other tools do not replace looking someone in the eye or shaking a hand. Business is based on trust. Ongo-

ing innovations in connectivity, safety, sustainability, and security will continue to make bizay the travel solution of choice.



Steve Chandoha President Meridian

The continued development of new VTOL and eVTOL aircraft has the potential to grow the business aviation market. The variety of ways they can be used for passenger travel, goods transport, and other

airborne activities will help grow the breadth of our industry and expand travel options in congested metropolitan areas.



Christopher Rozansky Executive Director Naples Airport Authority

Emerging business models that broaden access to private air travel such as memberships, short-term leases, and by-the-seat charter. The excitement surrounding eVTOLS will increase interest in the

unmatched experience private air travel offers. I'd love to see radical advancements in aircraft engine noise technology and airspace designed with community interests taken into greater consideration.



Megha Bhatia VP of Sales and Marketing Rolls-Royce

Sustainability is key for business aviation on our journey to net zero. We are playing a leading role and are collaborating within the industry to achieve those goals through three initiatives: developing even more efficient

gas turbines, demonstrating compatibility with 100 percent SAF, and pioneering disruptive technologies, such as electrification and hydrogen.



Chris Moore President SatcomDirect (SD)

From its Born On Date\* an aircraft delivers reams of data which are optimized to better inform decision-making for all stakeholders. With increased knowledge comes increased efficiency, which heightens the first-to-last-

mile ownership experience and reduces operating costs. Connecting aircraft beyond all expectations will make the options delivered by business aviation today even more appealing to more people tomorrow.



Lisa Holland President Sheltair

As general aviation continues to grow, not only in the number of aircraft operated but also in the size of new aircraft being manufactured, Sheltair will continue to expand the construction of hangars, FBO terminals, and offices, to support the existing and future needs of these aircraft and their passengers.



Dave Helfgott CEO and Director SmartSky Networks

Beneficial airborne connectivity is about so much more than the Wi-Fi devices in the back of the aircraft. It's the reliable delivery of all kinds of data ranging from live video to enhanced situational awareness

to real-time maintenance information to the right people so that it all can be used how and when it is needed.



Christian Sasfai President Stevens Aerospace and Defense Systems

With our PMA status, we are able to identify certain problematic parts – whether that's limited availability, recurring failure, or high cost – and design a solution for aircraft operators. As aircraft operators know, the

most basic part can sometimes present the greatest challenge and we're working to eliminate that headache.



Dan Weyant Founder Tango Flight

Aviation education in high school is key to aviation business success. We must get today's youth excited about opportunities in the aviation industry in order for the business aviation market to continue to grow and thrive.



Keith Rabin CFO Volato

At Volato, we believe flexible, technology-driven tools that align the needs of the customer with the operational needs of the organization will advance the industry. This will be delivered by crafting an agile organization

that provides flexible solutions, so clients have more choices when using our services while rewarding them for supporting operational efficiency.



Austin Shontz Vice President & General Manager Western Aircraft

Considering Covid-19, I believe we will see the sustained growth of charter aircraft and jet membership cards. As a society, we are increasingly becoming aware of the value of our time – for family, friends, and work.

More people will adopt these alternatives to commercial travel to maximize quality time and productivity while minimizing travel hours.



Debi Cunningham Vice President, Marketing West Star Aviation

I believe you need to have a heart for this industry and what customers expect. That commitment must be ingrained in the way you do business. Customers know what leads a business to do what it does, and

success is when you get it right.

## BUILDING ON OUR SUCCESS, ONE PART AT A TIME

**Duncan Manufacturing Solutions has honed** its leadership position by delivering highquality parts on short timelines to support Duncan Aviation's MRO facilities, satellites, and external customers. The company's experience with FAA/PMA parts and OEM licensing agreements only strengthened its position, and since it recently received AS9100 certification, in its eyes this will confirm its commitment to maintaining those high standards.



Everyone in the industry knows that Duncan Aviation has been a leader in private and business aircraft MRO services for nearly 70 years. What few realize is that much of its success stems from its ability to support all aspects of what the customer needs.

"With regard to MRO work, Duncan Aviation is unique," states Duncan Manufacturing Solutions Manager Scott Stenka. "We can do just about anything, from components, cabinetry, and avionics to engines and paint. DMS is just another arm to support those capabilities. It gives us the inhouse capabilities to manufacture parts or complete repairs faster and more cost-effectively than we could if we had to rely on outside vendors for services that we didn't have inhouse, such as heat treating.

"In the mid-eighties," Stenka adds, "we achieved FAA Parts Manufacturer Approval [PMA] to make full-on APU installation kits for Falcon 20s and Israel Aircraft Industries Astra jets. That work created the foundation for the capabilities we have today."

Back then, the PMA manufacturing was done under the Duncan Aviation brand with the occasional OEM licensing agreement sprinkled in. As this specialized branch continued to grow, the company researched the sustainable growth potential of enlarging its aircraft parts fabrication capabilities.

The results were encouraging enough for Duncan Aviation's leadership to commit more than \$4 million to create DMS and equip it with the latest machining, fabrication, and finishing equipment. The completed facility focuses on technologies and processes needed for Duncan Aviation to control its destiny.

#### Success is the sum of its parts.

Stenka says that DMS provides new parts for a variety of aircraft and avionics OEMs, including Aviation Clean Air kits and Wi-Fi installations. In addition, its technicians have built an enviable reputation for manufacturing one-off components for legacy aircraft.

