Outstanding Business Aircraft

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NBAA-BACE 2019
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The art of excellence™
"The US Food and Drug Administration, along with the Centers for Disease Control and Prevention (CDC) and state and local partners, investigate a multistate outbreak of E. coli O157:H7 illnesses linked to romaine lettuce from the western part of Arizona's growing region." Case Counts: Total Illnesses: 210 - Hospitalizations: 96 - Deaths: 5

IF YOU ARE A FREQUENT FLYER on any airline, you know you will have the choice between "Chicken or Pasta" if you fly Economy, while you can choose from a more assorted menu when you opt for First Class. But look out, as regardless of where you sit, your plate will probably be garnished with a greenery! Now sorry if you already ate the salad, but rest assured you are not the only one on board. And just imagine what might have happened if the pilot ate it!

Unfortunately, this isn't just a hypothetical. Maybe you remember reading about JAL flight 143 from Tokyo to Paris where 143 of the 364 passengers became severely ill from eating omelets contaminated with staphylococcal bacteria. Luckily, the pilots didn't get sick (get this, you mushroom appetizer fans) because the flight attendant gave them the "filet mignon" from the 1st class menu!

Now consider this one: Over 100 passengers and crew members aboard Concorde and other British Airways flights got food poisoning from mushroom appetizers (Do pilots really get mushroom appetizers? Well, maybe during the Concorde's time!). They got sick from a bacteria called Salmonella enteriditis. A Saudi Arabian diplomat on board died, presumptively from this poisoning. Maybe a divine intervention saved the crew from food poisoning!

But pilots are not always so lucky. Take for example that regional airline pilot that lost consciousness at the control due to food poisoning - even more alarming as nobody on board knew how to fly the plane! Luckily, one of the passengers was able to revive the pilot and everyone landed safely. One thing for sure is you never want to hear the words "do we have somebody on board able to fly a B767" come over the intercom during the course of your flight!

In light of this, isn't it time our regulators and safety agencies elaborate regulations forbidding flight crew members from eating the same food at the same time, in or out of the airplane and both before and during the flight?

In the absence of a long overdue regulation, some airlines have taken matters in their own hand and have adopted such commonsense practices serving different meals from different sources to the captain and the co-pilot and requiring that they eat at different times. These observations are not only for airline crews. It's indeed more foolish for a two-pilot business crew to eat the same food at the same time. It only takes one little family of bacteria to muddle up the shish kabob with broccoli in hollandaise. And just because it never happened on your airplane does not mean it won't happen on your next flight!

Knowing business pilots, I suppose that if this is not required by company guidelines, these remarks will be going in one ear and out the other. But at the very least, stay away from the romaine lettuce, especially the stuff grown in western Arizona!

“I got food poisoning today. I don’t know when I’ll use it”  
Steven Wright
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**OUR COVER**
Manufactured by Gulfstream Aerospace, the G600 is a twin-engine business jet, powered by two PW Canada, PW 815GA engines. They are equipped with Honeywell Primus Epic – touchscreen displays and fly-by-wire with sidesticks.

**BBJ777X VIP CABIN CONCEPT BY JET AVIATION**
Unveiling of the new wide-body BBJ 777X. Boeing will launch the globe-spanning BBJ with a new VIP cabin concept along with Jet Aviation’s interior design at MEBAA in Dubai.
When operating charters (non-scheduled commercial) to/from the US, with non-US registered aircraft, there are many considerations to be mindful of. Particular procedures and/or documentation requirements must be complied with, depending upon the country of registry of your aircraft. The following is an overview of what you need to know.

APIS Requirements
Advanced passenger information system (APIS) must be filed prior to departing to/from the US and prior to notifying US CBP of a customs clearance request. While there’s generally no limit on how early you may submit APIS requests, it’s best not to do this too far ahead of the estimated time of arrival/departure, to avoid issues with submitting changes. Be aware that charter operators must have a registered “carrier code” prior to filing APIS.

TSA Waivers
The first entry/last exit into/out of the US is considered APIS controlled, and no Transportation Security Administration (TSA) waiver is needed. Domestic movement by non-US charter flights may require a TSA waiver depending on aircraft weight and country of registration. TSA waivers take about five business days to process and are valid up to 90 days. TSA only processes waiver requests during normal business hours Monday-Friday with no night, weekend or holiday availability. While short notice waivers are possible, this is at TSA’s discretion.

TSA Waiver Tips
When applying for TSA waivers it’s best to include all airports in the US that you may possibly operate to and from. Note that there are two special-case airports, in relation to general aviation (GA) movements. Washington National (KDCA) requires both a special TSA waiver and specific additional documentation. Andrews AFB (KAFW), on the other hand, is restricted for all GA operations and cannot be used even if included in a waiver request. Information required to obtain a TSA waiver includes operator, crew and passenger details, aircraft information and itinerary. If any information is missing you will not be able to complete your TSA waiver request online. Be aware that when applying for a 90 day TSA waiver it’s necessary to state start and end dates. For revisions, allow five business days to have waivers updated. For more information on TSA waivers; Some non-US operators are unfamiliar with the full range of regulations and permissions involved in operating charters to/from the US. It’s always best to work closely with your 3trip support provider to avoid any potential issues. If you have any questions about this article or would like assistance obtaining your needing permissions for the US, Contact Juan!

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Your Experience
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**GULFSTREAM OPENS EAST CAMPUS AT HEADQUARTERS**

Gulfstream Aerospace Corp. marked the opening of its new MRO facility at company headquarters in Savannah with a ribbon-cutting ceremony. The Gulfstream East Campus, opened to accommodate fleet growth, has been operational since Sept. 11. The 202,000-square-foot/18,766-square-meter building located on the east side of Savannah/Hilton Head International Airport was built with an investment of more than $55 million and gives Gulfstream more than 1 million sq ft/92,903 sq m of dedicated MRO hangar, office and back shop space in Savannah. The expansion is expected to result in approximately 200 Customer Support-related jobs over several years.

**JSSI ACQUIRES TRACWARE TO ENHANCE TECH-ENABLED SERVICES**

Jet Support Services, Inc. (JSSI) has acquired MRO software specialist Tracware Ltd to enhance its growing suite of technology-enabled services. This is the latest in a series of strategic acquisitions for JSSI, which includes Conklin & de Decker and S3 Aero Specialists. Tracware will be recognized as a JSSI company and will continue to develop software to address the complex needs of the aviation MRO industry. All of Tracware’s employees and operations will be integrated with JSSI, providing a clear path for the business to accelerate growth.

**BUSINESS AVIATION VETERAN HEINZ AEBI RETIRES**

Jet Aviation has announced that Heinz Aebi is retiring from his role as vice president, Marketing & Communications, at the end of January 2020 after 30 years with the company. The Business Aviation veteran began his career with Jet Aviation in November 1990 as Marketing and Communications manager and was the only employee in the department at the time. Jet Aviation President David Paddock commented: “While Heinz’s retirement is well earned, it is sad to see him go. He is a true Jet Ambassador and we will certainly miss his energy and commitment.” Aebi currently serves on the Board of Directors for AEROSUISSE, is a member of the NBAA Exhibition Advisory Committee and a long-standing member of the Board of Trustees of the Jet Aviation Swiss Pensions Fund. Aebi’s contributions will be felt for years to come – and not just by Jet, but the entire Business Aviation industry.

**FLAGSHIP CESSNA CITATION LONGITUDE ENTERS SERVICE**

Textron Aviation Inc. announced the first deliveries of the company’s new flagship Cessna Citation Longitude super-midsize business jet, signaling the start of a new dimension in business travel. The Longitude received FAA type certification late September. “The newly certified Citation Longitude brings unrivaled technology to the business travel market, for both the passenger and the pilot, offering our customers the most efficient and productive super-midsize jet now in operation,” said Ron Draper, president and CEO. The Longitude features the longest maintenance intervals in its class – 800 hours or 18 months – and is the most cost-effective aircraft in its category.
Get a Sneak Peek of the new hullo Aircrew platform at BACE

Jet Aviation is collaborating with hullo Aircrew to connect operators and crew in one easy-to-use platform.

Meet our team and experience the next version of our revolutionary platform that is reshaping the landscape of freelance hiring.

Join us for a demonstration and Q&A session.

Services for Aircrew:
- Openings available worldwide
- Key documentation storage
- Fast payments
- Discounted training

Services for Operators:
- Worldwide availability
- Instant results
- Vetted crew
- Easy payments

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FLIGHTSAFETY OFFERS SAFETY TRAINING FOR CORPORATE AIRCRAFT CREWS AND PASSENGERS

FlightSafety International now offers safety and security training for flight crews and passengers of corporate aircraft. This new Abduction Prevention course is offered by the Skydas Group in cooperation with FlightSafety. Skydas is a wide spectrum strategic security consulting and threat management firm. “This two day Abduction Prevention course is designed for corporate aircraft passengers, pilots, flight attendants, and maintenance technicians. It will help them to develop the core skill sets needed to prevent or avoid being targeted by hostiles while travelling at home or abroad,” said Steve Gross, SVP, Sales and Marketing.

COLLINS AEROSPACE, SES AND VISTA GLOBAL TO LAUNCH LUXSTREAM

Collins Aerospace Systems is teaming with leading satellite operator SES to bring Business Aviation customers the fastest broadband speeds available within the United States. The two companies are launching LuxStream – the only service that offers speeds up to 25 Mbps in the United States and 15Mbps globally via SES’s managed Ku-band satellite network. LeAnn Ridgeway, vice president and general manager, Information Management Services for Collins Aerospace said: “By working with SES to bring LuxStream to the Business Aviation segment, we’re meeting that need by providing speeds and services that are unparalleled in the industry.”

GRAND OPENING OF XEOS AIRCRAFT ENGINE SERVICE CENTRE

On the 30th of September 2019, XEOS, the new aircraft engine service center located in Pska near Wroclaw, celebrated its official opening. The company is a joint venture of Lufthansa Technik (51%) and GE Aviation (49%) and is a service centre for GE9X and GE9X engines. It was built in a record time of 16 months. The first commercial engine was accepted for repair in April 2019. In 2019, a total of about 20 engines will have been inducted for service here. After reaching its maturity in 2023 the plant will repair more than 200 engines per year.

DASSAULT AVIATION COMPLETES ACQUISITION OF TAG’S MRO FACILITIES, REBRANDS ORGANIZATION

Dassault Aviation has completed its acquisition of TAG Aviation’s MRO organization, intended to expand the company’s worldwide service center network. The new organization has been named TAG Maintenance Services (TMS) and is operated as a wholly owned Dassault Aviation affiliate. Dassault has acquired all TAG maintenance operations, including its service centers in Geneva, Farnborough, Le Bourget, Lisbon and its satellite facilities in Luton and Moscow. The company will continue servicing all aircraft types it supported previously, both Falcon and otherwise, and customers will have access to the same outstanding teams and professionals as before.
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6. By providing diverse customers training for challenging and unique circumstances

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EXECUJET SEEKS NEW UK FBO TO SUPPORT EUROPEAN EXPANSION

ExecuJet, part of the Luxaviation Group, is intending to launch an enlarged UK FBO at a new location after deciding to exit Cambridge Airport, where landlord Marshall Aerospace and Defense Group intends to bring FBO services in-house. The planned expansion follows significant growth for ExecuJet in Europe, which has seen nine new aircraft join its fleet in as many months. Niclas von Planta, VP, ExecuJet Europe, commented: “After nearly eight successful years of operations in Cambridge, the time is right to seek a new facility with extended capabilities.”

AIR BP NAMES FIFTH STERLING PILOT SCHOLAR

Air BP, the international aviation fuel products and service supplier, has named its fifth Sterling Pilot Scholar as 18-year old Kristoff Ahlner from Shenfield in Essex. The scholarship is valued at around £10,000 and aims to assist aspiring UK pilots like Kristoff achieve their Private Pilot’s Licence (PPL). As the industry faces a global pilot shortage with 790,000 new civil aviation pilots needed to fly the world’s fleet over the next 20 years, Air BP’s program is all the more important.

COMLUX ORDERS FOURTH ACJ320NEO, TAKING ITS TOTAL ACJ ORDERS TO 20

Comlux has placed a new order for an ACJ320neo, re-affirming its role as the largest single customer for the aircraft and taking its total orders for the type to four. The deal means that Comlux has now ordered a total of 20 Airbus corporate jets. Cabin outfitting will be done by Comlux Completion in Indianapolis. “Airbus and Comlux have both made a business out of setting new standards, of which the ACJ320neo and our growing fleet of them are the latest examples,” said Comlux Chairman and CEO Richard Gaona.

AVFLIGHT AND GRR BREAK GROUND ON NEW FBO AND HANGAR

The Gerald R. Ford International Airport (GFIA) and Avflight tossed the first mounds of dirt at a groundbreaking ceremony to celebrate the construction of a new state-of-the-art FBO and hangar on a five-acre leased parcel at the Airport. The event included local airport staff, airport authority board members, dignitaries and Avflight executives. The new facility includes a 5,000 square foot FBO building, plus a 30,000 square foot hangar located on the airport’s east side with convenient access to the terminal and taxiways/runways as well as the local highway system. Other services provided to the airport community include premiere indoor car parking, secured access, and 1,650 square feet of office space with the ability to build to suit.

ROLLS-ROYCE COMPLETES ACQUISITION OF SIEMENS’ ELECTRIC AEROSPACE BUSINESS

Rolls-Royce has completed the acquisition of the electric and hybrid-electric aerospace propulsion activities of Siemens (formerly known as the eAircraft business), following a period of employee consultation. The timely execution of the deal, announced in June this year, underlines the fit of these activities to our strategy to ‘champion electrification’ and will help accelerate our ambitions as we look to play a major role in the ‘third era’ of aviation. Rob Watson, Director – Rolls-Royce Electrical, said: “We are at the dawn of the ‘third era’ of aviation, which will bring a new class of quieter and cleaner air transport to the skies, and our new colleagues will add vital skills, expertise and new technology to our portfolio.”
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Quick Lane

**EMBRAER PRAETOR 500 RECEIVES EASA AND FAA APPROVAL**

Embraer’s new Praetor 500 midsize business jet was granted its Type Certificate by European Union Aviation Safety Agency (EASA) and by the Federal Aviation Administration (FAA). The Praetor 500 surpassed its certification goals achieving an intercontinental range of 3,340 nautical miles (6,186 km – NBAA IFR Reserves with four passengers), a high-speed cruise of 466 KTAS, a full-fuel payload of 1,600 lb (726 kg), a takeoff distance of only 4,222 ft (1,287 m) and an unfactored landing distance of 2,086 ft (636 m). For a 1,000-nautical-mile mission, the take-off distance is a mere 2,842 ft (867 m). The Praetor 500 outperforms its class, becoming the best midsize jet ever developed and the only jet in its class with Ka-band internet connectivity.

**JET AVIATION PARTNERS WITH AMIRA AIR, ADDS GLOBAL EXPRESS TO ITS FLEET IN EMEA**

Jet Aviation announced partnership with Amira Air, a Vienna-based aircraft operator, adding a Global Express to its managed fleet in EMEA. The recently refurbished Global Express is based in Vienna, Austria and available for charter. It accommodates up to 12 passengers and features a crew rest area to help increase the duty time if needed. Under the agreement, Jet Aviation will operate the charter aircraft under Amira Air’s aircraft operator’s certificate and exclusively manage charter sales of the business jet. The long-range Global Express was fully refurbished in neutral tones in 2018 and accommodates up to 12 passengers.

**SAFRAN JOINS TEAM TO DESIGN NEW TURBOPROP FOR EUROPEAN UNMANNED APPLICATIONS**

Safran Helicopter Engines, ZF Luftfahrttechnik GmbH (ZFL) and MT-Propeller have agreed to cooperate on a new turboprop engine intended for European unmanned applications. This 100% European turboprop will be derived of Safran’s Ardiden 3 and use technologies matured through its Tech TP technological demonstrator, which ran for the first time in June 2019. Within this partnership, MT-Propeller will be responsible for the propeller and ZFL for the PAGB (propeller and accessory gearbox). This turboprop will be optimized for operation at medium and high altitude, up to 45,000 feet and will benefit from an easy operability thanks to a unique throttle and a full authority digital engine and propeller control (FADEPC) for both power and propeller pitch.

**DUNCAN AVIATION COMPLETES CHALLENGER STC FOR SMARTSKY**

Duncan Aviation has received FAA approval for a Supplemental Type Certificate (STC) that will allow installation of SmartSky’s air-to-ground connectivity system for Challenger 601, 604, 605 and 650 aircraft. SmartSky’s network brings new, high-performance Wi-Fi to business aircraft, powered by a mix of advanced 4G LTE and 5G technologies. Among the many engineering services Duncan Aviation provided, Certification Coordinator Russ Kromberg worked extensively with SmartSky’s technical team regarding the optimal placement of the antennas so passengers will experience the best possible in-cabin speeds and connections.

**GARMIN G1000HNXI-EQUIPPED BELL 407GXII ACHIEVES IFR CERTIFICATION**

Garmin International, Inc. announced the G1000H NXi integrated flight deck has received Instrument Flight Rules (IFR) certification. Bell recently achieved this certification in the 407GXII, which gives pilots the flexibility of operating in degraded weather conditions with valuable situational awareness tools and advanced capabilities in a next generation integrated flight deck.
We are Collins Aerospace. With our customers we chart new journeys and reunite families. We protect nations and save lives. We fuse intelligence and partnership to tackle the toughest challenges in our industry. And every day, we imagine ways to make the skies and spaces we touch smarter, safer and more amazing than ever.

UTC Aerospace Systems and Rockwell Collins are now Collins Aerospace.

TOGETHER, WE ARE REDEFINING AEROSPACE
FIRST PC-24 SUPER VERSATILE JET FLIES IN SOUTH AMERICA

In a ceremony at Pilatus Business Aircraft Ltd, the first PC-24 to enter service in South America was delivered to Chilean customer Ignacio del Rio. The Super Versatile Jet flies under Chilean registry. It was the 40th PC-24 delivered since the new business jet was certified in December 2017. Ignacio del Rio, already a Pilatus owner flying a PC-12 NG, will keep both aircraft and operate them out of his base in Santiago. The new PC-24 will be used in support of del Rio’s agriculture and real estate businesses in Chile, Peru, and Colombia. The PC-24’s speed will allow him to reduce trip times relative to those in his PC-12 NG, yet utilize the same runways, some as short as 2,930 feet (893 meters).

THE NEW AIRBUS H145 LANDS ON TOP OF THE ANDES

Airbus Helicopters has reached new heights: The latest version of the H145 has set its skids down on the Aconcagua, the highest mountain in the Southern Hemisphere, culminating at 6,962 meters (22,840 feet). This is the first time a twin-engine helicopter has landed at this altitude, confirming the performance and the extensive flight envelope of the new H145. The conditions for this mission were extreme, due to the atmospheric conditions in the area and the winter season. The aircraft took off from Mendoza, Argentina, flew 30 minutes to the foot of the Aconcagua where it began its ascension. After 15 minutes of climbing, the helicopter landed at 1.45 pm on the summit, at a temperature of -22ºC.