"We see a lot of corrosion and damage in older aircraft wing-root ribs, fuselage bulkheads, and door frames," Stenka explains. "These are things that were never meant to be replaced, and the aircraft's OEM doesn't have them on the shelf." The OEM may give an eight- to 12-week lead time to get a new part out.

"Working with the OEM, our DMS team was able to complete the part in less than a week," Stenka adds. "That's a niche that we're uniquely capable of supporting, not only for our MRO customers. Now that we have earned our ISO AS9100 certification, we're talking with some major airframe OEMs about

expanding our product and service offerings." The certification focuses on the systems necessary to consistently provide products, processes, and services. These credentials would open the door to becoming a qualified supplier on the manufacturing side for the OEM, creating another avenue to provide parts quickly.

"With the AS9100 certification, we can start working toward NADCAP accreditation on the in-house special processes we have," Stenka says. "The guidelines and approval will let us add more credible services and capabilities for OEMs, like composite structures, welding, and heat-treating."

#### What can we do for you?

"We're looking hard at adding 3-D printing capabilities to support the whole aircraft cost-effectively," Stenka says. "We're still in the research phase. When the time is right, we will undoubtedly offer those services as well."

Stenka stresses that, as in the company's early days, Duncan Manufacturing Solutions is here to help customers solve their parts problems.

"Whether it's a simple part or a highly complex component, if there's something you can't get, ask us," he says. "There's probably a way we can help you keep your aircraft flying."



#### THE SOLUTION

- Providing FAA-approved parts production to aircraft owners and OEMs for nearly 40 years
- Supporting Duncan
   Aviation's MRO facility,
   specializing in job shop low-production-run items needed in a tight timeline
- New facility offers CNC milling, waterjet cutting, metal press, engraving, and heat-treating



#### **DUNCAN** AVIATION



**DuncanAviation.aero** 

402.475.2611

### **5G IS FAST AND FLEXIBLE**



When it goes live this fall, Gogo Business Aviation's revolutionary 5G end-to-end network will deliver the seamless, ultra-fast online experience that today's always-connected users demand.

It wasn't that long ago when cabin connectivity was merely nice to have. Today, it's become part of the aircraft's minimum equipment list.

"Two-thirds of our market are people who have grown up on being connected 24/7," explains Sergio Aguirre, President and COO of Gogo Business Aviation. "Aviation connectivity has traditionally been three to five years behind the connectivity experience on the ground because there are challenges getting the same technology on an aircraft.



"Millennial and Gen X passengers aren't patient. They want the same experience in the air as they get on the ground," he adds. "Gogo 5G will enable operators to upgrade the aircraft's connectivity to match what consumers are getting on the ground and deliver speeds and streaming capabilities that keep pace. That's never been

possible before now."

Aguirre explains that the system's upgradability is rooted in the fact that Gogo Business Aviation is the only ATG provider that has developed and produced all its software and components are driven by the AVANCE platform, and Gogo's 5G adheres to all the 3GPP 5G standards.

#### Gogo's about to get going.

Aguirre adds that with all required approvals in hand, Gogo Business Aviation's 5G network is on track to go live this fall. And once the company flips the switch, airborne connectivity will never be the same.

"Chief pilots and DOMs won't have to monitor the data usage of the passengers like they do today," he says. "With low latency and peak speeds of up to 80 megabytes per second, there will be plenty of data available for streaming Teams or Zoom calls.

"And it will be simultaneously available to multiple users in the cabin," Aguirre adds. "Our 5G network will deliver an experience that passengers have never seen before, and at a price that's actually affordable. It will be the best connectivity solution in business aviation."

business.gogoair.com



- Low-latency, high-throughput 5G network meets the needs of data-heavy interactive services
- Only ATG network that meets international 3GPP protocols for endto-end 5G performance
- First 5G ATG network dedicated to business aviation, set to launch in the fall of 2022





#### AIRCRAFT FINANCING AT DOWN-TO-EARTH RATES

For over 30 years, AOPA Aviation Finance has been using its unsurpassed experience and aviation knowledge to help pilots chart the most affordable course to aircraft ownership.

The good news is that aircraft are selling faster and for higher prices than at any other time in recent memory. The bad news is that buyers must be ready to close the deal when they find the airplane they want. That's why being prequalified has become a requirement in today's market.

But, obtaining financing from a typical bank can lead to more problems than solutions. AOPA Aviation Finance can streamline the process and get you the best rates available.

"Nearly 60 percent of our loans last year were to firsttime aircraft buyers," AOPA Aviation Finance President Adam Meredith said. "Given that inventory levels are so low and demand is so high, pilots have been very interested in getting preapproved so that they can act fast.

"The loan approval process can take a few days," he added. "That time can mean the difference between getting the airplane you want and missing out."

#### Not every loan is the right loan.

Yes, any bank can fund your loan, but Meredith cautions that simply securing the loan may not lead to the best long-term outcome.

"If you go to a regular lender, they'll only give you the types of loan structures they typically do," he said. "Because of the size and volume of transactions we handle, we're able to obtain the most comprehensive and favorable aircraft financing options available.

"Along with finding the lowest rates, on most loans there are no additional fees to the borrower," Meredith added. "And we can obtain financing on pretty much any aircraft type from a light piston-single up through a larger-cabin business jet. Every owner has different needs, and we use our experience to create the financing solution that enables buyers to get the aircraft they want."