GLOBAL 5500 AND 6500 JETS AWARDED TRANSPORT CANADA CERTIFICATION

Bombardier announced that its two latest additions to the Global family, the Global 5500 and Global 6500 business jets, have been awarded Transport Canada Type Certification, paving the way for entry-into-service this year. Certification by the Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA) are expected to follow shortly. The aircraft flew through the rigorous flight testing program, which was completed at Bombardier’s world-class test center in Wichita, Kansas. The Pearl 15 engine, the latest addition to Rolls-Royce’s exceptional Business Aviation engine portfolio, received Transport Canada certification recently.

CAE TO OPEN NEW TRAINING CENTERS IN BANGKOK AND NEW DELHI

CAE announced is expanding its training capacity in Asia with a brand-new training center in Bangkok, Thailand, to support Thai AirAsia’s growth in the region. In addition, CAE will open a brand-new training center in Gurugram, National Capital Region (NCR) to support pilot training needs in India. As part of CAE’s existing long-term agreement with Thai AirAsia, the brand-new CAE Bangkok training center will be located minutes away from Don Mueang International Airport and will provide a local solution to Thai AirAsia and support third party regional airline operators. CAE will begin with the deployment of two new CAE 7000XR Series Airbus A320 full-flight simulators, equipped with the innovative CAE Tropos 6000XR visual system.
The world’s first Super Versatile Jet takes off! The PC-24 has been engineered to be “off road” compatible from the beginning. Its outstanding short-field performance – even on grass, gravel and dirt – opens up an incredible level of mobility. You can fly closer to your destination than any other business jet before. Explore more and fly PC-24 – contact us now.
UAS CEO OMAR HOSARI TO TAKE ON KILIMANJARO FOR AVIATION SUSTAINABILITY

UAS Co-Owner/Founder and CEO Omar Hosari’s commitment to climb Africa’s tallest mountain, Mount Kilimanjaro, is far more than a personal goal. Setting out on October 5th from Tanzania, Hosari is pledging to donate one US dollar for every meter of the 20,000 ft. (6,096 meter) mountain climbed towards IBAC’s aviation sustainability awareness and education programs. The first workshop is scheduled to take place during ABACE 2020. “Our industry has a responsibility to find solutions which will ensure longevity for the sector, but even more importantly, to contribute to protect the planet’s future,” said Hosari.

MTU MAINTENANCE OPENS NEW OFFICE IN SINGAPORE

MTU Maintenance, the global leader in customized solutions for aero engines, has opened an office in the heart of the aviation leasing hub Singapore. The new office is located in the Central Business District and its grand opening is being celebrated during the on-going MRO Asia. Luc Morvan has taken on the role of Chief Representative of MTU Maintenance’s activities in Singapore. He will be responsible for building up business in the Asia-Pacific region.

SD TAKES TOP HONORS IN PRODUCT SUPPORT SURVEY FOR FIFTH CONSECUTIVE YEAR

Satcom Direct (SD) attended the Russian Business Aviation Exhibition 2019 having been voted into the top spot in a respected annual product support industry survey. SD has maintained its first-place position in the cabin electronics category for the past five years achieving an average 8.4 rating for this year, up 0.2 from the 2018 results. The annual survey held by Aviation International News gave SD high marks in warranty fulfillment, technical manuals and overall product reliability. SD’s technical reps scored a 9.0, the highest of any of the rankings in the segment.

STANDARDAERO RELEASES NEW STC FOR GLOBAL 5000/6000/GEX

StandardAero has completed Supplemental Type Certificate (STC) approval for installing Viasat Ku, Ka or KuKa SATCOM systems on Bombardier Global 5000/6000/GEX model business jets. The system is the fastest Ka SATCOM solution currently available. The new STC product, including radome, was certified on August 22 with the first article being completed by StandardAero’s Organizational Delegation Authorization (ODA) team, located at the company’s Springfield, Illinois MRO facility. The Viasat product line is exclusive to StandardAero on the Global family of aircraft.

SWISSPORT INTRODUCES SELF-CHECK-IN FOR AIRFREIGHT

Swissport has launched a global initiative to speed-up air freight handling processes at its cargo warehouses by introducing newly developed self-services via kiosks. Swissport’s cargo business at Brussels Airport was the front runner, followed by Amsterdam Airport in rolling out the new service, which Swissport will roll out across all core cargo stations within the next 24 months. With this digital innovation Swissport wants to reduce waiting times, increase the quality of the air freight documentation and ultimately aim to raise customer satisfaction.
A REFLECTION OF EXCELLENCE

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AERIA LUXURY INTERIORS DELIVERS YET ANOTHER VVIP COMPLETIONS PROGRAM

AERIA Luxury Interiors has successfully added a third custom VVIP completions program to its track record when it delivered a B737-700 to an undisclosed head-of-state customer earlier this month. The program was delivered ahead of schedule. AERIA had begun work on the business jet when the aircraft arrived at its San Antonio facility in the second quarter of 2018. Using only premium materials, the interior was constructed using the highest quality fabrics and exotic veneers to create a spacious and comfortable atmosphere fit for royalty.

SHELTAIR CUTS RIBBON ON NEW COMPLEX AT REPUBLIC AIRPORT

With the nose of a corporate jet providing an appropriate backdrop, Sheltair has cut the ribbon on a new $55-million aviation complex at Republic Airport (FRG), East Farmingdale, Long Island, New York. The first three of six state-of-the-art, 31,200 square foot hangars reflect Sheltair’s strategic commitment to the busiest general aviation airport in New York, one that brings pilots and passengers to within easy reach of metropolitan New York at an airport that prides itself on virtually no ground delays.

TEXTRON AVIATION’S ICONIC CITATION FAMILY MARKS 50 YEARS OF BUSINESS JET INNOVATION

Textron Aviation Inc. celebrated 50 years since the inaugural flight of the first Citation jet, the Cessna Citation 500. Today, the Citation family represents the most-popular line of business jets with more than 7,500 aircraft delivered worldwide amassing more than 35 million flight hours. These impressive machines are renowned for their ability to combine reliability, efficiency and comfort with advanced technology and class-leading performance. “From that first Citation flight 50 years ago and through every Citation model produced since, our business jet programs are deeply rooted in the combined efforts of our employees, our suppliers and our customers,” said Ron Draper, president and CEO of Textron Aviation.

AVIAA CARES PROGRAM DEBUTS WITH CORPORATE ANGEL NETWORK

AVIAA, the expanding group purchasing organization for Business Aviation, announced the launch of AVIAA Cares, a brand new charitable initiative enabling the Business Aviation community to help patients and their families in need of medical transport. AVIAA Cares’ first partner will be Corporate Angel Network (CAN), the only charitable organization in the United States whose sole mission is to transport cancer patients to specialized treatment centers by arranging free flights on business aircraft.
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Record pre-owned business jet transactions last year have apparently provided the platform for a long-awaited recovery in aircraft sales and orders. This positive picture, emerging from OEM reports for the first half of 2019, was the logical but not inevitable consequence of the gradual erosion of excess capacity since 2016. As the higher quality pre-owned jets have sold off, prices have recovered and buyers have been drawn to competitively priced new aircraft coming onto the market. Buoyed by fleet orders from the leading fleet operators, new deliveries in the first half of 2019 are up by over 10%, order books have recovered the 1:0 ratio to deliveries, and full year shipments look set to be the strongest in a decade.

Better results for the industry in terms of aircraft sales and rejuvenated fleet have not, however, translated into robust growth in flight activity. WINGX have recorded just shy of 2M business jet flights globally through August 2019, which is a 1% increase on comparable 2018, but clearly trailing the net increase in the active worldwide business jet fleet. The bulk of that activity, almost 80% of departures, have come out of Europe and North America. The European region is in the doldrums, with a flattening economy and numerous political challenges, not least Brexit, weighing on business jet usage, which is down by 2% compared to last year. Flight activity in North America, with a much healthier macroeconomic basis, is also disappointing, trending down by 1% through August 2019.

Geographically, the trend in business jet activity in North America is more variable. California has displaced Texas as the busiest US State for business jet flights, reflecting the robust state of the world’s pivotal technology hub, in contrast to the beleaguered energy sector to the south east. Over half of the flights from California are intra-state. The East Coast, especially New York and Pennsylvania, has seen some 6% decline in flight activity this year, which reflects this year’s choppier financial waters and the gloomy international trading environment. Teterboro, White Plain and Dulles have all seen sizeable drops in activity this summer. In contrast, Business jet activity has flourished in Florida this year and has unsurprisingly attracted more jets ever since Trump came into offer in 2016.

In terms of activity by aircraft type, the overall pattern is clear: Demand is falling away from the midsize and lighter aircraft end of the market, and strengthening around the super midsize and ultra long-range products.
New aircraft deliveries in the first half of 2019 are up over 10%.

This obviously reflects upgrades from established Heavy and Midsize platforms like the Gulfstream GV/500-550, Global 5000 and Citation Sovereign to the more recently introduced Citation Latitude, Gulfstream 500/600 and Global 6500/7500. There are still pockets of resilience in the lighter end of the market with the widespread adoption of the Phenom 300, especially in Fractional fleets, as well as the Honda Jet, the most delivered jet in its category this year, and the Embraer Praetors, entering the market from the second half of 2019.

So as the industry approaches another NBAA, the patterns within the flight activity are telling of the drivers in the industry's wider environment. The slowing US economy, disruptive financial markets, faltering corporate profits, and the onset of another presidential campaign, are conspiring to hold back business confidence and capital expenditure. The more price-sensitive midsize and light aircraft end of the market is feeling this pressure the most, with decisions on fleet upgrade and replacement parked in favor of the ad hoc charter market. Much of the inventory for sale, on the increase since its post-recession low last year, is ill-equipped for incoming mandates, and overtaken by new products on the market is probably parked for good.

The top end of the market is holding up thanks to the resilience of the super-wealthy, who have flourished in this economic growth cycle, and competition amongst the emerging global fleet operators to establish the right mix of the next generation of new aircraft delivered from Bombardier, Gulfstream and Dassault. How long it holds up is more questionable. The purchasing pool is fairly limited, and the acquisition of new aircraft is mostly cannibalizing existing product. New entrant buyers to the market, such as those from emerging markets in Asia, Africa, Russia and the Middle East back in 2010, are in much shorter supply these days. If the pessimists are right and the US economy stalls in 2020, it’s difficult to see who will lend the industry further impetus.

Richard Koe is managing director of WINGX Advance GmbH. WINGX, based in Germany and founded in 2011, provides business intelligence for the global private jet market. WINGX researches and tracks market data, from which they build analytics to assist customers in their decision making. Their customers span the entire industry supply chain, from airports, operators and manufacturers to industry investors and financial analysts. Mr. Koe has a background in sales, business development and strategy, in the Business Aviation sector and previously in telecom and manufacturing industries. He has a Bachelor degree from Oxford University and a Masters from Johns Hopkins University.
Jet Aviation announced that Heinz Aebi has retired from his role as vice president, Marketing & Communications, at the end of January 2020 after 29 years with the company. Elouisa Dalli, senior director, Global Communications, will be the new vice president of Marketing & Communications, succeeding Heinz. She will join the Leadership Team and report to President David Paddock. In her new role, Dalli will be accountable for developing, shaping and implementing a cohesive and differentiated Marketing Strategy to increase brand awareness. She will lead and develop a global team of marketing and communications professionals directly responsible for brand creation and development.

Flying Colours Corp. has appointed Graham Dickie as its new chief financial officer. Based at the company headquarters in Peterborough, ON, Dickie will be responsible for managing the company’s finances, reviewing near and long-term financial planning, and working with the senior executive team to manage international growth. Dickie will also be responsible for analyzing financial risk and generating commercial processes to support sustainable day to day financial operations of the company.

At King Aerospace, Noel Quinn has been named senior proposal manager for its government services. He has more than 15 years of experience in CONUS and OCONUS aviation maintenance, management and modification; intelligence, surveillance and reconnaissance; launch operations; and logistics.

West Star has recently made several announcements. Robbie Johnson has been hired as the new regional sales manager in the Mid-Atlantic sales territory. Johnson has over 22 years of aviation experience as a maintenance technician and program manager with previous positions held at Falcon, MBNA Aviation and Dawn Aero.

Jason Cohen has been promoted to Bombardier Global Program manager at West Star’s Grand Junction facility. He acquired his A&P license from Colorado Tech, as well as obtaining his pilot’s license from Aero Training of the Rockies.

West Star announced Robert Wood as the new paint program assistant manager at their East Alton facility. Wood will assist and collaborate on paint processes and projects. After nearly 20 years, Robert (Bob) Rasberry, chairman of the Board, is retiring from West Star Aviation. Rasberry will continue with West Star’s Board of Directors as Chairman Emeritus and join Norwest Equity Partners (NEP), a middle-market equity investment firm and parent of West Star Aviation, as a senior advisor supporting NEP’s continued interest in aviation-related investments.

West Star Aviation announced Rusty Gardner as the new avionics install manager at their East Alton location. Gardner has over 19 years of aviation experience and formally served as a project manager in the avionics department at West Star, along with previous positions held at Flying Colours, Jet Aviation and Duncan.

SR Technics announced the appointment of Jean-Marc Lenz as new chief executive officer. Lenz succeeds Frank Walschot, who has decided to take up a new opportunity in the aviation industry. Lenz and Walschot have been working side by side for many years, as Lenz has played an active role in business operations, quality & safety and Lean CI.

FlightSafety International announced that Michele Posey has been promoted to executive director, Sales. In this new role, Posey will oversee FlightSafety’s team of regional sales managers and directors, and is responsible for Business Aviation sales activities in North America.

Duncan Aviation announced that Rene Cardona, a longtime member of the company’s Aircraft Sales and Acquisitions team, recently earned recognition as an IADA-Certified Aircraft Sales Broker.

Stefanie Sedam has joined Duncan’s Bombardier Airframe Service Sales Team. Sedam will provide operators with accurate and complete hourly and calendar inspection packages on all Bombardier Challenger and Global models.

Satcom Direct (SD) has appointed John Tan as regional director for the Asia Pacific region. Based out of the SD Hong Kong office, Tan will manage the APAC sales and business development activities. As the senior executive in the region, his responsibilities include providing leadership to the regional commercial and technical team, maintaining and developing commercial activity in the region, and delivering valuable input into SD product innovation. In a competitive market, he will also be responsible for the creation of unique customer value propositions.

Jet Support Services, Inc. (JSSI) has appointed Business Aviation industry veteran Gary Strapp to the role of senior vice president, global program management and technical services. Strapp brings 30 years of NetJets experience to this newly created leadership position at JSSI. He will guide the organizational efforts of the program management, pricing and technical services teams. In addition, Strapp will liaise and expand relationships with external strategic partners and vendors, including MRO providers and OEMs.

Dassault Aviation has appointed Anne Devilliers international sales director for Great Britain, Ireland, the Balkans and Greece. She will report to Gilles Gautier, vice president, Falcon Sales at Dassault Aviation. Devilliers started out with Dassault in 2003 at the company’s Dassault Falcon Jet (DFJ) subsidiary in the US and held several positions within the DFJ Marketing Department.

Hong Kong-based Metrojet Limited welcomed Dave Yip in the new role of director, Business Development. Yip will oversee all aspects of business development, including aircraft management, charter, aircraft sales, client relations and special customer projects.
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EVERYONE IS CONCERNED about carbon emissions, including the tens of thousands of people across Europe in the Business Aviation industry. But the growing “flight shaming” movement across Europe has placed additional pressure on regulators to pursue new carbon taxes against aviation. Aviation creates social and economic benefits, bringing development and jobs; it connects communities, improves business productivity, brings people together, and links markets in an increasingly globalized world. However, these benefits come with an environmental cost, and Business Aviation like all other sectors must balance them with a responsibility to mitigate climate change.

The Business Aviation community has long been committed to reducing the environmental impact of its products and operations. Indeed, we have improved the fuel efficiency of our products 40% over the past 40 years. Our sector recognizes the need to address the global challenges of climate change and since 2009 has adopted a set of concrete targets to mitigate CO2 emissions from air transport, including the following:

- 2% improvement in fuel efficiency per year from 2010 until 2020;
- Carbon-neutral growth from 2020 onward;
- 50% reduction in carbon emissions by 2050, relative to 2005.

Business Aviation already pays fuel taxes which are a good proxy for emissions; the more you fly, the more fuel you burn, so the more taxes you’re paying on that fuel. On top of those taxes, European member states are beginning to impose additional taxes at national level. The UK’s Air Passenger Duty (APD) and Italy’s luxury tax are two examples.

Aviation-specific taxes are not a silver bullet to solve complex issues. These taxes drive up the cost of travel in Europe, which negatively affects air traffic and connectivity, ultimately to the detriment of passengers. Environmental taxes also impact the broader tourism sector and governments as revenue authorities. Singling out one mode of transport and layering on a “dedicated tax” is also a bad idea because often the tax never winds up being “dedicated” to its intended purpose. There is little evidence that aviation taxes have any substantial environmental benefit. Recent studies have shown a modest impact on CO2 emissions at best. The revenue from these taxes mostly goes into general government budgets and is not earmarked for environmental initiatives. We’ve seen before how aviation has been used to fund matters unrelated to our industry. These diversions of aviation resources to other, non-aviation uses have long been a concern for EBAA, especially at a time when our industry already faces numerous environmental, airspace, and safety related priorities.

There are better measures to deal with the core issue: how to achieve real reductions in CO2 emissions from flying. Our industry takes its responsibility seriously and has invested in becoming more sustainable. This includes billions for cleaner
and quieter aircraft, research and development of sustainable technologies and low-carbon fuels, as well as operational efficiencies. These efforts will be complemented by the first global climate mitigation scheme of its kind, known as the ICAO’s Carbon Offsetting and Reduction Scheme for International Aviation, or CORSIA, starting in 2021.

We want to emphasize the importance of adhering to a single, global system for mitigating international carbon emissions such as CORSIA. The Single CORSIA measure is our preferred mechanism to address our industry’s environmental impact rather than a patchwork of national schemes.

Aviation today is cheaper, safer, more efficient and less polluting than ever before. To preserve the benefits of connectivity, the EU and national governments must focus on concrete actions that support European operators and their sustainability efforts, such as incentives that reward cleaner aircraft or public funding for R&D. Real opportunities to reduce the environmental impact of aviation in Europe exist, which have yet to be acted on despite being on the transport agenda for years. One of those opportunities would be from implementing the Single European Sky initiative for airspace management. This implementation could help cut 18 million tons of CO2 annually in Europe alone.

Another near-term option to reduce emissions is the adoption of Sustainable Aviation Fuels, or SAF. SAF is a clean substitute for fossil jet fuels. Rather than being refined from petroleum, SAF is produced from sustainable feedstocks such as waste oils from biological origin, Agri residues or biogenic CO2. Production and use of these fuels are key to our sector’s Business Aviation Commitment on Climate Change.

EBAA calls for politically symbolic, quick-fix aviation taxes to be removed. If policymakers want to discuss adjusting the existing tax, let’s have that debate, but let’s not get side-tracked with feel-good ideas that may ultimately not serve their intended purpose.

THE EUROPEAN Business Aviation sector signed the joint declaration on the Future of the European Sky, renewing its commitment to the Single European Sky and improving the European airspace.

At the High-Level Conference “Digital European Sky”, organized by the European Commission and the Finnish Presidency, the European Business Aviation Association (EBAA) alongside 20 EU aviation stakeholders agreed to collectively intensify efforts to fully implement the Single European Sky (SES) initiative.

The joint declaration that was signed on Sept. 11, 2019 by A6 Alliance, A4 Airline Grouping, A4E, AIRE, ACI EUROPE, ASD, ATCEUC, Borealis Alliance, B4, CANSO, COOPANS, Drone Alliance Europe, EBAA, ECA, EHA, ERA, Gate One, IATA, IFATCA, IFATSEA and IAOPA sends a strong signal that the SES vision can only be achieved through the collaborative and coordinated efforts of all stakeholders, including Member States and the European Institutions.

Signing the declaration, EBAA Secretary-General Athar Husain Khan said: “We are happy that the joint declaration for the Future of the Single European Sky aims all noses in the same direction: delivering the efficient and sustainable European airspace we all deserve. The future Air Traffic Management (ATM) system should be inclusive, because one size does not fit all.”

In addition to easing passenger delays unseen in decades, implementing the SES initiative can help mitigate climate change by cutting 18 million tons of CO2 annually in Europe alone.

Moving forward, the successful implementation of the Single European Sky initiative will require the development of a clearer governance structure, outlining key responsibilities between the EU Institutions, Member States and industry stakeholders. It should also build upon interoperable, current and new technologies and aircraft capabilities.

EBAA urges the EU Institutions and Member States to consider the steps necessary to achieving the goals of the Single European Sky, assessing their potential impact, costs and benefits. Finally, EBAA calls on the European institutions to simplify the regulatory framework and institutional set-up to make the European ATM system fit for the future.

Global passenger traffic is expected to double by 2037 – accommodating this growth while at the same time addressing its environmental and social impacts is key. The Single European Sky is an effective way to address European aviation environmental challenges by delivering an efficient and integrated air traffic management system. It will require the introduction of new technologies, interoperability of systems, harmonized regulation and adequate infrastructure.

Europe and its citizens deserve an efficient and sustainable airspace, and EBAA hopes that the full implementation of the SES vision will lead to these much-needed improvements.

BUSINESS AVIATION JOINS FORCES WITH ALL EU AVIATION ACTORS TOCREATE THE AIRSPACE OF TOMORROW
EARLIER THIS YEAR, I detailed to readers of *BART International* the many ways that environmental sustainability will be in focus throughout the 2019 edition of the National Business Aviation Association (NBAA) Business Aviation Convention & Exhibition (NBAA-BACE), taking place 22-24 Oct. in Las Vegas, NV. However, it’s important to note this isn’t the only exciting trend throughout our community that will be in the spotlight.

Indeed, the global Business Aviation industry is evolving rapidly through innovative technologies and new approaches to confronting industry challenges. More than ever, 2019 NBAA-BACE will serve as an opportunity for attendees to stay ahead of the curve, building on the event’s role in showcasing the very latest developments in Business Aviation.

As just two examples in this regard, NBAA’s inaugural Unmanned Aircraft Systems and Urban Air Mobility Innovation Display, and a first-of-its-kind New Product Showcase, will offer the latest innovative aviation technologies, including electric vertical takeoff and landing (eVTOL) vehicles, drones and a host of other new products coming to market.

Attendees will also discover a wide range of forward-looking topics for this year’s events and presentations, including discussions about eVTOL and urban air mobility, environmental sustainability, supersonic travel, artificial intelligence, autonomous flight, cybersecurity, industry workforce expansion and other industry trends throughout a robust variety of educational presentations during the show.

This year’s keynote sessions will open the show’s first two days live from the show floor, with a fresh, forward-looking feel, featuring dynamic speakers such as basketball and business legend Earvin “Magic” Johnson; aviation visionary Yves “Jetman” Rossy; inspirational and record-setting pilot Barrington Irving; entrepre-
neural pioneers and aviation enthusiasts Ross Perot, Jr., Steuart Walton, Sky Dayton and others; and returning speaker Eric Allison, head of aviation programs at Uber Elevate.

The 2019 edition of NBAA-BACE will also feature a sprawling exhibit floor at the Las Vegas Convention Center (LVCC) showcasing an extensive variety of products, services and state of the art technologies, with dozens of exhibitors also making new product announcements throughout the show. Attendees will also find two aircraft displays — one inside the LVCC and the second at nearby Henderson Executive Airport (HND) — allowing for side-by-side comparison of dozens of aircraft used to support a broad array of businesses.

Safety remains an important theme at NBAA events, and this year’s edition of NBAA-BACE offers several opportunities to learn more about how to enhance the safety of your Business Aviation flight operation. That includes NBAA’s Small Operator Symposium, NBAA Single-Pilot Safety Standdown and the National Safety Forum, as well as a dedicated session examining methods to prevent loss of control inflight (LOC-I) accidents.

Workforce concerns remain another key issue affecting Business Aviation, and NBAA recognizes the value in exposing students to the global Business Aviation industry to inspire them towards successful and rewarding aviation careers. Middle school, high school and college students are invited to a day of student-focused programming and opportunities at the expanded 2019 NBAA-BACE Careers in Business Aviation Day, taking place Thursday, 24 October.

NBAA-BACE brings together key aviation contacts from around the world, including current and prospective business aircraft owners, manufacturers and customers into one meeting place to get critical work accomplished. In fact, no other event in the world offers the kind of wide array of offerings to meet the needs of Business Aviation stakeholders today, tomorrow and beyond. Without question, 2019 NBAA-BACE will reflect a new look, new feel and new energy as it helps drive the Business Aviation landscape of tomorrow. We hope to see you in Las Vegas for this exciting and forward-looking demonstration of the very latest in Business Aviation.

**NBAA PARTNERS WITH LYNDSE COSTABILE TO GROW LEADERSHIP COUNCIL**

The National Business Aviation Association (NBAA) announced a new partnership with Lyndse F. Costabile, president of FunD Av Consulting, LLC, to grow and support the association’s Leadership Council — a group of individuals and businesses, which works together with NBAA to foster an environment that allows Business Aviation to thrive in the United States and around the world.

“NBAA’s Leadership Council is not only advocating for Business Aviation today, it’s become key to the organization’s work to ensure that Business Aviation is strong five, 10 and 25 years from now,” said Costabile. “Having previously participated on the council as a member, I am honored to have the opportunity to support its growth and mission.”

For more than 15 years, Costabile has served in various capacities focused on securing capital, major gifts and corporate partnerships. Prior to establishing her current firm, she led and helped execute a global solo flight for STEM and aviation outreach, under Dreams Soar, Inc., an initiative that enjoyed NBAA’s support and advocacy.

For more than six years, she held the role as director of corporate relations and development with support to government relations for Embry-Riddle Aeronautical University (ERAU). In this position, she worked to foster relationships with aviation and aerospace companies, and to advocate on behalf of the industry in Tallahassee, FL, and Washington, DC. Costabile was actively involved with NBAA, responsible for supporting students’ presence at association events, and ERAU’s role with the Leadership Council.

Costabile is also involved in Women in Aviation International, Women in Corporate Aviation, and previously served on the board of directors for the Florida Aviation Business Association (FABA).

Costabile received a bachelor’s degree in marketing from Slippery Rock University, earned a non-profit management certificate from the University of North Florida and completed graduate coursework at Embry-Riddle Worldwide.

**CONTINUED AVIATION SYSTEM MODERNIZATION A TOP BIZAV PRIORITY**

National Business Aviation Association (NBAA) President and CEO Ed Bolen told members of the Senate Committee on Commerce, Science & Transportation’s Subcommittee on Aviation and Space that full implementation of the Next Generation Air Transportation System (NextGen) is critical to maintaining America’s lead in global aviation — a shared priority for all stakeholders, including Business Aviation.

“The United States has the world’s largest, safest, most efficient and most diverse aviation system, supporting more than 200,000 general aviation aircraft,” said Bolen. “However, to maintain our leadership, we must continually modernize the ATC [air traffic control] system. This imperative to modernize is why NBAA has taken a leadership role in partnering with the Federal Aviation Administration [FAA] to advance our shared modernization goals. With more than 1.1 million jobs and $219 billion in annual economic impact tied to general aviation, our industry is committed to growing and moving forward.”

Business Aviation serves small towns and rural communities across the country, and can reach more than 5,000 public-use airports, Bolen explained. NBAA is a key stakeholder in the ATC system, and with its 11,000 member companies delivers a unique perspective on NextGen.

NextGen modernization is producing significant results, already delivering $4.7 billion in benefits to the aviation system, Bolen noted. But, with air traffic controllers projected to handle nearly 16 million more aircraft by 2040, and unmanned aircraft systems (UAS) capacity forecast to grow significantly in the next five years, Bolen said that there is still much to achieve.

This includes full equipping of Automatic Dependent Surveillance-Broadcast (ADS-B) by the FAA’s Jan. 1, 2020, deadline. Bolen told the subcommittee that NBAA has launched a targeted campaign to Business Aviation to highlight the critical importance of meeting the ADS-B equipage deadline. “Our work has paid off, with nearly 70-percent of turbojet and turboprop business aircraft equipped to the now ADS-B.
This year’s edition of NBAA-BACE is set to feature over 1,000 exhibitors, who cover every aspect of Business Aviation. Among the names that we’ve come to expect to see in the exhibition halls will be nearly 100 first time exhibitors, many of whom will be showcased in the all-new First-Time Exhibitor Pavilion.

“What is nice about the new exhibitors is that they cover the spectrum of aviation companies, from technology and aviation art to FAA branches and hangar doors,” says NBAA Director of Exhibit Sales, Services and Operations Maureen Caeron.

“Aviation plays a big role in our business, and this will be our first major trade show, says Arizona Epoxy Systems founder Steve Durgarian. “Each year we keep telling ourselves that we need to go and capture all that potential business, and this year that is what we are going to do.”

Another new addition will be the New Product Showcase, which is being billed as a comprehensive presentation of Business Aviation’s newest and most distinct products. Scheduled for October 22nd from 1 to 2:00pm in the Innovation Zone, the Showcase will give 11 innovative companies the chance to present their new-to-market or about to be launched product.

“More than ever before, NBAA-BACE will be characterized by new product announcements, underscoring how the show is a reflection of and driver for the industry, says NBAA Senior Vice President of Strategy and Innovation. “Our inaugural New Products Showcase will be a key venue for us to place the spotlight on some of these exciting developments.”

More Ops for YoPros
This year’s show will also see an expanded version of its popular Young Professionals in Business Aviation program. In addition to the many education and networking sessions geared towards the industry’s youngest leaders, NBAA will reveal the 2019 Top 40 Under 40 in Business Aviation.

“NBAA’s Young Professional program seizes every opportunity to expand NBAA-BACE attendees’ knowledge and enhance their relationships with veteran and emerging leaders across the spectrum of Business Aviation,” says NBAA Senior Manager of Registration and Young Professional Program Founder Sierra Grimes.

Out on the Static
Outside, visitors can expect to see nearly 100 aircraft at the static display, located at Henderson Executive Airport. “A major draw of the static display is the ability for attendees to talk directly to OEM representatives to have their questions answered,” says NBAA Director of Static Displays Joe Hart. “The display also provides significant hands-on intel by offering visitors the opportunity to sit in the seats and walk the cabins.”

Your Source for Intel
To ensure you have all the information you need for a successful NBAA-BACE, BART has put together the following show preview special report. Our expert editors have visited the leading companies, talked to industry insiders and scoured for clues as to what some of the big headlines from this year’s show might be.

Enjoy, and see you in Vegas!
NEW DEVELOPMENTS HEAT UP TURBOPROPS MARKET

Turbo-propeller airplanes continue to perform yeoman service in business and corporate operations, meaning they have proven to be dependable and capable. This fact has not gone without notice, as seen both in the current delivery numbers and in new aircraft about to launch into the marketplace. While the General Aviation Manufacturing Association’s mid-year delivery numbers show turboprop deliveries down by 7% over the similar period of 2018, sales are still strong.

What are the advantages of a turbine-powered business airplane with propellers providing its thrust? Lower costs of acquisition and operation, as compared with jets, while still providing cabin-class comfort and turbine-engine reliability and smoothness. In addition, the lighter-weight turboprops are free of balanced-field take-off runway length restrictions, meaning that turboprop operators can choose from a greater number of destinations than would be available to jet pilots.

The turboprop market is split into “utility” airplanes, which generally lack cabin pressurization and “business” aircraft that are usually pressurized and have more amenities. The latter class is dominated by Textron’s Beechcraft King Air series, now well past 50 years of supremacy in market acceptance, while the utility turboprop class has long been led by Textron’s Cessna Caravan series. However, any such hegemony has been, and continues to be, challenged by alternative choices offered by other manufacturers, and there are crossover users.

Commercial single-engine turboprop, or SETP, operation is now allowed with added flexibility under EASA regulations, opening the door to charter and other uses for TBM and Pilatus turboprops. Long permitted by non-European regulators, success of commercial SETP operation is simply a matter of marketplace acceptance.

Utility Turboprops

Cessna Caravans were introduced nearly 35 years ago, filling dual roles as cargo carriers on feeder routes and as multi-role back-country airplanes to expand bush-operator capacity. A turboprop engine was necessary, both to achieve the needed horsepower and because aviation gasoline was becoming increasingly hard to find in remote corners of the globe. Today, the Cessna Grand Caravan, with a Garmin G1000 NXi flight deck, even with its fixed landing gear and unpressurized cabin, is found in company fleets and private use.

Quest Aircraft, builder of the Kodiak utility SETP, has been acquired by Daher Aerospace to supplement its TBM Very Fast Turboprops, giving Daher a wider selection of turboprop offerings. The Kodiak is slightly smaller than the Cessna Caravan but is suited for many of the same jobs. As with the Textron airplane, the Kodiak can be fitted with rugged, easily-convertible bush-country interiors or plush executive-grade seating.

The Pilatus PC-6 Turbo Porter has just finished a 53-year production run as one of the pioneering single-engine utility turboprops. The Porter’s ungainly tailwheel design was never going to win any beauty contests, but its short-lading performance and rugged airframe delivered the goods where it counted. Most importantly, it paved the way for Pilatus’ PC-12 NG executive turboprop.

To expand the Grand Caravan’s capacity, Textron has its SkyCourier fixed-gear twin turboprop nearly ready to fly; it is expected to begin deliveries in 2020. The SkyCourier, like its single-engine cousin, is non-pressurized and powered by PT6A-65SC engines, but it has room for three LD3 cargo containers, swallowed by large aft loading doors, and will be able to seat up to 19 passengers in high-density configuration.

Canada’s Viking Air Ltd., as part of parent Longview Aviation Capital Corp., produces the legendary DHC-6 Twin Otter turboprop, a legendary STOL-performer designed and built by
On June 1, 2019, Longview took over operation of Bombardier’s Dash 8 commuter airliner program, renamed De Havilland Aircraft of Canada, Ltd. The former Q400 high-speed turboprop airliner is now known as the “De Havilland Dash 8-400.”

**Turboprops for Business**

As stated earlier, the Beechcraft King Air has long dominated the executive turboprop marketplace, currently available as an entry-level C90GTx with a five or six place cabin, a T-tail King Air 250 seating seven or more, and the large commuter-certificated 350 seating nine or more. With these options, Textron can provide a twin-engine turboprop to serve any size business, with incrementally-increasing capability and speed as a company’s requirements advance.

The Piaggio Aerospace Avanti EVO, after surviving economic difficulties last year, has returned as a near-jet turboprop alternative, offering 400-knot speed and a 41,000-foot operating ceiling. The Avanti’s three-lifting-surface, pusher-propeller design allows for a quiet stand-up cabin, with lower noise levels and other enhancements introduced in 2016.

The single-engine executive turboprop market, distinguished by retractable landing gear and pressurized cabins, is made up of Piper’s M600/M500, Pilatus’ PC-12 NG and Daher’s TBM 910 and 940. Often flown by the company owner or chairman, these turboprops can offer comfort and speed with economical operating costs.

Piper’s M600 seats four behind the two cockpit seats, powered by a 600-shp PT6A-42A engine, and offers 274-knot speed with 1,658 nautical miles of maximum range. The M500 has a 500-shp engine, with 260-knots of speed and about 1,000-miles of range. The M600 is fitted with Garmin’s G3000 flight deck while the M500 has the G1000 NXi system.

Pilatus’ best-selling PC-12 turboprops have the largest cabins and heaviest takeoff weights of the SETP class, seating up to nine and offering a large aft cargo door for bulky items. Powered by a 1,200-shp PT6A, the latest PC-12 NG has a 10,450-lb takeoff weight, flies at 285 knots and can range out to 1,845 miles. The Honeywell Primus Apex flight deck is adapted from Honeywell’s business-jet cockpits.

Daher’s TBM series have always delivered high cruising speeds, up to 330 knots, along with adaptable cabin features like the large aft cargo door, forward crew door, stowing toilet and flexible seating for up to seven. The TBM 910 has a Garmin G1000 TXi avionics suite, while the TBM 940 is fitted with the G3000 flight deck. Autothrottle and flight envelope protection are standard TBM 940 features. Both aircraft are powered by 850-shp PT6A-66D engines.

Textron also has its eye on the executive SETP market, preparing to introduce the Cessna Denali in 2020. The Denali will offer a huge aft cargo door, forward airstair, large cabin and seating for up to nine.Powered by a 1,300-shp GE Catalyst advanced turboprop, the Denali is projected to cruise at 285 knots and have a maximum range of 1,600 nautical miles. First flight is projected for late 2019.

In all cases, the utility and business turboprop classes are active and evolving. In the coming months, more options will be appearing.
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2019 has been a busy year for Pilatus. It spent the first part of the year working to consolidate and coordinate its activities for improved efficiency and intensify its focus on customer service – all while keeping a close and watchful eye on its business as a whole. This year also saw the opening of a proprietary Completion Center by its subsidiary in Broomfield, Colorado. Pilatus plans to do the same in Australia, where building of a hangar with offices at Adelaide International Airport has started.

At EBACE, Pilatus successfully reopened the PC-24 order book while it also continues to deliver the aircraft. At the end of August, the first PC-24 to enter service in South America was delivered to Chilean customer Ignacio del Río. It was the 40th PC-24 delivered since its certification in December 2017.

Furthermore, “Kommunalförbundet Svenskt Ambulansflyg” (KSA) has opted for six Pilatus PC-24s in a fully-equipped air ambulance configuration. These aircraft will provide aeromedical care across Sweden starting in 2021. KSA is the second public sector organization after the Royal Flying Doctor Service of Australia to use the PC-24 as an ambulance aircraft. It is planned that its PC-24s will fly a total of around 6,000 hours a year on rescue missions.

This year also saw Pilatus demonstrate the PC-24’s ability to operate from very short and even unpaved runway surfaces. At Oshkosh, the Swiss manufacturer highlighted the unpaved runway capabilities of its two aircraft, featuring three distinctive ‘landing tracks’ of gravel, grass and dirt, which are all surfaces that the aircraft were developed to operate from. This demonstration was later repeated at the legendary Festival of Speed, at Goodwood Aerodrome, where the airfield is an all-grass operating environment with a 2,621 feet long (799 meters) grass runway.

The PC-24 has been certified by EASA and the FAA for use on dirt and gravel runways. Further certification for other surface types, including grass, is currently in the pipeline and should be complete by the end of this year. The PC-24 has also been certified for steep approaches, as required for the approach into London City Airport, for example.