- Lowest loan rates for all new and preowned aircraft, from classics to business jets
- Nearly 60 percent of AOPA's 2021 loan transactions were for first-time aircraft buyers
- 30 years of experience customizing financing packages to fit any buyer's needs



800-333-3442 | westair.com

## When It Comes to AOG Solutions, Western Aircraft Is the Best

Western Aircraft's MRT combines 65 years of experience with the best factory training and latest tools to get your AOG resolved quickly and safely.



Many operators are under the impression that having an MRO offer dedicated AOG support services is a new concept. It's not.

MK Aviation, the predecessor of Western Aircraft, started providing such services to transient aircraft at its Boise, Idaho base in 1957 when it became an FAA Class IV Repair Station.

"Boise has always been a popular destination for private and business aviation," explains Western Aircraft's MRT Business Manager, CJ Miller. Since we had a lot of experience with popular models, we began providing both AOG and scheduled support from our factory-authorized service center for most major aircraft models, ranging from piston singles up to large-cabin jets. Additionally, we are an authorized service center for several airframe and engine manufacturers, including Pratt & Whitney, Honeywell, and most recently, Rolls-Royce engines on Gulfstream aircraft."

#### **AOG becomes SOP**

Miller explains that while providing AOG support has been part of Western Aircraft's history, it wasn't until late 2020 that the company formally established the department and dedicated a team to those specialized services.

"As our customer base grew, so did their need for AOG and drop-in support at remote locations," he says. "We now have dedicated MRT technicians at our home base in Boise and eastern Idaho, Las Vegas, Reno, and Spokane. We cover all the western U.S, western Canada, Alaska, and Hawaii, and we recently earned Mexican Registration Authority."

He further explains that a growing fleet of specially equipped trucks and vans supports Western Aircraft's MRT technicians. Also, when the need arises, the MRT techs can fly to a customer's location in one of the company's Pilatus PC-12 turboprops. Longer-range repairs are attended via the scheduled airlines.

In addition to AOG situations, Western Aircraft's MRT technicians provide inspections and maintenance services for remotely located customer aircraft.

"The majority of our AOG calls are routine repairs, while our remote-site inspections can be more

"No matter what we are asked to do, our primary goal is to get the aircraft flying as quickly and safely as possible. Safety is never compromised."

technical and involved," Miller says. "No matter what we are asked to do, our primary goal is to get the aircraft flying as quickly and safely as possible. Safety is never compromised."

#### Extraordinary people doing a special job

Miller explains that while the types of repairs Western Aircraft's MRT accomplishes in the field and at the home base are the same, the mobile technicians need an added layer of creativity and flexibility.

"Our MRT specialists receive the same factory training, but they need different experiences and skills than a line tech," he says. "The MRT representative may work on a Falcon today and a King Air tomorrow. They have to be quicker to adapt to different aircraft, manuals, and conditions."

In addition, Western Aircraft's MRT technicians must deal with people under rather stressful conditions. That's a skill unto itself.

"Most operators understand the situation and are grateful for the assist," Miller says. "However, in some cases, an extra layer of care is necessary to help alleviate the customer's stress. That's when the MRT technician can turn to the expertise of its home base, Western Aircraft, for additional technical input."

"Our MRT technicians are basically the customer's lifeline to getting that airplane flying again as quickly and safely as possible. Often in these situations, they share with us how very grateful they are for the invaluable service we're able to provide.

"As our customers continue to expand the use of their airplanes," Miller adds, "we will work to grow our MRT services to meet their needs. We are here to keep them in the air."



- Over 65 years of providing AOG services for piston singles up through large-cabin jets
- Mobile Response Teams in Boise and the Yellowstone/Teton regions of Idaho; Reno and Las Vegas, Nevada; and Spokane, Washington
- MRT teams cover the western U.S., western Canada, Hawaii, Alaska, and Mexico

## A Clean Cabin Is a Healthy Cabin

Aviation Clean Air's totally natural, patented bipolar needlepoint ionization system is the safest, most effective way to continually neutralize pathogens on every surface inside the pressurized area of your aircraft.

Not long ago, cleaning an aircraft's cabin meant a cursory wipe-down with whatever cleaning agent you had on hand. Not anymore. Today, your passengers want assurance that the aircraft's cabin is as germ-free as possible. Unfortunately, achieving that condition can be as labor-intensive as it is necessary.

That is, unless your aircraft's environmental control system (ECS) is equipped with Aviation Clean Air's patented needlepoint bipolar ionization (NBPI™) technology. It not only eliminates 99.996 percent of harmful viruses and bacteria, but it's also working whenever the aircraft's ECS is running. No more scrubbing seats.

"Our system produces billions of positive and negative ions that surround and neutralize the pathogens, so they're no longer a threat," explains Mallie Seckinger, Managing Partner and cofounder of Aviation Clean Air. "Utilizing the ECS duct system, the ions circulate throughout the cabin and cockpit, cleansing and disinfecting the air and every exposed surface - floor to ceiling and wall to wall.

"Our process works in areas where UV

light and chemical disinfectants traditionally can't reach," he continues. "It's proven effective even into the tiniest cracks in leather and other soft surfaces."

#### **ACHIEVING 99.996 PERCENT DECONTAMINATION IS JUST** THE BEGINNING.

Seckinger says that ACA's NBPI™ technology also sterilizes mold spores, neutralizes most common volatile organic compounds, and reduces static electricity, dust, and pollens.

"It also eliminates fuel, exhaust, and other unpleasant odors that always seem to get in the cabin," he continues. "It takes about a minute and a half to effectively 'clean' the air in a Gulfstream's cabin, so any odors don't linger.