**PC-12 Continues to Impress**

Concerning the PC-12, the manufacturer continues to carefully monitor market demand and adjusts production levels accordingly to avoid saturating the market and diminishing its customers’ investment. In view of the upcoming arrival of its future competitor, the Cessna Denali, Pilatus continues to work hard on future developments of its single-engine turboprop. According to Schwenk, readers can expect an important announcement will be made at NBAA-BACE.

Meanwhile, the Pilatus chairman remains delighted with the enduring success of the PC-12: “The global PC-12 fleet grew to some 1,700 aircraft in 2019,” he says. “The PC-12 fleet leader has 34,000 hours in the air, and the aircraft with the most landings has more than 46,000!”

According to Schwenk, demand remains high, allowing this Pilatus best-seller to tap into new markets, including China, where the company sold 20 PC-12 NGs last year. The PC-12 was approved for commercial use in Europe in 2017, generating a sharp increase in demand in this region in particular. Jetfly Group, including Fly7 Management Company, alone operates a fleet of 38 PC-12s from its base in Luxembourg.

Independent providers of data services such as Rolland Vincent Associates confirm that the resale value of a PC-12 after five years of operation remains at around 83% of the original purchase price. The share of used PC-12 aircraft currently available on the market is approximately 4%. 

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**AUTHORITY**

Chairman Oscar Schwenk (top). The PC-24 combines the versatility of a turboprop with the performance of a jet (center).
Streamline the U.S. Customs process with Mobile QuickClear, the new companion application to Mobile Passport. By taking you through each U.S. Customs and Border Protection (CBP) step, Mobile QuickClear helps operators to ensure compliance and reduce manifest filing errors. **And with special introductory pricing, it's only $9.99 to file each manifest.**
For Gulfstream Aerospace, 2019 is a banner year: Within the last twelve months, the company has seen the entry-into-service of two clean-sheet designed business jets, the G500 and the G600. In late June this year, the FAA awarded Gulfstream not only with the type certificate of the G600, but also the production certificate. Only a month later, Gulfstream handed over the first G600 in Savannah to an announced customer based in the United States. The aircraft entered service after a design and test program that included flying nearly 100,000 hours in the company’s labs and more than 3,200 hours of flying in the air. The G600 can carry passengers nonstop from Paris to Los Angeles or Hong Kong at an average speed of Mach 0.90. Even before certification, the G600 has set ten city-pair speed records, proving the performance capabilities of the type.

It’s smaller but not less capable than its sibling. The G500 entered service in September 2018, and by the end of 2018, 10 aircraft had been delivered. Early customers of the G500 are based in the US, Europe, Asia and the Middle East. The G500’s performance capabilities include the ability to travel 4,400 nm/8,149 km at Mach 0.90 and 5,200 nm/9,630 km at Mach 0.85. The engineers in Savannah, Georgia, are busy at work on the next big thing from Gulfstream.

The company is not only investing in new aircraft programs, but also in expanding its service capacity to support the in-service fleet of approximately 2,800 Gulfstream jets. On September 13, Gulfstream officially opened a new maintenance, repair and overhaul facility in Savannah. The new campus, called Gulfstream East Campus, features a 202,000 sq ft building that supplements the existing MRO facility at the Savannah/Hilton Head International Airport. The Savannah Service Center is the world’s largest Business Aviation-dedicated MRO facility at nearly 680,000 sq ft. Gulfstream has invested more than US$55 million in this project, which was announced in April 2018 and completed within 14 months.

Back in August, Gulfstream has already opened a service center expansion in Appleton, Wisconsin. Another service center opening is scheduled for late 2019 or early 2020 in Van Nuys, California. Overall, the company will open three service center expansions and two new service centers in 2019 and 2020, adding approximately 790,000 sq ft/73,393 sq m of dedicated MRO hangars, offices and back shops in the US and Europe, including a new, world-class facility in Farnborough in the United Kingdom. This 220,060 sq ft factory-owned service center is scheduled to become operational in the third quarter of 2020 at Europe’s busiest Business Aviation airport. The Farnborough center will not replace the existing service center at London-Luton Airport, but complement it by supporting customers flying to Luton with line-maintenance and aircraft-on-ground services.
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In the rich history of the company, another day stands out: September 15, 1969. That day, Milt Sills and Jim LeSueur took the company’s first business jet type into the skies over Wichita, Kansas. It opened a new chapter, not only for Cessna, but for Business Aviation. This flight initiated a democratization of the business jet, because no other company has managed to develop such a broad range and to produce such a number of business jets and successfully placed them on the market.

The first jet was originally baptized as Jet FanJet 500, but the designation did not appeal to James B. Taylor, the newly appointed director of commercial jet sales at Cessna. He was looking for a new name, and Cessna’s advertising agency Ogilvy & Mather proposed the name Citation, a famous racehorse who won over a million dollars in prize money in the 1950s.

“From that first Citation flight 50 years ago and through every Citation model produced since then, our business jet programs are deeply rooted in the combined efforts of our employees, our suppliers and our customers,” said Ron Draper, president and CEO of Textron Aviation. “Today’s range of Citations – from the entry level Citation M2 up through the Citation Longitude – incorporates our unwavering commitment to value-added innovation, design and production excellence and unrivaled customer support.”

Cessna has delivered over 7,500 Citation business jets to customers all over the world. The fleet has amassed as of today over 35 million flight hours. “The same vision that led to the creation of the original Citation 50 years ago still guides us today,” said Draper. “We are building on our history as an industry leader and investing in the future to continue to exceed customer expectations.”

Textron Aviation will celebrate the history of the Citation family at NBAA-BACE, but it will also help operators to manage the near future. The upcoming ADS-B mandate in North America and in Europe will be highlighted by Textron at NBAA-BACE, too. “5,000 plus aircraft could be grounded on January 1, 2020, don’t be one of them,” urges Textron Aviation its customers. The company invites operators to contact a service center or to meet with a representative at NBAA-BACE to find a solution for each customer who has not yet equipped its aircraft with ADS-B transponders.
While most us were in the midst of our summer holidays, Bombardier was busy redefining the light jet. Offering the longest cabin in the category, the new Learjet 75 Liberty is a step up for light jet operators. With a price tag of $9.9 million, the company says its latest Learjet delivers better performance for the same operating costs as the competition – putting the iconic business jet within reach of more customers than ever. Nick Klenske reports

According to Bombardier Aviation President David Coleal, the Learjet 75 Liberty represents a step up for customers in the light jet segment. “With unprecedented spaciousness and Bombardier’s renowned smooth ride, the newest member of our Learjet family delivers a flight experience that simply eclipses the competition,” he says.

The six-seat jet, which is expected to see first deliveries in 2020, offers a range of 2,080 nautical miles – enough to connect Las Vegas to New York, Seattle to Washington, D.C., and Mexico City to San Francisco. The cabin features a flat floor, a standard pocket door for a quiet flight experience, and a Gogo ATG 4G solution for seamless connectivity. “The Learjet 75 Liberty cabin is an environment tailored for productivity,” adds Coleal.

Up front, the aircraft is equipped with the advanced Bombardier Vision flight deck, which includes the recently announced Garmin G5000 avionics upgrade.

Unlike most aircraft in the category, the Learjet 75 Liberty is certified to the FAA’s Part 25 regulations, which is applicable to commercial airliners.

Demonstrating its Global Impact

But the Learjet wasn’t the only line of Bombardier aircraft making headlines this summer. The Global 5500 secured its first order from a customer located on the West Coast of the US. The transaction to an undisclosed customer was supported by Van Nuys-based Jet Transactions and is valued at $46 million.

“The Global 5500 is ideally suited to meet the needs of our customers on the West Coast, connecting Los Angeles to London, Sao Paulo or Moscow,” says Bombardier Business Aircraft Senior Vice President of Worldwide Sales and Marketing Peter Likoray. “This order is a resounding example of our newest Global aircraft’s undeniable impact on the world of Business Aviation.”

Meanwhile, the Global 7500 aircraft demonstrated its position as the largest, most spacious, purpose-built business jet to operate out of Gstaad Saanen airport in Switzerland. The demonstration is noteworthy as the airport, situated in the heart of the Alps, requires short-field performance.

“This demonstration strengthens the Global 7500 as a jet that simply has no peer in terms of combining size and real-world capabilities,” adds Likoray. “Not only can it access demanding airfields in hot and/or high locations, it also delivers uncompromising value to customers under any conditions, at any time, without the need for tailwinds.”

Also showcased at the Gstaad demonstration was the super-midsize Challenger 350, which set a world speed record in its class by flying from Gstaad Saanen airport to Malaga in Spain in just 2 hours 4 minutes at an average cruise speed of Mach .82.
Just shy of the one year anniversary of its unveiling at NBAA-BACE 2018 in Orlando, Embraer Executive Jets announced that its Praetor 500 super midsize has been granted its Type Certificate by Brazil’s Civil Aviation Authority (ANAC). According to the company, the jet surpassed its certification goals, achieving an intercontinental range of 3,340 nautical miles, a high-speed cruise of 466 KTAS, a full-fuel payload of 1,600 lb, a takeoff distance of only 4,222 ft, and an unfactored landing distance of 2,086 ft. For a 1,000 nautical mile mission, the takeoff distance is a mere 2,842 ft. This allows for nonstop flights from Miami to Seattle or Los Angeles to New York, and one-stop flights from Los Angeles to London or São Paulo.

“With the highest performance, technology, and comfort in its class, the Praetor 500 becomes the best midsize business jet ever made, raising the customer experience standards of its class,” says Embraer Executive Jets President and CEO Michael Amalfitano. “We are thrilled that we already have orders for the jet, including in Brazil.”

The Praetor 500 is the only jet in its class offering Ka-band internet connectivity and full fly-by-wire. The six foot tall, flat floor cabin features stone flooring and a vacuum service lavatory. In addition to the full-service galley, wardrobe and baggage space, the cabin also offers six fully reclining club seats, four of which can be berthed into two beds.

Praetor 600 Adds Certificate Types

The company’s Praetor 600 super-midsize business jet has also been collecting certification types. The jet has now been granted its Type Certificate by EASA, the FAA, and ANAC. According to the company, the Praetor 600 is positioned to be the farthest flying jet in its class, allowing for nonstop flights between London and New York. With four passengers and NBAA IFR Reserves, the Praetor 600 will have an intercontinental range of 4,018 nautical miles.

“Now certified by the key aviation safety agencies in the world, the Praetor 600 has proven to be the most disruptive and technologically advanced super-midsize business jet to enter the market,” adds Amalfitano. “The jet has already been outperforming its certification goals, raising expectations of the ideal super-midsize.”

Being the only super-midsize business jet offering full fly-by-wire technology and active turbulence reduction, Embraer says passengers will benefit from the smoothest possible flight in a best-in-class six-foot-tall, flat-floor cabin. This is complemented by a 5,800 foot cabin altitude, which provides passengers with the ultimate in cabin comfort. The Praetor 600 includes eight fully reclining club seats that can be berthed into four beds. The high-tech cabin includes an Upper Tech Panel that displays flight information and cabin management features.

“The Praetor 600 is certain to create a new value experience for our customers and help them outperform in their business and personal endeavors,” concludes Amalfitano.

Embraer delivered the first Praetor 600 in June to an undisclosed European customer.
The Honda Aircraft Company kicked off 2019 by announcing that the HondaJet was the most delivered aircraft of its class in 2018 (based on figures provided by GAMA). With 37 aircraft delivered in 2018, this was the second consecutive year that the HondaJet has claimed the status as the most delivered very light jet. As we cross the halfway point for 2019, it looks like the company is set for a three-peat. Nick Klenske reports

The HondaJet Elite brings a series of improvements and updates (top). Michimasa Fujino (below).
Dassault Aviation is not only shaping its future with the development of the Falcon 6X business jet, but also by using the opportunity to aggressively expand its service network. In July this year, the company announced that it will acquire the Business Aviation activities of Swiss technology conglomerate RUAG. As of September 2nd, Dassault has completed the acquisition and has integrated the former RUAG Service Centers in Lugano and Geneva into its affiliate TAG Maintenance Services (TMS). (TMS is the outcome of Dassault’s February acquisition of the European maintenance activities of TAG Aviation).

As a result of these acquisitions, Dassault has added no less than 19 new facilities, with nearly 1,000 technicians, to its global MRO network this year. All facilities will continue to not only serve Dassault Falcon customers, but also owners of business jets from other manufacturers.

“We are committed to placing our industry-leading Falcon factory service capabilities as close as possible to customers around the world, while offering the same level of top-notch service for other prominent OEM brands,” says Dassault Aviation Senior Vice President of Worldwide Customer Service & Service Center Network Jean Kayanakis. “Our strategy is aimed at acquiring MRO operations that share our exceedingly high standards for customer service.”

Dassault has also invested in the availability of spare parts. It recently opened a new flagship, state-of-the-art spare parts distribution center near Paris’ Charles de Gaulle airport, from which it will be able to ship spare parts to customers even faster.

6X on Track

Since freezing the design phase of the Falcon 6X in the spring of this year following a Critical Design Review, the company has started production of the first parts for the new 5,500 nautical mile twinjet. The first aircraft is due to be assembled in 2020.

The Falcon 6X will be the most spacious twinjet with a cabin width of 2.58m (8ft 6in) and a cabin height of 1.98m (6ft 6in). Attendees of the Paris Air Show in June and of RUBAE in Moscow in September had the opportunity to visit a full-scale mockup of the brand-new cabin and to experience the spaciousness of the cabin themselves. The mockup will be available for NBAA-BACE visitors in October.

According to Dassault, the development and production of the Falcon 6X is on track for a first flight in 2021 and entry-into-service in 2022. Dassault is also transforming its design and production setup by applying state-of-the-art digital industrial processes. It uses the Dassault Systems 3D Experience, an advanced digital software platform, to enhance efficiency, reactivity and competitiveness.

A Look Behind the Curtain?

Dassault is already working on the next new aircraft, which Eric Trappier, Chairman and CEO of Dassault, mentioned at EBACE in Geneva. Dassault could surprise NBAA-BACE attendees by lifting the veil of secrecy that still covers this new project.
Speaking at an aviation event earlier this year, Aerion CEO Tom Vice announced that the company’s forthcoming AS2 supersonic business jet will be capable of running on synthetic paraffinic kerosene (SPK) biofuel. “We believe that running biofuels will reduce our CO2 emissions by at least 40 percent,” he says.

To ensure the biofuel does not harm the engine, the AS2’s GE Aviation Affinity engines are being designed with special seals. The first supersonic engine purpose-built for business jets, the twin-shaft, twin-fan Affinity is optimized with proven GE technology for supersonic flight and timed to meet the AS2’s intended first flight date of 2023. According to project partner Boeing, the AS2 will fly at speeds of up to Mach 1.4, or about 1,000 miles per hour – 70% faster than today’s standard business jets.

According to Brad Mottier, GE Vice President and General Manager for Business and General Aviation & Integrated Services, over the last 50 years, business aircraft speeds have increased by less than 10%. “Instead of going faster, cabins have increased in size and become more comfortable – and range has become longer,” he says. “With large, comfortable cabin, long range aircraft in the marketplace, the next step is speed...made possible with GE’s Affinity.”

“Our mission is to enhance global mobility with supersonic speed, starting with Business Aviation, and following with successively faster and larger designs for business and commercial aviation,” adds Vice. “GE Aviation is making this new efficient, sustainable supersonic era possible through its pioneering work on the Affinity engine.”

New Standards Needed
Despite this push towards fuel efficiency and quietness, meeting current noise level and carbon emission standards remains a challenge for supersonic jets. This is because applicable standards were set for conventional planes, which do not face the same engine constraints and high fuel burn requirements that supersonic flight requires. For example, although the AS2 would meet the noise levels set for subsonic planes, it falls short of hitting established emission requirements.

“Because there are differences between subsonic and supersonic aircraft, we definitely want to see different standards,” says Vice. “There is no CO2 standard for supersonic flight, so all we have is the subsonic standard which, because of the AS2’s higher fuel burn, we simply cannot meet.”

Although the US is pushing for the creation of new global rules on noise for supersonic jets, the European Union has taken the stance that these jets should be held to the same standards as existing aircraft. ICAO is currently studying the issue.

The Big Question
The big question remains: where will the AS2 be assembled? The company says they have been very actively pursuing site selection. Perhaps we can expect an announcement at NBAA-BACE?
Rolls-Royce is expanding its offerings for the Business Aviation market. The engine manufacturer is ramping up production of its newest turbofan, the Pearl 15, at its Dahlewitz, Germany, site south of Berlin. The engine was revealed at EBACE 2018 with certification already at hand. It powers two Bombardier jets, the Bombardier Global 6500 which is progressing towards an entry-into-service before year-end and the Global 5500. Flight testing of the Global 6500 at Bombardier’s flight test center in Wichita, Kansas, is almost completed. Three flight test vehicles have been involved in the test program, with FTV1 being retired since May this year after having completed all of its planned test missions.

The engineers have integrated into the Pearl 15 engine innovative technologies from Rolls-Royce’s Advance2 strategic technology demonstrator program. While the new engine features the same nacelle envelope as the BR710 turbofan, it is more powerful (15,125 lb thrust) than its predecessor and consumes up to 7 per cent less fuel. It is also up to 2dB quieter and shows a 20 per cent improvement in NOx emissions margin thanks to its ultra-low emissions combustor.

Aircraft engines are the key component to make an aircraft more fuel efficient and environmentally friendly. The design challenge in every new engine program is to keep the virtues like reliability and maintainability while pushing the limits of physics.

Volker K. Thomalla reports.

AIRCRAFT ENGINES -
DOING MORE WITH LESS

The engine is – according to the manufacturer – blessed with not only the most efficient core in Business Aviation, but also with the world’s most advanced health monitoring system. This system is a huge step towards an intelligent engine by using Big Data and cloud-based analytics to enhance engine availability and maintainability. Pearl 15 has a bypass ratio of 4.8:1 and an overall pressure ratio of 43:1. The core includes a new 10-stage HP compressor with six titanium blisk stages. Rolls-Royce uses the most advanced materials like nickel alloys and ceramic coating to have greater efficiency. The Pearl 15 is not planned to
be a stand-alone product. Rolls-Royce sees it as the first of a whole family of Business Aviation engines.

Dassault Aviation switched from the ill-fated Safran Silvercrest to the Pratt & Whitney Canada PW800 PurePower turbofan for its newest program, the Dassault 6X, which was revealed in Paris in February of 2018. The PW812D for the 6X has a thrust range of 13,000 to 14,000 lbs. The manufacturer has tested it extensively on its test benches in Montreal, Canada, as well as in flight on a side-mounted pylon on Pratt & Whitney Canada’s own flying testbed, a modified Boeing 747SP. When the 6X enters into service in 2022, the engine will be a proven power plant, as it is already in service today.

Gulfstream Aerospace had chosen the PW800 for both the Gulfstream G500 and the G600, which entered into service in September 2018 and August 2019 respectively. The entry-into-service was as smooth as a manufacturer can wish for. There were no engine issues when the G500 and G600 went into service with customers. The performance of the FADEC-controlled turbofan is spectacular, which has also been proven by numerous world speed records. Even before certification, Gulfstream has set more than ten city-pair speed records with the G600 and over 30 world speed records with the G500.