"Providing your passengers with a really clean cabin is not just a luxury today, it's essential," Seckinger says. "ACA is not only the simplest solution; it's also the only one that's proven to be effective against over 99 percent of the pathogens we can test it against. We're very proud of that."



#### THE SOLUTION

- Patented NBPI<sup>TM</sup> technology eliminates 99.996 percent of viruses and bacteria, including Covid-19
- Deodorizes and disinfects the air in a large business jet cabin and cockpit in minutes
- 100 percent replication and acceleration of nature's natural cleaning process without producing harmful levels of ozone or byproducts



aviationcleanair.com



### Home is where the best service is

With its significant investments in its worldwide service network, technician training, parts distribution, and digital portfolio, Bombardier is committed to being the home for supporting its family of business jets.

Everybody knows that when you need some nurturing and TLC there is no place like home. So, it stands to reason that when your Bombardier business jet needs any type of care, the best option is to bring it home — to the people who built it, know it best, and are resourced to offer it the best TLC in the world.

And with a fleet of approximately 5,000 aircraft in service, the company is committed to strengthening its relationships with customers through more service entry points than ever before as well as unrivaled experience and support expertise. It's all about giving them even more reasons to bring their jets home to Bombardier. After all, Bombardier knows its customers' aircraft best: its employees built them and know how to maximize their value. It's the best solution for customers over the entire life of their aircraft. And now, Bombardier is providing its customers with even more of the services they demand and deserve.

"We recently invested over \$500 million in expanding our service infrastructure to continue to meet our customers' changing needs," states Bombardier's Christopher Debergh, Vice President, OEM Parts and Services. "Our worldwide customer base has grown significantly in the past few years. We've had to rapidly expand our footprint to keep pace. It's important to have the services our customers need under the Bombardier umbrella."

#### Home is wherever in the world you are.

"We have also increased our training program at all our locations, so we now have more factory-trained technicians than anyone else in the segment," Debergh states. "We've also launched an array of new digital tools and services to give our customers all the information they need to enhance the ownership and operation of every Bombardier aircraft."

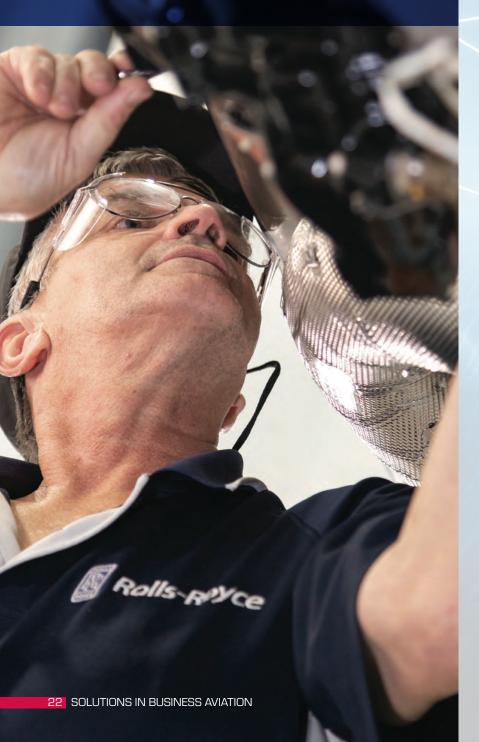
The addition of new services, enhancing the number of skilled technicians, and markedly boosting the infrastructure footprint are steps that are all paying off. Debergh says that Bombardier's aftermarket business has doubled in the past five years as more customers are choosing to bring their aircraft home for service and upgrades.

"Our customers know and trust that no one else can do what we can do for every aircraft in our fleet," he comments. "We have the expertise and know-how that only the OEM can provide. And it's not going to change. We will continue to expand our network and service offerings to be closer to our customers and to provide them with added capabilities through Bombardier's OEM advantage."



- Largest and most experienced network of Bombardier business aircraft specialists
- Nine strategically located service centers - with two more coming online in 2022 - and 11 Line Maintenance Stations provide worldwide support for 5,000+ aircraft
- Services range from inspections to heavy maintenance and complete refurbishing

## Experiencing Rolls-Royce Quality Support Anywhere in the World



With more than 8,000 business jet engines operating worldwide, Rolls-Royce Business Aviation has implemented an array of services that consistently deliver differentiating experiences to every customer.

No matter where they are in the world, people have come to expect nothing but the best when they hear the name Rolls-Royce. And that expectation is amplified when the name is associated with any business aircraft with the legendary RR marque on its nacelles.

So, when Rolls-Royce Business Aviation brands its support efforts as the "Premium Global Service Network," you know it will deliver an unparalleled ownership experience.

"What's unique about Rolls-Royce is that we have a separate business aviation unit, which includes a dedicated service organization," explains Megha Bhatia, Rolls-Royce Business Aviation's Vice President of Sales and Marketing. "The group's sole purpose is to meet the special needs of our thousands of business aviation clients, which are totally different from the needs of those in commercial aviation."

For example, because business and private jets travel to thousands more airports than the scheduled carriers, there's the requirement to provide service in many remote locations.

"We currently have 75 authorized service centers to provide rapid response to our customers' needs, including on-wing service specialists in the U.S., Europe, the Middle East, and Asia," Bhatia says. "Our goal is to have an on-wing service team with the tools and parts on-site within 16 hours of an AOG notification, no matter where the aircraft is positioned."