The new engine type delivers double-digit improvements in fuel efficiency and sets new standards in emissions, thanks to new technologies which the PW800 has inherited from 16 commercial aircraft engine types like the PW1500G geared turbofan which powers the Airbus A220. The engine incorporates advanced fan, compressor, turbine and low-emissions TALON combustion systems. The PW800 has been tested to consume future bio-fuels and other Sustainable Alternative Jet Fuels (SAJF) without any modification. The engine also features future thrust-growth capability.

Honeywell Aerospace has expanded the number of aircraft types which are powered by the HTF7000 engine family. In June 2019, the Brazilian manufacturer Embraer Executive Jets has handed over the first Praetor 600 Midsize Jet to an undisclosed customer from Europe. The engine family powers the Bombardier Challenger 300 and 350, Gulfstream’s G280, Textron Aviation’s Citation Longitude and Embraer’s Legacy 450 and 500. The HTF7000 family has amassed more than 1.7 million flight hours.

GE Aviation is celebrating this year its 100th anniversary. It is busy with testing the Catalyst turboprop engine, which should be a game-changer in the industry. The engine has been selected by Textron Aviation to power the brand-new single-engine turboprop Cessna Denali, which is scheduled to fly this year. It was also selected by XTI Aircraft as the core of its TriFan 600 hybrid-electric propulsion system.

The Catalyst is the first clean-sheet turboprop engine for General Aviation in more than 30 years. GE Aviation has patented 98 technologies for the Catalyst. It is the first engine in its class to introduce two stages of variable stator vanes and cooled high-pressure turbine blades. GE Aviation uses more 3-D printed parts in the Catalyst than in any other commercial engine in history. About 35 percent of all parts are produced using 3D printing technology. GE Aviation’s Italian subsidiary Avio Aero has started producing the first 3D printed parts for the Catalyst in its brand-new facility in Brindisi in southern Italy.

The Catalyst features an industry-best 16:1 overall pressure ratio, which enables the engine to extract more power at altitude, as well as excess thermodynamic power for growth in aircraft capability. GE Aviation has completed engine testing on the high altitude test bench of Canada’s National Research Council (NRC) in Ottawa.

The engine is the first GE Aviation engine that was developed in Europe. It will also be tested in Europe on a modified Beechcraft King Air 350. The flying testbed has been modified in Munich and will be equipped with the first Catalyst in Prague, the Czech Republic, where the engine will also perform its first flight before the end of this year.
Engine maintenance programs mitigate the maintenance cost risk from the aircraft operator to the program provider. Operators have a fixed-price maintenance cost guarantee that usually proves beneficial – especially when unscheduled maintenance events show up, reports Volker K. Thomalla.

Engine maintenance programs are a valuable asset for aircraft owners and operators. Not only do they offer peace of mind in terms of maintenance costs, they also help keep the value of an aircraft enrolled in a program. There are programs available from the powerplant manufacturers like Rolls-Royce, Pratt & Whitney Canada, Honeywell and GE Aviation, as well as from independent program providers like Jet Support Services, Inc (JSSI).

Rolls-Royce expanded the coverage of its CorporateCare engine program last year by including the whole powerplant, from nacelle to engine build-up and thrust-reverser unit. This expanded coverage in the CorporateCare Enhanced program has been standard for all new customers since January 1 this year. Rolls-Royce reported the 100th customer was signed within just weeks of announcing the new offering.

“Signing 100 contracts in less than four months since program launch is a clear demonstration of how much value CorporateCare Enhanced provides to our customers,” says Alan Mangels, Rolls-Royce, Vice President Sales & Marketing - Business Aviation. “The program was developed with the mindset of, ‘if we provide it, we cover it’, and our customers love that.”

CorporateCare covers over 2,000 aircraft and more than 70% of new delivery Rolls-Royce powered aircraft are enrolled in the program.

Pratt & Whitney Canada, which has produced an amazing 100,000 plus engines, offers its Eagle Service Plan (ESP) to customers in corporate and general aviation. ESP just introduced three new services for its customers, which will be available in 2020 (depending on aircraft model). The first service is an in-depth oil analysis that helps detect deterioration of oil-wetted parts hundreds of hours ahead of a potential failure. The second additional service is the global engine connectivity that gets information from the engine to the manufacturer by cellular service and proactively helps plan maintenance. The third service is a flyaway kit with spare parts that address the most common engine issues, helping customer get back in the air quicker.

Jet Support Services, Inc. (JSSI) from Chicago is celebrating its 30th anniversary this year. The company is the leading independent provider of maintenance programs to all segments of the industry, covering not only engines, but also virtually all models of aircraft – including business and commercial jets, turboprop-powered aircraft and helicopters – and APU’s with its signature Tip-to-Tail-program. The strength of an independent provider like JSSI lies in the client tailored programs. The customer can choose the program modules they need from a total coverage of all maintenance events up to AOG-situations only.

JSSI recently announced that industry veteran Gary Strapp was appointed Senior Vice President, global program management and technical services. He will lead the organizational efforts of the program management, pricing and technical services teams and will expand relationships with strategic partners.
With 30 years of proven expertise and data, we know precisely what it takes to maintain and support your aircraft at every stage of its life cycle.

Acquisition advice to depend on. Maintenance programs to stabilize your budget and add value to your aircraft. Parts delivered to you on time and in budget. Leasing solutions you can rely on.

IT'S TIME FOR A BETTER APPROACH.
As ever, Steve Nichols brings you all the exciting avionics news from NBAA-BACE

The show offers one place to check out the latest products and services from 1,000 exhibitors, you can network with 23,000 peers and industry leaders and there are more than 50 educational opportunities to learn about the future of the industry and today’s current hot topics.

As usual there will be a host of avionics companies exhibiting. So what can we expect to see?

Collins Aerospace (C10807), with the combined power of UTC Aerospace Systems and Rockwell Collins, says it will be exhibiting products for the complete cabin experience featuring the company’s interiors systems, cabin electronics and connectivity offerings, as well as demonstrations of various avionics, aerostructures, mechanical systems and power and controls systems.

It says it will showcase its award-winning Venue cabin management system, STAGE on demand content

BAA-BACE, being held in Las Vegas from 22-24 October 2019, is the premier event and annual meeting place for the Business Aviation community. It brings together key aviation contacts from around the world.
Keep your eyes on the sky – we’ll handle the rest

When your flight operations become complex, Collins Aerospace makes your mission our sole objective. With intuitive end-to-end solutions that make flying more enjoyable, safe and productive, we anticipate your challenges so you can focus on flying.

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- Competitive fuel services
Kevin Kliethermes, Director of Sales at Flying Colours explains most ADS-B Out installations have been part of a wider aircraft upgrade. “We help owners maximize budget and aircraft downtime by completing a number of different projects in parallel. “Work on avionics, interiors, maintenance and paint can all take place in parallel at one of our facilities. For us, the 1 January is not the end of the ADS-B Out mandate, but the beginning and we want to help the industry in North America and beyond be prepared for this important airspace management milestone and the requirements of NextGen still to come.”

Garmin says it will be highlighting its G5000 integrated flight deck upgrade for the Citation Excel/XLS, which received its STC in July.

It says the G5000 integrated avionics suite modernizes the cockpit, significantly reduces operational costs, addresses airspace modernization requirements, and solves long-term concerns related to parts obsolescence.

The G5000 integrated flight deck for the Citation Excel and Citation XLS features three landscape-oriented flight displays with split-screen capability, allowing pilots to simultaneously view maps, charts, checklists, TAWS, TCAS, flight plan information, weather and more. Electronic charts and Garmin SafeTaxi airport diagrams are geo-referenced and can be viewed across all three displays.

Intuitive touchscreen controllers serve as the pilot interface to the flight deck and contribute to the ease of operation and seamless transition between various pages.

The G5000 installation on the Citation Excel/XLS includes a fully digital Automatic Flight Control System (AFCS), offering precise performance throughout the aircraft’s flight envelope. New to the Citation Excel, Emergency Descent Mode (EDM) is available as a standard feature with the G5000 and is enabled by the autopilot in the event of a loss in aircraft pressurization. Safety enhancing underspeed protection (USP) is an optional feature that allows the autopilot to assist with airspeed management, while also enabling fully coupled go-arounds, greatly reducing pilot workload.

Garmin says it will also be highlighting its G1000 NXI upgrades for select G1000-equipped aircraft.

The G1000 NXI offers a number of new and enhanced features, including wireless cockpit connectivity, split-screen capability, SurfaceWatch, visual approaches, map overlay within the horizontal situation indicator (HSI) and more.

The Supplemental Type Certificate (STC) for the G1000 NXI integrated flight deck upgrade in the Citation Mustang is available immediately through Textron Aviation Service Centers.

Aircraft that are currently eligible for the NXI upgrade include the King Air 200/300/350, Citation Mustang, Daher TBM 850/900, Cessna 172 R/S, Cessna 182T, Cessna 206H, Beechcraft Bonanza G36 and Beechcraft Baron G58.

Aircraft that are currently in-progress and will soon be eligible for the NXI upgrade include the Embraer Phenom 100/300 and Piper Meridian.

Carl Wolf, Vice President of Aviation Sales and Marketing, said: “In 2003, the Citation Mustang was the first aircraft to announce the G1000 integrated flight deck and we’re now excited to offer the next-generation G1000 NXI upgrade to the Mustang – an aircraft that defined the very light jet category.”

Gogo Business Aviation says it will be highlighting its upcoming Gogo 5G network, which it announced in May.

The new air-to-ground (ATG) network will be designed for use primarily on Business Aviation aircraft, but will also be available for commercial
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TOP-END
Gogo inflight internet is installed on around 2,500 planes (left). Honeywell’s Primus Elite (right).

regional jets operating within the contiguous US and Canada. Gogo expects the network to launch in 2021.

Oakleigh Thorne, CEO of Gogo, said: “We expect to launch Gogo 5G at the same time as the terrestrial telecommunications companies are deploying the same generation of technology on the ground – a first for Wi-Fi services in aviation.

“Gogo 5G is the next step in our technology evolution and we expect it to deliver an unparalleled user experience, pairing high performance with low latency and network-wide redundancy.”

Gogo will build the 5G network on its existing infrastructure of more than 250 towers and will use unlicensed spectrum in the 2.4GHz range, along with a proprietary modem and beam-forming technology.

Gogo will continue to employ its 3G and 4G networks throughout the continental U.S. and in Canada that will provide backup to the 5G network when needed.

Honeywell (N4302) says it will be showcasing its Primus Elite and BendixKing’s AeroVue Touch Integrated Flight Deck.

The Primus Elite is an upgrade for aircraft that replaces old cathode ray tube displays with Honeywell’s DU-875 liquid crystal displays and allows additional upgrade options, like the Primus Elite Enhanced Features (PEEF) or the Primus Elite Advance Features (PEAF) upgrades.

BendixKing’s AeroVue Touch Integrated Flight Deck is the company’s newest flight deck for Part 23 class I, II, III and advanced aircraft with new methods of lift and propulsion. Also featured will be Honeywell’s 3D weather radar systems, latest in-flight WiFi solutions and the GoDirect family of applications, which make flight operations more efficient.

In addition to these cockpit systems Honeywell will also exhibit at the all-new Innovation Zone. This area will feature Honeywell solutions and concepts for urban air mobility aircraft, including their compact fly-by-wire system. This is a fully electronic flight control system that offers the critical redundancy needed to meet the safety and certification requirements for electric vehicle takeoff and landing (eVTOL) aircraft, all in a package the size of a paperback book.

Inmarsat (C8032) returns to NBAA-BACE following a number of exciting announcements about the development of its Ka-band Global Xpress (GX) network, which powers Jet ConneX, its inflight WiFi solution built specifically for Business Aviation.

Jet ConneX has now been installed and activated on hundreds of aircraft worldwide. Working alongside its distribution and installation partners, Jet ConneX has now received more than 40 type certificate and supplemental type certificate (STC) approvals and the solution remains the preferred line-fit option by the major business jet OEMs.

Satcom Direct (SD) (C10217) says it will be releasing SD PostFlight, new software that reduces pilot workload and minimizes input error as it automatically fills in each aircraft’s flight log after each leg of a flight.

SD PostFlight software optimizes post flight data collection through the SD Pro operating system. The data is accurate down to the minute with the system gathering all available data from the aircraft in real time, via SD’s FlightDeck Freedom datalink service.

Information can be pushed to maintenance tracking software, such as CAMP, which can be integrated with the system. An agreement with Rolls-Royce is also in place to provide engine times and cycles for the operator’s engine warranty program.

The shared data seamlessly synchronizes the aircraft, maintenance and flight departments with each other, and third-party suppliers, for improved aircraft management. The system complements SD Scheduler the pre-flight software which is also
accessible through the SD Pro operating system for flight planning management.

A mobile App, SD Crew, allows pilots to log Out, Off, On, and In (OOOI) times, fuel levels, engine and APU times off-line, to make logging and verification more timely and accurate. SD Crew also captures information related to flight expenses, fuel uplift and accommodation costs.

A strengthened training offering will also feature during NBAA In response to the growing demand for more qualified IT experts in the Business Aviation sector, Satcom Direct (SD), is increasing access to its portfolio through an expanded agreement with FlightSafety International (FSI) and it will be announcing other education partners during the event.

The smart edition of aeroIT, SD’s aviation IT certification, is now available with renewed content and an exam adjusted to reflect the changes. Revisions place more focus on cybersecurity, the latest communications systems and information technology advancements to ensure aviation IT professionals’ knowledge is current with the most recent developments.

SmartSky Networks (C9430) is on the verge of bringing its unique low-latency air-to-ground (ATG) network and best-in-class connected passenger experience to both commercial airlines and business jets.

The SmartSky network’s low latency and high throughput to and from the aircraft make possible real-time inflight videoconferencing, VPN and cloud-based work and video games.

Universal Avionics (C10630) will feature hands-on demonstrations of the ClearVision Enhanced Flight Vision System (EFVS) with SkyLens Head-Wearable Display (HWD) and InSight Display System.

The SkyLens high-transparency visor presents high-resolution symbology/imagery, including Enhanced Vision System (EVS), Synthetic Vision System (SVS), and Combined Vision System (CVS) for superior see-through transmission in all weather conditions, day and night.

The InSight system is designed as an integrated flight deck solution, featuring embedded SVS with advanced mapping capability, electronic charts, and radio control.

As an integrated system, InSight retains the ability to interface with a large number of federated components such as attitude/heading sensors, air data computers, radars, traffic systems, radios, and autopilots.

Integrated with the UA SBAS-Flight Management System (FMS) and UniLink UL-800/801 Communications Management Unit (CMU), InSight offers operators a path to meet future mandates and certifications such as PBN, SESAR, CPDLC, FANS 1/A+, and ATN B1.

And finally, ViaSat (C9020) says it will showcase applications and services that highlight its Business Aviation two networks/three solutions.

The three solutions include its ViaSat Ka-band, with the highest capacity of 16 Mbps now and double that on ViaSat-3; its recently upgraded Ku Advanced, offering up to 10 Mbps near globally on a broad range of airframes; and its dual-band, combining the best of both ViaSat Ka and Ku Advanced with one single bill for large cabin GulfStream and Bombardier Global aircraft.

ViaSat is also the leader in bringing the highest-speeds with ViaSat Ka-band to the super mid-cabin market with offerings on the Embraer Praetor and Legacy family.

ViaSat connectivity offerings are now available on 19 business jet models across five OEMs, with more airframes to come. Additionally, Viasat Unlimited Streaming allows passengers to stream services like Netflix, Amazon Prime, YouTube and more without data caps.
SPECIALIZED INTERIOR COMPANIES GIVE AIRCRAFT A PERSONAL TOUCH

Manufacturers take aircraft exteriors seriously to make a good first impression. But time spent inside the aircraft lasts far longer and leaves a more permanent impression. Here, an important role is set aside for the cabin interior service providers. BART Executive Editor Nick Klenske takes a look at what the leading interior companies have been up to.

Jet Aviation

Many of the well-known players in the interiors sector are one-stop-shops that provide all the services a business aircraft requires in-house. For example, along with offering FBOs, maintenance, flight services, charter and staffing, Jet Aviation also does interior completions. The company’s in-house design studio has over 40 years of experience in VIP private aircraft interiors. Working independently and in partnership with external designers, the Studio designs and supports completions and refurbishment concepts and provides detail design and feasibility studies and design management services. This summer, the company appointed Grischa Schmidt as the new Senior Director of the Design Studio, a role that sees him managing a team of 16 designers.

“The Design Studio is a key part of the comprehensive in-house services that we offer, and Grischa’s wealth of experience in aviation, marine and automotive design will ensure that we continue to provide exceptional interior design solutions for completion and refurbishment customers,” says Dirk Sapatka, General Manager Basel.

Earlier this year, the company delivered three extensive refurbishments on a Boeing 747 and two Gulfstream GIVs, all of which included Ka Band installations. In addition, the company successfully implemented and delivered its first Ka Band installations on Gulfstream G550 and G650 aircraft.
Flying Colours

Canada-based Flying Colours is celebrating its 30th anniversary this year. Founded by John Gillespie, today, John’s two sons, Eric and Sean, help run the company, which specializes in – among other services – green completions, refurbishments and executive conversions.

The company kicked off its anniversary year by announcing the addition of a 100,000 square feet to its Peterborough, Ontario facility. As a Bombardier ASF and authorized completion center, Flying Colours is experiencing unprecedented demand for its high-quality work. The construction of its largest hangar yet will accommodate aircraft up to executive airliner size for maintenance and interiors work. A second dedicated air-
craft paint shop, along with expanded design suites for customer meetings, will complement the expansive facility.

In the spring, Flying Colours confirmed renewal of its agreement with Bombardier Business Aircraft’s Service Centre at Seletar Airport to provide interior services at the OEM’s Singapore facility. The renewed relationship between the two Canadian companies confirms that Flying Colours will continue delivering the full-service interiors offering, including preliminary inspections, repair work, modifications and refurbishments, to complement Bombardier’s comprehensive line and heavy maintenance services.

“Our interior workload is expected to rise with the addition of the larger MRO hangar, exterior paint facility, and workshops that Bombardier is adding,” explains Eric Gillespie. “As a result, we’ve invested significantly in training, tooling and developing a state-of-the-art interiors facility to mirror the quality and skills available at our North American facilities.”

Flying Colours Corp. is now developing its own expansion strategy to best align with Bombardier’s growth in Asia. Initial plans include extending the workshop area, which will double the existing footprint, adding two more climate-controlled spray booths, and increasing its workforce capacity. With the new Bombardier facilities expected to be operational in 2020,

AERIA Luxury Interiors

Founded by the legendary aviation designer Dee Howard and originally known as the Dee Howard Company, the company underwent a complete makeover in 2012. Rebranded as AERIA Luxury Interiors, the company started focusing primarily on corporate airliner completions after having obtained the required approvals from Airbus Corporate Jets and Boeing Business Jets in 2014.

Earlier this year, the company completed a nose-to-tail, full cabin refurbishment on a Boeing Business Jet 737 for a US-based charter firm. The program, completed within eight months, marks AERIA’s first full narrowbody refurbishment. The aircraft received a full range of enhancements, including all wood surfaces, seat and interior panel reupholstery, faux wood flooring installation, carpet replacement and paint to match touch ups. The program also included a partial cabin reconfiguration of the aft cabin.

“As an integrated solutions provider for private jets since 2012, AERIA takes pride in consistently delivering high levels of craftsmanship with high level of attention to details for our valued customers, be it in cabin refurbishment, VIP completions or maintenance services,” says Ron Soret, Vice President/General Manager of AERIA.
EQUIPMENT

King Aerospace is providing 40 MRO, interior services this year (left). Duncan Aviation installed ALTO Switches in Challenger 604 (right).

**King Aerospace**

King Aerospace Commercial Corporation believes every corporate aircraft interior refurbishment should represent the company’s personalized design requirement. That’s why King’s interiors team serves to bring its customers ideas to life, keeping corporate jet or VVIP aircraft interiors at the superior standard to which they have become accustomed to.

“The interiors team at King Aerospace understands the latest innovations and sophisticated interior designs and refurbishments in the industry,” says a company representative.

To do this, the company focuses on providing VVIP interior installation and refurbishments on BBJs and other corporate jets. Services include veneer, lighting panels, valance panels, seats, carpet, and nontextile floor coverings.

According to the company, customer demand for BBJ interior refurbishment services is on the rise. “We’re on track to complete more than 40 MRO and interior refurbishment projects on Boeing business aircraft this year – a 37% increase over 2018,” says the company. “Our VVIP and private jet interior design team is currently working on three Boeing 737 aircraft and one Boeing 757 aircraft at our facility in Ardmore, Oklahoma.”

These interior refurbishments range from minor repairs to complete overhauls. While smaller projects upgrade carpet or nontextile floor covering, lighting and valence panels, seating and veneer, a total remodel sees the company gutting more than 5,000 cubic feet of space with more than 800 square feet of walkable surface in aircraft.

“Our VVIP aircraft customers need a lounge to entertain, an office for work, a bedroom for long flights and multiple lavatories for various crew and passengers and we have the capacity to provide exactly that,” adds the company.

**GDC Technics**

It’s no wonder that San Antonio is referred to as the birthplace of large completions and cabin interior design, considering that the city is home to GDC Technics. This summer, the company constructed a customized interior cabin for a confidential head-of-state customer that weighs in 1,000 pounds below project estimates. The B777 is equipped with the latest GDC Technics electronics services that provide industry-leading inflight data, connectivity, and passenger comfort capabilities, including a full security system, forward-looking, quad, downward zoom, and tail fin cameras, dual L Band and SATCOM system, KA-Band Antenna, Iridium system and Satellite TV Antenna providing live 4K Television. The wide-body aircraft also contains a lower lobe crew rest compartment and unique design systems allowing for three custom showers with on-demand hot water heaters.

“With this aircraft, GDC Technics continues to prove our industry-leading expertise, skills, and abilities to succeed in aircraft modification programs,” says Brad Foreman, GDC Technics CEO. “We are continuing our trend on delivering aircraft with innovative designs and nanotechnology materials that are far below the estimated weight – resulting in a more fuel efficient and longer range aircraft.”

**Duncan Aviation**

Duncan Aviation was launched by Donald Duncan, an Iowa farmer who started out as a Beechcraft distributor in the 1950s. Soon after, fueling, MRO, avionics, accessory and painting services were added to the company’s portfolio. But it wasn’t until 1981 that the company took its first dive into the world of interior completions. Although today the company is more active in the MRO and avionics field, Duncan Aviation does have a long list of approvals for cabin interior projects, including for Bombardier, Dassault, Cessna/Textron Aviation, Embraer, Gulfstream, Hawker and Beechcraft aircraft.
The wings don’t come with the uniform at King Aerospace — our team members earn them. We do more than deliver MRO and exterior paint for VIP aircraft, specializing in the Boeing Business Jet. It takes a commitment to our company’s cornerstone principles, to quality and to our clients. We treat our customers like family — the King family.

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Duncan Aviation works intensively on creating awareness about your aircraft’s lifespan, including its parts, avionics systems and interior products. As a result, it has created an actual manual, written by interior experts and titled “How to Extend the Life of an Aircraft Interior” – all part of its mission to make owners realize that regular check-ins are absolutely required if you want to get the best out of your aircraft. According to the manual, and as with any other vehicle, parts of an interior will wear out long before a next complete refurbishment is due. Through frequent and phased interior repairs, Duncan’s goal is to educate operators and aircraft owners on how to keep their interiors looking new.

Recently, the company received FAA approval for a Supplemental Type Certificate (STC) that will allow installation of SmartSky’s air-to-ground connectivity system for Challenger 601, 604, 605 and 650 aircraft. SmartSky’s network brings new, high-performance Wi-Fi to business aircraft, powered by a mix of advanced 4G LTE and 5G technologies. As a result, multiple passengers will now have simultaneous access to a highly compelling user experience in the air, enabling them to hold in-flight conference calls, VPN into the office, stream movies, compete in online games, and easily upload/download content during their flights.

“Duncan Aviation is an exceptional, visionary partner who knew exactly what their customers wanted and provided critical input for our design requirements,” says SmartSky Chairman and CEO Haynes Griffin. “Our system meets or exceeds that high bar Duncan Aviation helped set, giving customers the internet speed they’ve long demanded using SmartSky’s patented bi-directional, low-latency network.”

Comlux

Another very well-known player in the large-cabin, corporate airliner interior services sector is Comlux – short for comfort and luxury. Located in Indianapolis, Indiana, Comlux Completion has been performing interior work since 2009 on BBJs, ACJs – and even Sukhoi Business Jets.

In order to guarantee a clear vision and unified approach, the company launched its own VIP cabin design office, called Comlux Creatives. The team at Comlux Creatives approaches every new project through the company’s Five Senses concept, which takes the customer through a sensory journey across all five senses. First, the team of designers listens carefully to define the customer’s needs, after which they conceptualize those needs to express the personal taste of the customer. Next, the concept is brought together with materials so that the customer can touch what will be used, after which every small detail of the concept is put into drawings to show the customer how everything comes together. Finally, the journey ends with the sweet smell of success.

Over the summer, the company announced that its Completion division was selected by DC Aviation Group to complete the VIP interior of an ACJ320neo aircraft. This new signing consolidates Comlux Completion’s order book with a total of four ACJ320neo VIP cabins contracts signed to date.

“This is our fourth completion order for an ACJ320neo aircraft and DC Aviation’s choice confirms our positioning as the leader of VIP completions for this type,” says Comlux Completion CEO Daron Dryer. “With the extensive ramp up activity planned for the next couple of years, we are reinforcing our work force in every department and recruiting new talents to boost our efficiency.”

Before flying to Comlux’s Indianapolis facilities, the aircraft, belonging to an undisclosed customer of DC Aviation Group, is to be delivered green by Airbus in November 2019. Since 2009, Comlux Completion has completed a full range of VIP completions including
DUNCAN AVIATION’S INTERIOR COMPLETIONS EXPERTS COLLABORATED ON THE INTERIOR OF THIS 2010 GULFSTREAM GV-SP. THE COMPLETELY REFURBISHED INTERIOR IS HIGHLIGHTED BY A CUSTOM STAND-ALONE CREDENZA WITH A ROUNDED WATERFALL EDGE AND AUTOMATED FLIP-UP MONITOR DESIGNED BY THE CABINET SHOP AND ENGINEERING. THE AIRCRAFT CAME IN FOR A 96-MONTH AIRFRAME INSPECTION, AVIONICS UPGRADES THAT INCLUDED A CMS, LED LIGHTING, GOGO AVANCE L5 CONNECTIVITY, COMPLETE INTERIOR AND PAINT.

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Airbus ACJ319, ACJ320, ACJ321, ACJ330, Boeing BBJ, BBJ3, 757BBJ, and Sukhoi SBJ. With 1 ACJ320neo and 1 BBJ MAX currently in completion, plus an order book of 3 ACJ320neo, Comlux Completion demonstrates its ability to deliver the most customized and innovative interiors to its VIP clients.

“After 10 years in the industry, Comlux Completion has now gained the experience and stability required to be successful in the market,” adds Dryer. “Thanks to the vision and confidence of its shareholders, Comlux is building a bright future for its employees.”

West Star Aviation
West Star provides high-quality aircraft exterior paint and interior services for corporate aircraft from the smallest up to the Global 7000, F900, Hawker 900, Citation 10/750, Embraer 650, or a Gulfstream 650. “Working closely with you, our experienced staff will design and update your aircraft interior and exterior with a full array of material selections, custom designed paint layouts, and uncompromising attention to detail,” says a company representative.

The company started the year with the opening of a new 60,000 sq. ft. hangar at its East Alton, IL location. The hangar features 40,000 sq. ft. of hangar space and 20,000 sq. ft. of back shop and office space which supports West Star’s growing capabilities. This additional growth will initially employ 28 technicians to support the expansion, in addition to their existing hiring efforts.

“Having a new hangar provides us the added capacity to continue offering world-class service to our customers and ensure we meet requested deadlines,” says West Star Aviation General Manager Scott Sweeney.

Lufthansa Technik
Lufthansa Technik’s interior design prowess recently took home a Red Dot Design Award, which recognizes the best in design and business. The award was for the Nature’s Touch narrow-body VIP cabin that the company jointly developed with Ameco.

Nature’s Touch is a business jet cabin interior concept that combines the cultures of East and West by using traditional Chinese elements and smart technology to create a convenient and comfortable travel experience. The unique cabin concept brings a brand-new business travel experience to customers for the interior of the Airbus ACJ320neo business jet, which features a live-cooking aircraft galley, guest area, lounge, dining/meeting area, cinema, and master bedroom. The design explores the harmonious beauty in the symbiosis of nature and technology. Due to its flexibility the concept anticipates the adaption to a Boeing 737 BBJ configuration as well.

“We are grateful for having had the chance to jointly develop this project with our partner Ameco, as such cooperation shows the synergies of our both company’s strengths,” says Jan Grube, Head of Asia Sales for VIP & Special Mission aircraft at Lufthansa Technik. “This new design and its innovative features separate it from similar concepts and the fact that we won the Red Dot Award shows its excellent reception in the market.”

SR Technics
This year, SR Technics announced the ground breaking of a new six-bay hangar, including significant backshop facilities, for its center of excellence (CoE) in Malta. The project will enable SR Technics to continuously provide high-quality aircraft maintenance and cabin modification services, now for up to six narrow body aircraft of the B737 & A320 families simultaneously. The first bays of the hangar will be completed by the beginning of 2020.
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FLYING COLOURS -
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Flying Colours of Peterborough, Ontario, is a family-owned business with strong roots in its home town in Canada, but with international reach and a strategic vision, focusing on serving Business Aviation and Special Mission customers. The company was founded 30 years ago when John Gillespie merged his aircraft sales business with his aircraft painting company Flying Colours Corp. Over the years, the company has grown from 20 employees in 1989 to over 500 today. And that’s not the end. Flying Colours needs to recruit 100 new team members in the next twelve months to accomplish its planned expansion.

Flying Colours has three facilities in three countries on two continents. Its headquarters and largest facility with 300 employees is located in Peterborough. In 2009, John Gillespie took the opportunity to buy JetCorp Tech Services in St. Luis, MO, and integrated the operation into Flying Colours. Around 260 employees are working in St. Louis. The third facility is at the Seletar Airport in Singapore, sharing the building with Bombardier. It is the youngest and smallest facility with 25 employees. Flying Colours was selected by Bombardier Aerospace in 2015 to provide interiors support services in Singapore for regional customers. “Bombardier does the maintenance and avionics in Singapore, we do the interiors”, said Eric Gillespie, executive vice president of Flying Colours about the workshare in Singapore.

The company started the aircraft completions, modification and exterior paint work on smaller aircraft like Cessna 421 and King Airs. Only three years after its foundation, Flying Colours did the first large jet refurbishment for a Bombardier Challenger 601. Owners of other aircraft types fol-

The privately owned Canadian business aircraft maintenance, completions, conversion and refurbishment specialist Flying Colours is investing to expand its capacity. Two new hangars are being built in Peterborough near Toronto with the first one being scheduled to be ready as early as October.

Volker K. Thomalla reports
allowed with Dassault Falcon cabin refurbishments and modifications. 2000 was a banner year for Flying Colours as the company painted over 50 aircraft in one single year for the first time. Aircraft painting is still an important part of the business.

Five years later, the company went global by launching the Execliner, a converted Bombardier CRJ200 airline into customized VIP interiors. This program is a success with 32 aircraft being completed in various configurations. On top of that, since 2008 Flying Colours also did 15 completions on Challenger 850.

The partnership with Bombardier extends into being appointed as a Bombardier Authorized Service Center and preferred Completion Center. The company is supplementing the OEM by providing ad-hoc in-house completions for Bombardier on the Global Business Jet family when the manufacturers needs additional completions capacity.

"Business is good. Our hangars are full and we’re in growth mode”, said Eric Gillespie. The company is investing about CA$ 25 million to build two new hangars in Peterborough, one of which is a dedicated third paint shop and the other being a maintenance hangar with expanded design suites for customer meetings and additional shop capacity. The new hangar is large enough to house narrowbody airliners. The new 50,000 sq ft maintenance hangar will be ready around February 2020.

In January, the St. Louis team moved into a new 45,000 sq ft hangar which offers enough space to accommodate three ultra long-range business jets for completions and heavy maintenance. “We’re already running out of space there as the demand is so great for our expertise in this field,” states John Gillespie. This followed the outfitting of a state-of-the-art manufacturing workshop which primarily supports the design, build and finishing of woodwork monuments for large business jet cabins. This has increased productivity by an amazing 600 percent.

In May, Flying Colours expanded its global footprint again by appointing Andrew Pearce as European sales manager based in the UK and Paul Dunford to the newly created position of managing director international operations.
“Upgrading an aircraft is investing wisely as one simultaneously increases its resale value.” This comment by Serkan Akin, MRO Sales Manager at Atlas Air Service in Bremen, Germany, summarizes the fact that modifications to power plants, cabin systems, exteriors, and interiors can double – or even triple – the money spent on upgrades.

“Deferring the retirement of aging aircraft is one of the factors driving today’s hot upgrade market,” says Nils Janssen, Managing Director, ACC COLUMBIA Jet Service GmbH. “The cost of buying a new business aircraft continues to increase, so operators are looking towards modifying their jets with upgraded solutions as an investment.”

A year ago, his company upgraded a Bombardier Global with the latest cockpit, cabin and connectivity systems, alongside mandate equipment to retrofit and modernize the aircraft. This essentially made the jet the equivalent of a new aircraft at 10% of the cost – with enhanced safety and efficiency elements to boot.

This is the perfect illustration of why the upgrade market remains in full swing, mostly with new avionics and connectivity technologies, but also aerodynamics and engines. Adding a bit of urgency to the market is the looming ADS-B Out year-end mandate in the US and the June 7, 2020 deadline in Europe. Although the European mandate does not dictate the same GPS performance levels as the FAA for aircraft operating in US airspace, non-US operators flying in the US will need to have their aircraft updated at the higher levels, given also that there are mandates for ADS-B Out in place throughout the world.

With a market estimated to surpass $1.3 million by 2022, it should come as no surprise that a number of companies are working hard to upgrade aircraft. Below, we look at the most recent upgrades in the various fields.
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with luxurious custom material. In parallel, both aircraft were enhanced with the latest DU-885 LCDs, FANS 1A, an SBB upgrade, and ADS-B Out systems.

**Duncan Aviation** received FAA approval for an STC that will allow it to install SmartSky’s air-to-ground connectivity system for Challenger 601, 604, 605 and 650 aircraft. SmartSky’s network brings new, high-performance Wi-Fi to business aircraft, powered by a mix of advanced 4G LTE and 5G technologies. Multiple passengers will now have simultaneous access to a highly compelling user experience in the air, enabling them to hold in-flight conference calls, VPN into the office, stream movies, compete in online games, and easily upload/download content during their flights.

**Dassault Aviation** released an iPad compatible version of its Falcon Perf, allowing quick and intuitive calculation of Falcon take-off and landing performance. Falcon Perf on iPad is now offered on the Falcon 7X, 8X, 900EASy and 2000EASy models. The new app is being released in parallel with an iPad compatible version of Dassault’s Falcon Sphere electronic flight bag suite, which hosts Falcon Perf and a large number of other Falcon apps. Falcon Sphere on iPad will include many of the leading features of the basic EFB, including the ability to seamlessly prepare, manage and restitute Falcon missions. Falcon Perf for iPad calculates take-off and landing performance in compliance with Airplane Flight Manuals (AFM) and Dassault Aviation recommendations. Airport data, including One-Engine Inoperative contingency procedure, are extracted from Jeppesen NavData and OpsData charts and updated every 28 days.

In this respect, **Aero-Dienst** has developed a convenient cockpit iPad mount for the Falcon 7X that the company describes as a simple solution for Apple iPad devices used as EFB. Compatible with all existing iPad models, it is certified via EASA Minor Change approval.

**Garmin International** announced the certification of the G5000 integrated flight deck for Textron Aviation’s Citation Excel and Citation XLS. The G5000 integrated avionics suite modernizes the cockpit, significantly reduces operational costs, addresses airspace modernization requirements, and solves long-term concerns related to parts obsolescence. The G5000 integrated flight deck for the Citation Excel and Citation XLS features three landscape-oriented flight displays with split-screen capability, allowing pilots to simultaneously view maps, charts, checklists, TAWS, TCAS, flight plan information, weather and more.

Last month, the company also indicated that its G1000H NXi integrated flight deck for helicopters received IFR certification. Bell recently achieved this certification in the 407GX, which gives pilots the flexibility of operating in degraded weather conditions with valuable situational awareness tools and advanced capabilities in a next generation integrated flight deck.

**Honeywell** received an FAA supplemental type certificate to upgrade Bombardier’s Learjet 40 and 45 with its Primus Elite Enhanced Features – an upgrade for the Honeywell Primus 1000 and 2000 cockpit that replaces the DU-870 cathode ray tube displays with modern DU-875 liquid crystal displays. Beyond the Learjet 40 and 45, Honeywell’s Primus Elite Enhanced Features is certified for the Bombardier Global Express, the Dassault Falcon 900EX and 900C, Embraer Legacy 600 and 650, Cessna Citation X, and Dornier 328. For passengers wishing to join a video conference while flying over the Atlantic, catch the latest market reports en route to the next business meeting, download tomorrow’s presentation from the company server – or just kick back and stream a live game or TV show, **Inmarsat** is offering Jet Connex, an inflight broadband service operating through the Ka-band of its Global Express satellite network.
Bombardier, Dassault, Embraer, Gulfstream and Boeing Business Jets have already started line-fit of Jet ConnexX. In fact, Gulfstream already installed the system on more than 300 aircraft, 60% on in-production aircraft such as the G650ER, G650, G550, G500 and the all-new G600, and 40% as upgrades on existing aircraft. Inmarsat’s non-Ka radome program allows existing aircraft to join the Jet ConnexX network with their legacy radomes while they wait for delivery of their Ka-band radome.

**Textron Aviation** developed STCs for the Gogo AVANCE L5 system for the Cessna Citation X, Citation Sovereign and Citation XL/XLS/XLS+. The STCs cover the Wi-Fi certification and full equipment and antenna installation required to provide in-flight connectivity. The company also developed and is awaiting approval on the STCs for the Cessna Citation Latitude, Citation Sovereign+ and Citation X+. Gogo AVANCE L5 provides broadband internet for high-bandwidth activities such as streaming music, TV and movies, video conferencing and attachments with large files on demand. Textron also mentioned that the Garmin G5000 integrated flight deck is now available for the Cessna Citation Excel and Citation XLS.