Supporting that effort is the company's 24/7 Business Aviation Availability Center, which ensures that all the various elements are available to achieve the company's goal of 100 percent averted missed trips.

"This would mean that no aircraft running on Rolls-Royce engines and covered by our CorporateCare or CorporateCare Enhanced programs would be AOG long enough to delay a flight," Bhatia states. "Currently, we're averaging over 99 percent, and we won't be satisfied until we reach 100. The pursuit of perfection continues."

#### To SAFinity and Beyond

The folks at Rolls-Royce Business Aviation take their global environmental stewardship seriously. So much so that the company has pledged to be carbon neutral by 2050.

Bhatia explains that to meet that goal, Rolls-Royce is focusing on three key initiatives: making its gas turbine engines more efficient, promoting SAF use, and developing alternative propulsion technologies. And while these steps all play significant roles in lessening carbon emissions, increasing the use of SAFs will provide the biggest near-term benefit.

"In partnership with Shell, our SAFinity program is available to every business aircraft op-

erator," Bhatia says. "It combines independently verifiable sustainability projects with direct investment in the production of SAFs. Operators can make a contribution to offset their flying hours and a share of this will then be invested in increasing the production and distribution of sustainable fuels around the world."

Bhatia adds that Rolls-Royce Business Aviation's SAFinity initiative is the first of its kind in private aviation to actively promote SAF production in addition to reducing the environmental footprint for the participating aircraft operator.

#### All for One and One for All

While improving engine performance and increasing the use of SAFs will undoubtedly help reduce private aviation's carbon trail, those benefits can be greatly increased if each flight is completed with optimum efficiency.

To that end, Rolls-Royce Business Aviation has introduced a customer portal that provides a one-stop-shop where operators can access all the digital tools they need to interact with the company and increase the efficiency of their flight operations.

"Our customers told us they wanted an easy way to access all the digital tools they need," Bhatia says. "That's where the idea of the customer portal started. We have been running beta trials with members of our Corporate Customer Council (C3) to validate the enhanced customer experience.

"As if all that wasn't exciting enough, the customer portal will be available on a global platform called Yocova [You Collaborate for Value]" Bhatia continues. "By enabling our engine owners and everyone in our industry to share thoughts and ideas, we can make great strides in improving how all business aircraft are used every day."



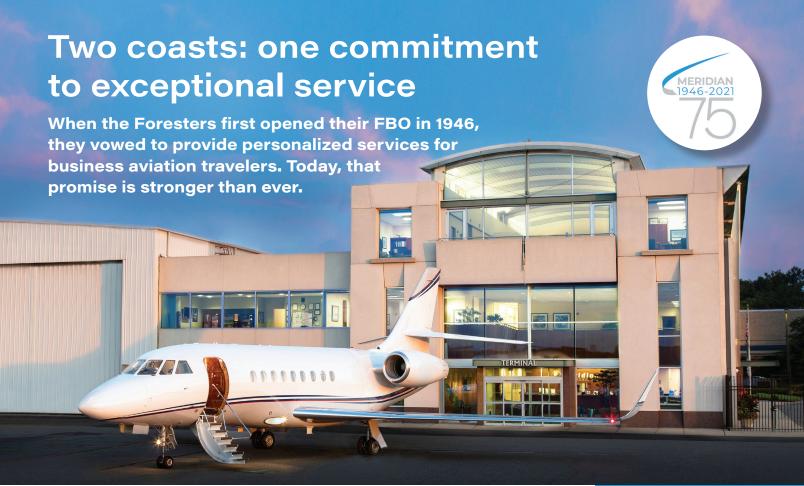
#### THE SOLUTION

- Dedicated business aviation support network built around ensuring you never miss a trip
- 75 global authorized service centers enable onsite AOG response in an average of 16 hours
- Unique SAFinity program streamlines any operator's transition to sustainable fuels





rolls-royce.com



People say that the east and west coasts of the U.S. are as different as can be. That might be true unless you're lucky enough to travel through Meridian's FBOs in Teterboro, New Jersey, and Hayward, California. They may be on opposite sides of the country, but you won't notice any difference in the personalized, "treat you like family" service they deliver.

"When my father and uncle started the Teterboro FBO in 1946, they focused on the needs of those early business aviation pilots," states Kenneth Forester, Meridian's CEO. "It was all new. We've grown up with business aviation. And while the people and aircraft have changed, we still treat every pilot and passenger as part of our family."

#### The best in the west

Meridian began looking westward for growth in 2012. In addition to business opportunities, the Forester family traces its roots to California, so when the right opportunity to expand arose, the company went for it. Meridian's family-first commitment also played a role in the company choosing to build its FBO at Hayward Executive Airport. As Forester explains, "Our daughter had gotten married and moved to Northern California. Naturally, we wanted to be close to her, so we were fortunate that we could locate our West Coast facility where we did.

"We needed the right person to run it the right way," Forester continues. "Fortunately, one of our most experienced employees, Carlos Rodriguez, volunteered to relocate from Teterboro and oversee the new facility. He's been the perfect person for the job. From our tug drivers to our CSRs, everyone there fully appreciates what it means to deliver our unique level of customer service."

Forester adds that while the past 75 years have been incredible, everyone at Meridian has their sights set on the future. The company is evolving to employ more sustainable practices, including the transition to sustainable aviation fuels at its FBOs.

"We all want to make sure we leave a great legacy for our grandchildren," Forester concludes.