Last Summer, **Universal Avionics** introduced its new Interactive-Synthetic Vision System (i-SVS), an innovative operator’s sight-control concept that allows pilots to easily select entities on the company’s conformal SkyLens Head-Wearable Display (HWD) and send it directly to the InSight Display System. As part of the NextGen roadmap, the InSight/SkyLens integration aligns with FAA regulation (FAR) 91.176), enabling the operator to perform a full landing procedure with no natural vision, where the reported visibility is as low as 1000 feet. The integrated system offers unmatched capabilities, providing dispatch and landing approach priority as well as Low Visibility Landing regardless of the destination airport’s infrastructure. Once on the ground, SkyLens can assist and guide the aircraft to the gate in poor conditions.

**Collins Aerospace Systems** is teaming with satellite operator SES to bring Business Aviation customers the fastest broadband speeds available within the United States. The two companies are launching LuxStream, a service that, according to Collins, offers speeds up to 25 Mbps in the United States and 15Mbps globally via SES’s managed Ku-band satellite network. LuxStream is powered by SES’s global geostationary high-throughput and wide satellite beams, as well as a flexible, intelligent ground network. Vista Global, which operates a fleet of 116 owned aircraft and has access to 1,500 jets globally, will be the launch customer for the new system. Collins Aerospace will deliver the LuxStream service, as well as its new Collins Aerospace Cabin Router, on Vista Global’s fleet of aircraft for both of its brands, VistaJet and XO, starting with the company’s 36 global business jets under VistaJet.

**BendixKing** received Supplemental Type Certificates for its AeroVue Touch, AeroFlight and AeroCruze 230, allowing these three products to be installed in general aviation aircraft to improve reliability and increase safety. The BendixKing AeroVue Touch primary flight display is now available for 353 aircraft types. The display has the highest-resolution electronic flight instrument system (EFIS) on the general aviation market and features Honeywell’s SmartView synthetic vision system, terrain awareness, a moving map, a vertical situation display, aeronautical charts, and traffic and weather information. The company also launched a new cockpit retrofit, modification and
Flying Colours Corp. confirmed renewal of its agreement with Bombardier Business Aircraft’s Service Center to provide cabin upgrades and refurbishments at the OEM’s Singapore facility. With this agreement, Flying Colours is now developing its own expansion strategy in order to best align with Bombardier’s growth in Asia. Initial plans include extending the workshop area, which will double the current footprint, the addition of two more climate-controlled spray booths, and an increase in workforce capacity. The next step will be flight tests on different aircraft at the end of 2019 and in early 2020.

Engines, Aerodynamics and Cabin Upgrades

With more than 800 XP Engine upgrades delivered, Blackhawk Aerospace is one of the largest buyers of Pratt & Whitney PT6A turboprop engines in the world. Recently, it introduced its Phoenix upgrade for high-pedigree King Air or Conquest 1 that have impeccable logs and no history of major damage. The Phoenix package encompasses a complete nose-to-tail customization of legacy aircraft. The upgrade includes Blackhawk XP Engine Upgrade, new or freshly overhauled propellers, recent phase 1-4/annual type inspection with no calendar items due for at least one year, full glass cockpit, with either Collins Pro Line 21 with ADS-B, WAAS GPS with LPV and updated PFD/MFD screens or Garmin G1000 NXi w/ADS-B and WAAS GPS, Dual Garmin G600 TXi with Garmin 750/650 ADS-B/WAAS GPS with LPV, or BendixKing AeroVue (B200 only). It also includes full a cockpit upgrade with autopilot, radar, NAVS, COMS, GPS, ADS-B transponders, Bluetooth audio, a Phoenix signature new custom paint and new custom interior, new window polarizers or window shades for King Airs, full cockpit refurbishment, including all electroluminescent panels, plus a new Pratt & Whitney Canada (P&WC) ESP Gold for first 400 hours or two years on new engines.

For Blackhawk, a new Phoenix is usually about 50% less than a new aircraft (depending on the airplane), plus an 33% increase in available horsepower. Raisbeck Engineering, now an Acorn Growth Company, is a globally-recognized leader in the development of aircraft modification systems dedicated to improving performance and efficiency through aerodynamically designed enhancements. It developed a number of individual systems, one of the most recent being its composite 5-blade swept propeller. Noticeably quieter, the propeller combines airfoil efficiency and carbon fiber structural design to maximize thrust. This combination enhances climb and cruise speed performance, along with takeoff and landing distances, without increasing noise levels in the airplane or on the ground. Operators can enjoy 4% better runway acceleration, improved landing deceleration and weight savings over other propeller materials. Compatible with all Raisbeck Performance Systems, these composite blades offer unlimited blade life, providing operators the ability to maintain airfoil shape over time. They are available for King Air models 300, B300 and 350.

According to Aviation Partners, Inc. (API), its Blended Winglet and Split Scimitar Winglet technologies have already saved operators more than 10 billion gallons of jet fuel, resulting in a corresponding global reduction of over 105 million tons of CO2 emissions. Blended Winglets have now been installed on almost 9,000 aircraft, including business jets such as the Dassault Falcon 900/2000/50 series, Hawker 800 series, Gulfstream II and Boeing BBJ business jets. Furthermore, API’s High Mach Blended Winglets installed on the Falcon 900 series reduce drag and increase range by 5% at Mach .80 and more than 7% when optimum long range speeds are selected.

Demand for the Nextant Aerospace 604XT Pro Line Fusion cockpit upgrade is strong and the company currently has seven installations in progress. Once the seven installations are complete, the number of Challenger 604s to receive the Nextant upgrade will reach 21. The company projects it will achieve at least 30 such installations by the end of 2019, representing nearly 10% of the Challenger 604 fleet and significantly exceeding expectations. Nextant received an STC for the 604 Pro Line Fusion upgrade in November 2018. The package replaces the Challenger 604’s factory-installed CRT displays with three wide-screen, high-resolution touchscreen with synthetic vision technology. It includes ADS-B Out, WAAS/LVP, and the option to add Safe Flight AutoPower and FANS-1A.

Flying Colours Corp. has renewed its agreement with Bombardier Business Aircraft’s Service Center to provide cabin upgrades and refurbishments at the OEM’s Singapore facility. With this agreement, Flying Colours is now developing its own expansion strategy in order to best align with Bombardier’s growth in Asia. Initial plans include extending the workshop area, which will double the existing footprint, the addition of two more climate-controlled spray booths, and an increase in workforce capacity. The new Bombardier facilities are expected to be operational in 2020.
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In its latest survey of the Business Jet MRO Market, Mordor Intelligence estimates that its compound annual growth rate (CAGR) during the next five years will register at 4.03% and should reach a market value of $4.36 billion by 2024.

Inventory for sale, which is a key market indicator, has been declining steadily over the past 10 years. This means the market for used aircraft is growing – which is good news for the MRO sector. This is because in most cases, new customers of old aircraft want to customize the cabin, which could generate demand for retrofits. Additionally, engines and propulsion systems are serviced before handing the aircraft over.

With ADS-B becoming mandatory in the United States in 2020, cockpit upgrades are projected to be a driving force during the forecast period. With many new models of business jets entering service and with the aftermarket activity of business jets strengthening, refurbishment providers are experiencing strong demand for their services.

**A Year of Acquisitions**

There’s been a lot of change happening on the MRO scene since we last checked in one year ago.

In Europe, Dassault Aviation has acquired the maintenance and FBO activities of RUAG in Geneva and Lugano – part of its strategy to develop a worldwide MRO network of excellence. The new company is now called RUAG MRO International. Effective early September, Dassault also completed the acquisition of TAG Aviation’s MRO organization, which include its service centers in Geneva, Farnborough, Le Bourget and Lisbon, along with its satellite facilities in Luton, Moscow and Sion (Switzerland). And as if that wasn’t enough, Dassault also acquired the 11 MRO facilities operated by ExecuJet.
All together, these MRO acquisitions mean Dassault Aviation to add 19 new facilities and nearly 1,000 service professionals to its global service network. “We are committed to placing our industry-leading Falcon factory service capabilities as close as possible to customers around the world, while offering the same level of top-notch service for other prominent OEM brands,” says Jean Kayanakis, Dassault Aviation’s Senior Vice President, Worldwide Customer Service & Service Center Network. “Our strategy is aimed at acquiring MRO operations that share our exceedingly high standards for customer service and that operate at the top end of the market.”

Last September, Jet Aviation acquired all joint venture shares from its partners in Vienna, Austria, making the MRO and FBO operation a fully-owned Jet Aviation entity. The company in Vienna was founded in September 2014 and now has 38 full-time employees. Vienna will remain a strong base for Cessna aircraft models, while Jet Aviation continues exploring the possibility of extending support to other OEM aircraft types.

At the time of going to press, Cyril Martinière, VP Regional Operations Europe & GM Jet Aviation Geneva, told BART that VTS Jets, a Russian MRO provider, had purchased the company’s Vnukovo-based maintenance operation. The transaction, which can be called unique for the Russian aircraft maintenance market, was signed on September 9th. According, to Andrey Akopov, General Director of VTS Jets, upon closing, his company will acquire the legal entity known as Jet Aviation Vnukovo LLC as part of the deal. VTS Jets is taking over management of the nearly 30 staff people, as well as all available equipment.

Jet Aviation Vnukovo has approvals from the Russian, European and American aviation authorities, as well as regulators from Aruba, Bermuda and the Cayman Islands (the most popular registers among Russian business jets owners). The company was authorized for work on Bombardier, Gulfstream, Embraer, Dassault Falcon and Hawker business jets.

The company will operate as Jetport Technics, although it will remain a subsidiary of VTS Jets. “Jet Aviation Vnukovo comes to us in its working condition and will not cease its production activities when the owner changes,” says Akopov. “Coupled with the resources of VTS Jets, we intend to further develop maintenance offerings for private jets.”

“It is always a difficult decision to sell an asset and say goodbye to partners and colleagues, but we strongly believe this is the best way forward, enabling continuity for both our customers and employees,” adds Jet Aviation President David Paddock. “We hope to work together again in the future and will continue to welcome and support Russian customers at other facilities throughout our network.”

**Strengthening the Service Portfolio**

There’s also a lot of MRO growth happening via new facilities and new authorizations. For example, Gulfstream Aerospace added two cities where most of its operators are located. More than half of the approximately 40 Gulfstream aircraft in Brazil are based in São Paulo and Rio de Janeiro, and more than a third operate out of Congonhas and Galeão. Another maintenance option for Gulfstream operators in Latin America is the company’s service center at Florida’s Palm Beach International Airport, where a new large facility (115,000-square-foot/10,684-square-meter) will be operational in the first quarter of 2020.

In the US, last August Gulfstream expanded its MRO operations at Wisconsin’s Appleton International
Textron opens EXTENSION Mobile Truck Bombardier Response new parts facility in Australia (top). Textron Aviation senior vice president, Global Customer Support. Kriya Shortt, Textron Aviation’s Response Team (center).

Last but not least, Bombardier Business Aircraft just opened a brand new Super Service Center in Miami-Dade, Florida. The new 300,000 sq. ft./27,870 sq. m. facility at Miami-Opa Locka Executive Airport features expanded maintenance capabilities and is fully equipped to perform scheduled and unscheduled maintenance, aircraft modifications, avionics installations and AOG support for all of Bombardier’s family of business jets. In other parts of the world, the company has expanded its service center at Seletar airport in Singapore and added new Line Maintenance Stations in Dubai and Biggin Hill, plus Mobile Truck Response Team (MRT) enhancements in the US and Europe and the addition of a dedicated Challenger 300 MRT aircraft.

Inside the Industry
TAG Aviation’s Maintenance Services Center in Geneva recently completed its first 60-month check on a Bombardier Global 6000 aircraft. The aircraft, which is owned by a private customer, underwent its first heavy maintenance check that included routine inspections and repairs as well as a deep clean of the aircraft’s cabin. This major maintenance milestone event marks the first time TAG Geneva performed such an inspection on a Global 6000 aircraft since their status as a Bombardier Authorized Service Facility (ASF) was extended last year.

Textron Aviation has set up a new Aircraft Maintenance Data Hub for owners and operators of Beechcraft, Cessna and Hawker aircraft. The new data hub, available since last summer, offers a more comprehensive record of all aircraft maintenance performed on Textron Aviation products by working with multiple industry tracking system providers. “While previously exclusive to CAMP, customers now have the flexibility to select the recommended provider that best fits their needs,” says Kriya Shortt, Textron Aviation senior vice president, Global Customer Support.

GE Aviation and FlexJet have implemented a comprehensive safety and fleet modernization project, including flight operations quality assurance (FOQA), quick access recorders (QARs) and cellular data services. The equipment will monitor Flexjet’s fleet of 150 aircraft, including Embraer Phenom 300 and Legacy
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SR Technics offers its customers a global production network for aircraft interior parts specialized in repairs (EASA Part-145) and manufacturing (EASA Part-21/G) for aircraft modifications.

SPAIRS covers a vast spectrum of interior parts such as panels and upholstery parts.

Comlux has been selected by DC Aviation Group to complete the VIP interior of an ACJ320neo aircraft. This new signing consolidates Comlux Completion’s order book with a total of four ACJ320neo VIP cabin contracts signed to date. Before flying to Comlux’s Indianapolis facilities, the aircraft, belonging to an undisclosed customer of DC Aviation Group, is to be delivered green by Airbus in November 2019.

Swiss-based maintenance facility Air Service Basel recently received authorization from the Mexican Civil Aviation Authority to support small and mid-size business aircraft registered in Mexico, including King Air, Textron and Falcon models. The facility, located at EuroAirport Basel-Mulhouse-Freiburg, is already approved by EASA, FAA and IS-BAH.

Jet Maintenance Solutions (Jet MS), part of Avia Solutions Group, became one of the first MRO companies worldwide to complete the 7,800 landings inspection on a Bombardier Challenger 604 – to date, only half a dozen aircraft have reached such a milestone globally. To perform such an inspection, Jet MS had to remove a majority of the main aircraft parts and components: engines, inner and backside fuel tanks, stabilizer and many others, which is not done during usual inspections after 48 and 96-month checks.

GDC Technics recently opened a new office in Bristol, UK. With this addition, GDC Technics now has two UK locations, with ongoing operations based out of offices at Bournemouth focused on offering technical and certification services. The Bristol offices will predominantly cater to both major and minor modifications for MROs, leasing companies, airline refurbishment, and reconfigurations. GDC Technics recently announced the approval of an STC for a Media Server and three Cabin Wireless Access Points, along with the completion of a head-of-state aircraft interior weighing under project estimates.

Atlas Air Service GmbH is now certified as a maintenance facility by the Canadian Aviation Authority. As an EASA Part-145 company, this MRO already has approvals from the aviation authorities of Russia, Ukraine, Bermuda and the US for various models from Embraer, Cessna, Beechcraft & Hawker and Saab.

After the closing of its maintenance operation in Zurich last year, SR Technics has now started the construction of a new six-bay hangar that includes significant back-shop facilities for its center of excellence (CoE) for aircraft maintenance and modification services in Malta. The facility is to be completed at the beginning of 2020.

ExecuJet Haite has expanded its EASA maintenance capabilities to include Beijing Capital International Airport, further enhancing its service offerings for EASA registered Dassault Falcon 7X/8X and Bombardier Global operators. The company holds CAAC, EASA, FAA, Cayman, Bermuda, Aruba, Hong Kong, and Macau approvals and offers line and base maintenance support on multiple Embraer, Dassault, Bombardier, and Gulfstream models, as well as line support for the Boeing business jet.

ExecuJet MRO Services Malaysia has also been certified by CAAC to provide line and heavy maintenance on Bombardier and Gulfstream aircraft. The approval covers Gulfstream GIV and variants of the Bombardier Challenger and Bombardier Globe Express series aircraft.

Lufthansa Bombardier Aviation Services (LBAS) has been approved by EASA to perform Line Maintenance Services and AOG services for the Bombardier Global 7500 at its home base in Berlin Schoenefeld. Moreover, LBAS can offer AOG services at any location worldwide for the Global aircraft.
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According to the Aviation Business Strategies Group (ABS Group), the FBO sector continues to grow. In its most recent Annual FBO Fuel Sales Survey, the Group reports that 75% of responding FBOs saw an increase in fuel sales in 2018 – with 20% reporting increases of more than 8%. Furthermore, respondents reported a 43% increase in transient ramp traffic in 2018.

Based on insights like these, the ABS Group expects to see moderate 1.5 – 2% growth in FBO activities (base customer aircraft movements, transient traffic arrivals, gallons pumped, etc.) in 2019. “With slower growth expected in business aircraft flight activity and hours flown, FBO operators should look at every facet of their operation to minimize costs and work more efficiently,” reads the report.

In terms of trends within the FBO sector, the ABS Group predicts that FBO selection will become increasingly based on safety standards. “Aircraft operators, particularly those flying internationally, will become more selective in choosing FBO service providers,” says the report. “The trend will be to favor those offering a minimum of at least a safety management system (SMS) and/or an IS-BAH registration designation.”

Following the structure of the safety management system for Business Aircraft Operators (IS-BAO), the IS-BAH certificate establishes criteria to ensure that the ground handling processes for aircraft, crews and passengers comply with ground safety and security standards.

To help pick the right FBO for you, BART has rounded up the latest from some of the industry’s leading players.

Expansion and Acquisition for Jet Aviation
Jet Aviation recently broke ground for a new hangar and office space at its West Palm Beach, Florida FBO. However, the company says this is just the latest step in its efforts to expand and improve its global network of 35 FBOs.

“Our acquisitions and facility expansions throughout the FBO network demonstrate our commitment to delivering industry-leading services exactly where our customers need them,” says Jet Aviation President David Paddock. “With General Dynamics support, we are moving strategically and purposefully toward our top priority of exceeding customer expectations across our full range of Business Aviation services.”

These activities include the company’s acquisitions of the Hawker Pacific chain of FBOs in Australia and Asia and of the KLM Jet Center businesses in Amsterdam and Rotterdam, the establishment of ground-handling services at Prince Abdul Mohsin Bin Abdulaziz Regional Airport in Saudi Arabia, and the refurbishment of a 600 square meter facility at Riyadh’s King Khalid International Airport.

In the US and Caribbean, Jet Aviation is busy building and renovating seven regional locations, including in Scottsdale, Arizona, where the company recently acquired a stake in the Scottsdale Jet Center. Furthermore, an entirely new FBO and hangar complex is nearing completion at Van Nuys, California and hangar expansions are happening in Teterboro, New Jersey and San Juan, Puerto Rico.

UAS Expands in China
Last year, global trip support solutions provider UAS International Trip Support announced a new partnership with Deer Jet. The partnership significantly expanded the company’s presence across China and ensured that UAS clients received privileged access to the Deer Jet FBO and station manager network – the largest in China. The move also guarantees the
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Universal Aviation expands to Argentina

Celebrating its 60th anniversary this year, Universal Aviation boasts a ground support network of over 50 locations across more than 20 countries. One of the newest to join this list is its Argentina location.

“Over the last few years, Argentina has become an increasingly popular destination for Business Aviation, particularly among operators who travel between Argentina, Brazil and Chile,” says Universal Chairman Greg Evans. “With the recent opening of Argentina to foreign companies, we were able to expand the Universal Aviation worldwide ground support network into Argentina to elevate standards there and better ensure the success of our clients’ missions there.”