Teterboro, NJ (KTEB) Hayward, CA (KHWD)

meridian.aero





- Meridian has been owned and operated by the Forester family for over 75 years
- Customers rate its facilities in Teterboro, New Jersey, and Hayward, California, in the top 5 and 10 percent, respectively, of all U.S. FBOs
- Both operations meet NATA Safety 1st and IS-BAH safety

One Giant Leap for Airborne Connectivity

Intelsat is combining nearly 60 years of satellite communications experience to deliver the most flexible, secure, and cost-effective connectivity to business aviation customers worldwide.



Intelsat, the world's first satcom provider, launched its first "Early Bird" satellite in 1965 to provide video connections for many Gemini and Apollo space missions. In fact, when Neil Armstrong said, "That's one small step for a man, one giant leap for mankind,"his words were beamed to Earth via an Intelsat satellite.

"Today, we serve all the major users—airlines, maritime, the U.S. Department of Defense," states Matthew Halsey, Senior Advisor, Business Aviation Product Management, for Intelsat. "With our new FlexExec service, we are entering the business aviation market. FlexExec has been developed in partnership with Satcom Direct to provide global connectivity combined with various plans to better meet each operator's needs."

While FlexExec offers many benefits, Halsey says, the ones

that customers like most are its variety of service plans, including hourly-billing, pay-as-you-go, and unlimited-use plans.

"By far, the most popular is the power-by-the-hour plan," he adds. "If you don't fly the airplane, you don't pay to use the network. No one else is offering that cost-saving option today, and customers really like it."

Another feature Intelsat FlexExec customers like is that no matter how much data they use, every connection enjoys extremely high network speeds, combined with Department of Defense-level cybersecurity.

"With the compact Satcom Direct Plane Simple antenna, we deliver the most modern solution, designed specifically for business aviation," Halsey concludes. "We also offer multiple service options to meet each customer's needs. There's nothing else like it."

#### THE SOLUTION

- The only satcom solution that offers hourly-billing, pay-asyou-go, and unlimited-use plans
- High-throughput network dedicated to business aviation aircraft connectivity
- The only business aviation provider that's SOC 3 certified for advanced cybersecurity protocols



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Tango Flight's unique curriculum brings aviation and engineering together to teach high school students the science, technology, engineering, and math skills they will need in their careers.

What do you do if you're a high school teacher whose two passions are engineering and aviation? Well, if you're Dan Weyant, Tango Flight's Executive Director, you combine them to create a program that teaches important STEM skills.

"I developed the idea and got a grant from Airbus to work with Wichita State University to develop our unique aviation-related STEM curriculum," he explains. "We held the first class at East View High School in Georgetown, Texas, in 2016. In 2017, Maize High School in Wichita held its first Tango Flight class. They just finished their fifth airplane."

Weyant stresses that while Tango Flight's students assemble an RV-12iS, the goal is not to be another "teen build" program.

"The classroom uses the FAA manuals as a guide to ensure they develop all the other skills they need to accomplish the various tasks," he

says. "Building the airplane is the practical application of what they're learning."

#### REACH OUT AND TEACH SOMEONE.

Weyant says that while teaching STEM skills is Tango Flight's main goal, another benefit is that the students get to work side by side with aviation industry mentors.

"The student 'engineers' get to work with the student 'assemblers' on the airplane. Just like in the real world," he continues. "Tango Flight brings all kinds of students from all backgrounds together to achieve a common goal. That's pretty rare in high schools these days. It's one of the best parts of what we do.

"Of course, having Airbus on our team has been huge both financially and through supplying mentors," Weyant concludes. "They've had one of our airplanes in the center of their exhibit at Oshkosh for the past few years. We could not do this without industry help."



#### THE SOLUTION

- Tango Flight's proprietary high school curriculum uses aviation to teach STEM skills
- Students blend classroom and lab sessions to assemble a Vans RV-12iS airplane
- Since 2016, over 700 students at 21 high schools have benefitted from the program



tangoflight.org



IS&S's ThrustSense with Lifeguard protection optimizes your engines' performance from takeoff to final approach. In addition, it adds an unmatched level of safety in single-engine situations.

How do you make a great airplane truly extraordinary? Well, if you're talking about Textron's legendary King Air, that's a tough question. Unless you are the folks at innovative Solutions & Support. Innovating and improving is what they do.

So, it wasn't a stretch for them to take their game-changing ThurstSense autothrottle system for the Pilatus PC-12 and adapt it to the needs of the nearly 2,600 King Airs equipped with Pro Line 21 and Fusion flight decks.

Tom Grunbeck, Innovative Solutions & Support Director, explains this is the first certified autothrottle system for the King Air and provides smooth "full regime" control for takeoff through approaches and even go-arounds. The system is standard on the King Air production line and is also being delivered as a retrofit kit. "The automatic takeoff-to-approach power management provided by ThrustSense greatly reduces pilot workload," Grunbeck says. "Now they don't have to worry about engine over-temp, over-torque, and airplane over-speed. Just set the throttles, and the system manages the engines' operations with Fadec-like precision complete flight envelope protection."

#### LifeGuard is a lifesaver

Grunbeck says ThrustSense LifeGuard VMCA asymmetric thrust mitigation is an added safety feature that changes the upgrade from a nice-to-have feature to a

"In the event of an engine failure, the system limits the power to the remaining engine to increase directional control to avoid rollover situations," Grunbeck says. "It's one less thing for a pilot to think about during these high-stress operations."

He also explains that the compact computer, actuators, and cables add only about five pounds to a King Air's weight.

Even if it were considerably heavier, though, the IS&S ThrustSense autothrottle with LifeGuard protection would be worth its weight in gold, given all the benefits and safety it brings to every phase of every flight.

#### THE SOLUTION

- Full-regime autothrottle for Pro Line 21 and Fusion-equipped King Air B200s and B300s
- Patented LifeGuard functionality provides critical VMCA asymmetric thrust mitigation
- Delivers Fadec-like engine operations for takeoff through approach and go-around



#### For more information:

Please contact Tom Grunbeck at 484.502.6658 or tgrunbeck@innovative-ss.com www.innovative-ss.com

## FUELING THE FUTURE OF BUSINESS AVIATION FROM THE GROUND UP

When it comes to addressing future needs in all aspects of aviation and aerospace, Embry-Riddle Aeronautical University stands apart.

For nearly 100 years, Embry-Riddle Aeronautical University has been the renowned leader in aviation and aerospace education. But our legacy of training the workforce of tomorrow goes far beyond the flight deck.

While our top-rated flight programs produce polished pilots with the skills and the ratings needed to make an immediate contribution, that same innovative approach to hands-on education also turns out skilled maintenance technicians, business leaders, operations experts, and safety professionals.

As the aviation industry continues its unparalleled growth, Embry-Riddle stands ready to provide vital workforce solutions that can meet the needs of business aviation operators large and small, no matter where they are.

That includes our comprehensive programs in Aviation Maintenance Science, which are now training the newest generation of skilled aviation technicians. Through our industry partnerships, Embry-Riddle's Aviation Maintenance Science students get crucial hands-on experience that translates directly to on-the-job success to help meet the de-

mand for 132,000 new maintenance technicians by 2040.

As it expands access to technician training programs, Embry-Riddle recently celebrated a milestone by sending its first all-female team to the annual Aerospace Maintenance Competition. The team, composed of Hannah Daren, Shelby Quillinan, Iram Rai, Vanessa Vowotor, and Tea Galon, was sponsored by engine manufacturer Pratt & Whitney.

"It means a lot," Galon said. "It's gratifying to be part of a team that can influence young girls and show them that they can do maintenance, too. Whether it is aviation or car maintenance, they should know that there are no limits to whatever you put your mind to."

In addition to driving diversity, our Maintenance Science courses also open new career doors for talented veterans who are making the transition to civilian life, using such options as the Aviation Maintenance SkillBridge program, which trains and







connects them to aerospace industry partners.

Students from Embry-Riddle's renowned business colleges are also uniquely prepared for careers in aviation and aerospace, with skills that range from network planning to revenue and project management.

Again, our direct partnerships with top-notch companies help graduates build a business education with an industry focus, giving them valuable experience through real-world consulting projects, internships, and sponsored clubs and activities, all of which make them attractive candidates for leadership positions with aviation companies.

Embry-Riddle's comprehensive degree and certificate programs encompass all aspects of aviation and produce professionals who are skilled in flight operations, from dispatch and weather offices to airport ramps.

Graduates are ready to fill demanding roles, with training in our on-campus facilities that includes high-definition simulators, on-site and virtual crash labs where students get to experience forensic investigation of aircraft accidents and a meteorology lab with specialized equipment

for broadcasting and forecasting.

Our degree paths in safety science give students the knowledge and expertise needed to address safety concerns in aviation operations, as well as in most businesses and industries across the globe.

And Embry-Riddle is, of course, still intensely committed to training the next wave of pilots to take their seats on the flight decks of the future. Today, the university uses cutting-edge technology, such as virtual and extended reality and high-end simulators, to enhance and expedite flight training in the most innovative ways possible.

Our flight departments don't just teach the nuts and bolts of flying; students learn what it means to be professional, to be safety conscious and to have the right ethical foundation to be great professional pilots.

"When I went all-in with aviation, I knew I made the right decision," said Anna Scott, who served as the 2021-22 chief pilot for the award-winning Golden Eagles Flight Team at Embry-Riddle's Prescott, Arizona, campus. "And I feel the same way about coming to Embry-Riddle."





- Embry-Riddle graduates have the academic foundation and practical experience to make an immediate contribution
- Embry-Riddle is an FAAapproved school, so the pilots it trains are ready for the first officer's seat after 1,000 hours, 500 fewer than students at other schools require
- Dedication to inclusion and a global reach ensure a wide range of diverse candidates who are ready to work



DATA MOVES US

### **SHIFT EXPECTATIONS.**

SmartSky Networks' patented air-to-ground (ATG) solution provides the responsiveness, dependability, and security to deliver a connectivity experience that meets the needs of passengers, crews, and operations.

Traveling in a private jet has numerous advantages, but many times, passengers can experience a big drawback: the aircraft's legacy cabin connectivity system is slow and unreliable—the worst form of jet lag.

"It's really frustrating when you're traveling on a multimillion-dollar private airplane, and you have to lower your connectivity expectations the minute you get on board," explains SmartSky Networks President Ryan Stone. "When some of the SmartSky founders were in the charter and aircraft management business, we heard about and saw firsthand the issues our customers were having with the aircraft's inflight network. We then put ourselves in the shoes of those passengers and refused to accept that as the norm.

"We believe you deserve data that keeps pace with your life even when you're flying," he continues. "That's why we started developing the technology that would become the SmartSky air-to-ground network. It took many years, but we now have nationwide coverage and configurations for a full range of large and small aircraft."

As Stone explains it, the SmartSky ATG network transforms the aircraft's data flow so that it's now responsive, dependable, secure, and, most importantly, as effortless to use in the air as anywhere else.

#### **ELIMINATING JET LAG**

While SmartSky Networks' goal is similar to those of other connectivity providers, Stone says that its patented data transfer methodology that sends sends data to and from the aircraft equally effectively is the true differentiator.

"What we did differently was to figure out how to access a lot more of the available spectrum, by utilizing the 60 MHz of spectrum offered for Wi-Fi on the ground and making it available to aircraft, harnessing enough bandwidth to have the same performance when transferring data both to and from the airplane," he explains. "We're making use of the best of 4G LTE and 5G technologies in innovative ways bespoke to the airborne environment.

"It's one beam talking to one airplane at a time, which is a unique application of the technology," Stone continues. "What we get is a consistently high-bandwidth, very low-latency user experience throughout the aircraft."

That's a fancy way of saying that you can do all the things—connectivity-wise—as easily in the flight deck or cabin as you do now in your home or office. It's connectivity the way you want it.

#### A SMARTER WAY TO GET CONNECTED

Stone also says that because SmartSky Networks provides data transfer with equal performance to and from the airplane, it not only greatly enhances passenger productivity, it makes the whole aircraft more intelligent.

"To take advantage of all the available data produced by the aircraft, we've developed our Skytelligence capability. Basically, it's a flexible data-exchange and services platform that enables pilots, passengers, and operations teams to get the most out of current and future aviation applications," he explains. "For example, our SmoothSky application works with IATA's Turbulence Aware program to help flight crews avoid areas of turbulence based on real-time, data-driven turbulence reports.

"We also have an app that can give the crew realtime access to NOTAMs, including live airport maps and information," Stone continues. "That kind of information can greatly enhance decision-making and reduce a crew's workload."

He says that's just the beginning. Through the combination of SmartSky's patented ATG network, compact hardware, and innovative apps, the next-generation system securely delivers seamless real-time connectivity to increase aircraft efficiency, lower fuel use, and improve the aircraft's overall operations.

"For us, connectivity in aviation is about much more than just the back of the aircraft. We remain committed to connecting the entire aviation ecosystem by delivering dependable, responsive, and secure access to real-time data," he adds. "All these capabilities make the aircraft's connectivity more useful to everyone on the airplane and the ground.

"By delivering really fast and reliable aircraft connectivity, there are no limits to the benefits we can attain from all the available data, and that's new to business aviation," he adds. "Starting now, you no longer have to lower your online expectations because you are in flight."



- Patented ATG network delivers connectivity performance 10 times better than legacy systems
- The SmartSky Skytelligence® digital service layer enables tools to optimize the aircraft's applications and flight operations
- Single- and dual-antenna configurations are available for single-engine turbine through VVIP jets



## 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.

Thank you to the flight departments, corporate sponsors, and donors who continue to make CAN's mission possible. If you have an empty seat on your aircraft, contact CAN today to see how you can help someone in need. We look forward to the next 40 years!

"The gratitude we see every time we participate in a CAN flight reminds me how important it is that we all lead with love and step up to help those in need."

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



## our licket to Paradise

The Naples Airport has recently completed several improvements to the terminal and airfield to ensure that every visitor enjoys a true Paradise Coast experience.





There are many reasons why people feel that Naples is the quintessential laid-back southwest Florida town. From the best beaches and outdoor activities to fine restaurants and shopping, Naples has it all.

But no matter what they come for, the first experience that many visitors have on Florida's Paradise Coast is at Naples Airport.

"Naples attracts people because of its quality of life," says Christopher Rozansky, Executive Director, Naples Airport Authority. "As the airport authority that also runs the sole FBO, our goal is to provide a first and lasting impression of excellence.

"We have invested heavily in remodeling our terminal/FBO building and improving the airport to provide the best experience for pilots and passengers," he continues. "The safety, comfort, and convenience of all our visitors are our priorities."

#### Good pilots make good neighbors

Of course, every Naples Airport team member realizes that being a good neighbor is one key to the operation's long-term success.

"Naples is a noise-sensitive community, particularly in light of the increased jet traffic since the pandemic," Rozansky says. "We are currently undertaking a rigorous Part 150 Noise Study to help us evaluate ways to mitigate noise issues.

"We've initiated voluntary 'quiet hours,' between 10 p.m. and 7 a.m.," he explains, "and I'm happy to say that this has been well received by many of our operators, including several industry leaders who have committed to not flying during those times. We have also held numerous meetings with our residents to explain the importance of the airport and to get their feedback on how we can be a good neighbor.

"Our customers and industry partners understand how important these efforts are, and we appreciate their cooperation," Rozansky continues. "The Naples Airport Authority is taking steps to provide an exceptional experience to travelers while providing a positive economic impact and being a valued member of the community."



#### THE SOLUTION

- The most convenient airport for anyone visiting Florida's Paradise Coast
- Recently remodeled terminal/FBO with U.S. Customs office on site
- The absence of scheduled commercial operations minimizes arrival and departure delays



flynaples.com • (239) 643-0733 160 Aviation Drive North, Naples, FL 34104



#### It's Time to Soar

Volato is simply the most flexible, friendly and rewarding way to own, charter or experience a luxury private jet.

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So whether you're looking to trust us with your aircraft, take you to the skies, or advance your career, know that under our wing, you will soar.





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