Universal Aviation Argentina is based at Buenos Aires’ Ezeiza International Airport and supports all airports in the Buenos Aires area and all outlying stations. Universal Aviation Argentina can coordinate support to operators at more than 35 additional airports in Argentina.

TAG Farnborough Airport Goes Green

TAG Farnborough Airport isn’t just Europe’s leading Business Aviation airport, it’s also one of the most sustainable. The company was recently named the winner in the Energy and Carbon Transition category at the newly launched IEMA Sustainability Impact Awards 2019, recognizing the airport’s achievements in energy efficiency and carbon management.

“This award represents another important milestone in our ongoing energy efficiency and carbon reduction efforts,” says Miles Thomas, Environment Manager at TAG Farnborough Airport, said. “TAG Farnborough Airport is committed to developing its business in a responsible and sustainable way through the comprehensive management of our environmental impact.”

The Institute of Environmental Management and Assessment (IEMA) is the largest professional body for environmental practitioners in the UK and worldwide, with nearly 15,000 members. The new IEMA Awards recognize people and businesses that are transforming the world towards sustainability, with winners selected by a panel of judges featuring leading authorities in the environment and sustainability sector.

ExecuJet/Luxaviation Shows Safety Strength

ExecuJet, part of the Luxaviation Group, offers a complete menu of ground handling and concierge services from its global network of FBOs, including aircraft, passenger and baggage handling, fuel, aircraft valet and hangarage, security, customs and immigration, and limousine transfers. Recently, the company’s Brussels FBO gained IS-BAH Stage II accreditation. The FBO, which is located at Brussels International Airport just 10 km from the city center, features two VVIP passenger lounges, three meeting rooms, and full crew facilities.

“After being the first facility to achieve IS-BAH status in Belgium, we are extremely proud to mark this next stage of our development,” says An-Céline Claes, Brussels FBO Handling & Protocol Manager, ExecuJet. “The Stage II accreditation is testament to our team’s dedication to maintaining the highest levels of safety and service, particularly in the key areas of customer care and safety management.”

“Of the 10 IS-BAH certified FBOs in our global network, Brussels is the...
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Jetex Adds Third Location in Japan

Jetex has a global FBO portfolio that includes over 55 locations in 26 countries, including the recently opened location at Japan’s Kansai International Airport. The 300 square meter location, the company’s third in Japan, is equipped with private parking, lounge, meeting room, reception counter and customs and immigration services. The facilities operate 24/7.

“We have been operating in Narita and Haneda Airports since 2015 and believe Kansai to be a strategic addition based on the impressive 31.5% growth over the last 18 months,” says Adel Mardini, Founder and CEO, Jetex.

“Our commitment to exceptional customer experience is demonstrated through our services available in all 88 airports throughout Japan,” adds Toru Oshima, Jetex Japan. “We look forward to personally welcoming our customers from around the globe to Kansai.”

Air Service Basel Focused on Safety

Located at the southwest corner of the EuroAirport in Basel, Air Service Basel’s FBO terminal offers a full range of customer-focused services for Business Aviation, including aircraft hangar and apron parking, fueling, maintenance, management, passenger and crew support, and VIP handling.

Meridian Keeps it in the Family

Meridian has a proud history dating back almost 70 years. What started as a small aircraft maintenance business has evolved into a full-service Business Aviation company with a portfolio that includes FBOs in Teterboro, New Jersey, and Heyward, California. The company has the distinction of being the only family-owned aviation company at Teterboro.

Business Travels Go for Kurz Aviation Services

Located in Stuttgart, Germany, Kurz Aviation Services offers FBO services from its General Aviation Terminal. Serving nearly 36,000 passengers a year, the company’s facilities are heavily utilized by business travelers, who appreciate the VIP lounge with airfield views and unique catering offering. “Travelers and crews can settle down in our modern Relax easy chairs or take care of business using our free WLAN connection,” says a company representative. “Small conference tables are also available for short meetings and office work.”

In June, the FBO was granted the second stage IS-BAH certification. “We are very pleased to be recognized for our efforts in security, safety, service and the environment with our accreditation for the second stage of IS-BAH,” says Air Service Basel Quality Assurance Manager Uwe Paukner. “The second stage validates that safety and security are part of our daily practices and acknowledges the level of service we dedicate to our overall ground handling performance.”
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THE NEED FOR PROGRESS IN TRAINING NEVER ENDS

The on-going growth in demand for business aircraft training means that providers must expand their capacity and keep their training devices and courses up to date. LeRoy Cook scrutinizes the newest training innovations and approaches of leading providers.

Aviation training providers walk a perpetual treadmill of advancement, as new developments in the business flying industry demand continual upgrading of the material presented. Our cockpits are not static; new avionics and equipment mean added training is needed to keep abreast of the changes such devices bring. Rules and procedures are likewise subject to change. With each training cycle, fresh material is to be expected.

To be sure, some things never seem to change. Whenever we enter the simulator, we can always expect to encounter a dial-a-disaster. But, what better place to experience a crippled airplane’s handling and performance loss, and practice the procedures that guarantee our survival, than in simulated flight? Modern marvels of flight simulation have evolved with the environment they emulate and they now offer vastly increased capability. Gone are the old mechanical flight decks and darkened windows with pinpricks of light for faux scenery.

Today’s flight simulators and the supporting training centers behind them have vastly enhanced the productivity of training experiences. Scheduled training is valuable time taken away from flying company trips. Initial and recurrent training is an important aspect of safety, to be sure, but one that has to be designed to make the most of the time available. To achieve this goal, organizations offering training courses are constantly seeking ways to streamline and improve the process.

FlightSafety International

Renowned training provider FlightSafety International has recently entered into a joint venture with TRU Simulation+Training, Textron’s in-house initial and recurrent training arm. This combining of forces advances FSI and TRU’s ability to serve Citation and King Air customers, in ways not possible before. Final details of the joint venture will take effect by year’s end.

FlightSafety International has announced that Dassault’s FalconEye HUDs (head-up display) have been installed in Falcon business jet simulators at its Learning Centers in Paris, Dallas and, most recently, Teterboro, New Jersey. The upgraded simulators and training courses provide pilots with information and training to fully utilize the FalconEye Combined Vision System HUD. The courses address normal and abnormal operations, operating procedures and limitations, applicable to all phases of flight.

The FalconEye HUD combines database-driven terrain mapping and actual thermal and low-light images into a single view. The camera displays a 40 by 30 degree field of view with 1280x1024 resolution, ensuring full coverage of the viewing area without tunnel vision effects.

Steve Gross, senior vice president, Commercial, said: “Incorporating the Dassault FalconEye HUD into our simulators for the Falcon 900LX, Falcon 2000LXS, Falcon 2000S and...
Falcon 8X highlights FlightSafety’s commitment to develop and deliver training programs that meet the current and upcoming requirements of our customers.”

Demonstrating further advancements, FlightSafety International began offering Enhanced Flight Vision System touchdown and rollout training for Gulfstream Aerospace aircraft in July, 2019. The training is applicable to G280, G450, G500, G550, G600 and G650 airplanes, meeting the FAA training requirements for operators who want to use EFVS in lieu of natural vision to descend below DA/DH or MDA. Completion of the course allows pilots to obtain FAA authorization to begin approaches when visibility is lower than the published approach minima. Also, the courses help pilots identify failures affecting EFVS capability, and then to apply appropriate contingency procedures.

Dann Runik, senior vice president, Operations, said: “The development of these courses highlights our commitment to provide training that will enable our customers to take full advantage of the approval Gulfstream has received for the Enhanced Flight Vision System for approaches all the way to touchdown and rollout.”

For pilots who fly Gulfstream G650, G550 and G280 aircraft, FlightSafety has developed an Advanced Rejected Takeoff Go/No-Go Recurrent course. In this course, pilots will encounter 13 new simulator scenarios, each requiring a decision by the crew to either continue or reject the takeoff. The course will also help to validate the operator’s takeoff briefings, by testing them against various airports, environmental conditions and aircraft weights. As Dann Runik states, “Our new Advanced Rejected Takeoff Go/No-Go Recurrent course is designed to review and reinforce the skills and lessons learned during the Initial course.”

As these new HUD, EFVS and Go/No-Go training offerings from FlightSafety show, training can never remain a static course of instruction and practice. Equipment and emphasis is constantly in evolution, requiring changes in curriculum and the simulator environment.

**CAE**

CAE, founded 72 years ago as Canadian Aviation Electronics, is the global leader in civil aviation training and associated markets, with more than 10,000 employees at 160 sites in 35 countries. The list is expanding, with CAE’s recent announcement of brand new training centers in Bangkok, Thailand and Gurugram, India, near New Delhi. The latter will be a joint venture with InterGlobe Enterprises.

Nick Leontidis, CAE’s group president for Civil Aviation Training Solutions, says: “These new training Centers will provide local training solutions to meet the growing needs of our customers in Asia. Asia is set to have the strongest demand for pilots over the next two decades, and CAE will be there to support growth in the region with the most comprehensive training solutions.”

As announced in a 21 May 2019 EBACE press release, CAE recently launched an electronic training and checking authorization (eTCA) to better manage booking requests for training centers dedicated to business aviation. Pilots may now book their training requests in a few simple clicks, using CAE’s eTCA digital solution. Initially available at the Amsterdam, London Burgess Hill and Dubai training centers, eTCA is being deployed to additional sites in the EASA network.

CAE is continuously rolling out integrated technologies and services to reduce the complexity of managing pilot training before, during and after full-flight simulator sessions. New digital solutions are improving the training experience at key customer interactions – from scheduling training events to preparing for ground school and simulator sessions.

Under the leadership of CAE’s President and CEO Marc Parent, the company has evolved from primarily being a builder of flight simulators into a provider of total training solutions, from ab initio pilot training to full career training for civil, airline and business needs. Currently, more
than 220,000 crewmembers, including over 135,000 pilots, train with CAE each year. Further expanding its business aviation niche, CAE acquired Bombardier’s Business Aircraft Training enterprise in late 2018.

CAE forecasts, over the next ten years, that business aviation will require at least 10,000 additional pilots, to handle growth in deliveries of new aircraft and utilization of the existing fleet. This is in addition to the 40,000 replacement pilots that will be needed to take over due to retirements and other changes. This is because of a 4% attrition rate for pilots, as the average age of business jet pilots stands at nearly 50 years, and another 4% loss because of business pilots who are expected to move to airline cockpits. Compounding the problem, an additional 27,000 business aircraft will join the fleet by 2028, according to CAE.

The CAE Rise™ training system, introduced last year, enables the translation of simulator training data, giving invaluable insights for instructors and training managers. As recurrent training has evolved from prescriptive checklists to competency-based assessments, training providers are now leveraging new sources of line and training data. CAE says the CAE Rise system can arm instructors with the capability to provide objective assessments of pilot maneuvers in real time.

SIMCOM
SIMCOM Aviation Training provides factory-authorized training for the Pilatus PC-12 series, Daher TBM series, Mitsubishi MU-2 and One Aviation Eclipse. In addition, SIMCOM offers training in Beechjet 400A, Cessna Citation series, Dornier 328J, Falcon, Hawker, Learjet and Westwind jets, and Cessna Caravan and Conquest, Piper Cheyenne, Beech King, Jetstream, Saab 2000 and Turbo Commander turboprops. SIMCOM training centers are located in Orlando, Florida and Scottsdale and Glendale, Arizona in the USA, as well as Kirkinton in the UK. The company’s 47 simulators are staffed with over 100 instructors, conducting 6,000 training events per year involving customers from more than 80 countries.

SIMCOM prides itself on small class sizes, allowing instructors to focus on the training needs of individual pilots. As the company puts it, “customers are encouraged to ask questions, learn new concepts and build their aviation knowledge and flying skills.” As business aircraft operators retrofit their cockpits with new-generation avionics, they will require training in
Your Swiss Partner for Aviation Safety and Compliance...

Now celebrating 100 years of combined aviation experience
SIMCOM is offering initial, recurrent and upgrade training for Citation Mustang aircraft.

As training providers seek better ways to deliver advanced programs, it is not uncommon to see partnerships formed between providers. As stated near the beginning, we saw this earlier this year when FlightSafety International and TRU Simulation +Training agreed to join hands, combining forces to serve Textron Aviation customers as FlightSafety Textron Aviation Training. TRU will supply new simulators for Textron Aviation aircraft, and FlightSafety will continue and expand its 40-plus year relationship with Textron customers.

Our investment in SIMCOM is another step in the expansion of CAE’s business aviation training business that gives us access to a rapidly growing customer base as Directional Aviation affiliates’ exclusive training partner for the next 15 years.

Eric Hinson, president and CEO of SIMCOM, added: “We are extremely pleased to partner with CAE and leverage their industry-leading technology and training expertise to better serve our customers.”

The Future Appears To Be Limitless

The ongoing growth in demand for business aircraft training means that providers of ab-initio, initial upgrade and recurrent training must expand their capacity, and they must keep their training devices and courses up to date to mirror developments in flight deck technology. As aging business aviation pilots approach retirement, and the fleet of corporate aircraft grows, there will be a never-ending need for more well-trained pilots. We can expect to see added training centers and expanded plant size at existing centers, in order to meet the demand.
Join thousands of business leaders, government officials, manufacturers, flight department personnel and all those involved in business aviation for the European Business Aviation Convention & Exhibition (EBACE2020), which will take place at Geneva’s magnificent Palexpo from 26 to 28 May. This is the perfect venue for investors considering aviation as a business opportunity; companies thinking of using an aircraft for business; and flight departments who have long used aircraft as a valuable business tool. Save the date and visit the website to learn more.
As the only international Business Aviation exhibition in Russia and the CIS countries, RUBAE offers a unique opportunity to meet representatives of nearly all the leading bizav companies under the same roof. Among this year’s exhibitors were business jet manufacturers, operators, brokers, designers, and providers of the entire range of services, ranging from restaurants providing on-board catering to ateliers ready to provide unique interior upholstery.

Aviation authorities also played a big part in RUBAE 2019. In his welcoming speech, Russian Minister of Transport Yevgeny Dietrich noted that the exhibition, held at Europe’s largest Business Aviation center, is the best venue in terms of resolving business issues and discussing current issues on the development prospects of the industry.

OEMs Come in Force

If Business Aviation is an indicator of the economy, then RUBAE would indicate that the Russian economy is heavy on large state-owned companies and light on SMEs. This can be seen in the fact that the majority of the jets on display were of the long-range and heavy classes that these large companies can afford. The light jets, such as the Phenom 100, Cessna M2, which SMEs tend to favor, are no longer seen on the static display as they were in years past. The only exception was the Pilatus PC-12 of the Belarusian airline BySky and a Piper M-600. All of the other aircraft were the newest, largest, longest range and the most expensive business jets on the market.

Two of these jets, the Gulfstream G600 and the Bombardier Global 7500, made their RUBAE debut. The Global 7500 is designed to seat up to 19 passengers and is the longest range aircraft in its class. It can fly 14260 km and make non-stop flights between New York and Hong Kong.
Embraer brought its Phenom 300E (below left), while Airbus showed an ACJ-319 (below right).

or Singapore and San Francisco. According to Bombardier Business Aircraft, between 15 to 20 deliveries are expected this year, and by 2020 they should increase to 35-40 aircraft. In Russia, Bombardier aircraft are traditionally in demand and highly respected, with 18 aircraft registered in the country with the extremely unpopular ‘RA’ prefix.

Likewise, Gulfstream too is highly regarded in Russia. The most popular amid Gulfstream models remain those in the upper price segment, including the G650, G650 ER, and G550. Knowing that Russians prefer large and expensive aircraft, in addition to the G600, Gulfstream also brought its G280 and G650ER to the show. Deliveries of the new flagship G600 began only this month. The Russian representative office of Loyds, which is a dealer of Gulfstream aircraft in Russia and the CIS countries, noted that RUBAE was very eventful in terms of meetings with potential customers.

Dassault Aviation also had a large presence, introducing its flagship Falcon 8X and the universal 900LX. In addition, guests were also able to visit the full-scale mockup of the Falcon 6X, a new business jet with an ultrawide fuselage section. The project is currently in the certification stage, with first deliveries expected in 2022. The model will become the most spacious, modern and universal twin-engine business jet in its class. The 6X will be able to cover distances of up to 10186 km. It inherited many of the 8X benefits, including a quiet cabin and unprecedented performance characteristics on short runways.

“Our three-engine jets are well-known for their high level of flight safety and reliability, as well as the absence of restrictions on ETOPS standards and unsurpassed performance when operating on short runways – all benefits that are highly valued in Russia and neighboring regions,” says Gilles Gautier, Falcon’s vice president of sales at Dassault Aviation. “We expect Russian customers to warmly welcome the 6X, our new product, which has the highest and widest cabin among business jets.”

Russia and neighboring countries are becoming one of the most sustainable markets for the ultra-long range Falcon 8X. The jet can cover a distance of 11945 km and is able to fly non-stop from Moscow to Los Angeles, Cape Town and Darwin or from Rio de Janeiro to Moscow. The aircraft is characterized by the same high operational flexibility as its predecessor, the Falcon 7X, which still remains in demand on the Russian market. It is worth mentioning that the Russian presidential squadron operates two Falcon 7X jets.

Brazilian manufacturer Embraer focused the RUBAE spotlight on its medium-sized business jets, the Phenom 300E and Phenom 500. Due
to the pricing policy and the high quality of the business jets produced, the Embraer brand has earned popularity among a significant share of Russian business jet owners. Today, almost all Embraer models are operated on the Russian market, including the light Phenom 100 and the latest Phenom 500. The Legacy 600/650 remain the company’s bestseller in Russia.

Belarus in the Middle
Only one Belarusian commercial Business Aviation operator, BySky made its debut at RUBAE, bringing with it the Pilatus PC-12NG. The airline is based in Minsk and began operations in March 2018. BySky Commercial Director Elena Vesnyachok noted that the debut at the exhibition is primarily connected with the need to present the company to the Russian market – both customers and brokers. The location of the BySky fleet in Minsk allows the operator to successfully operate flights to both Russia and Europe.

“The Belarusian market, although still young, is surprising by its activity, and we see great potential in the future,” says Vesnyachok. “We also have lots of Russian customers thanks to our ability to make legitimate commercial transportations on the territory of the Russian Federation and inside the Customs Union and thanks to the Belarusian fleet registration that allows us to avoid cabotage.”

A Big Debut
For the first time, Airbus Corporate Jets made an appearance on the static display, showing one of its most popular models in the narrow-body aircraft segment – the ACJ 319. The operator of the presented aircraft with registration number OE-LJG is Austrian business operator MJet. The aircraft is designed for comfortable accommodation of 19 people and the cabin is divided into several zones: a negotiation area, a living room, as well as a spacious bedroom with a shower cabin. In total, around 200 ACJs are operated in the world, with about 30 in the CIS countries. Airbus Corporate Helicopters was also at the show, presenting a private-owned H125 helicopter.

A Russian-made Surprise
The most unexpected aircraft at RUBAE was a Russian-made TU-204 aircraft in VIP configuration. The aircraft interior is made by the Russian company Vemina Aviaprestige, who specializes in the design and manufacturing of interiors for VIP and VVIP-class aircraft and helicopters. This TU-204 is often used by the Russian Ministry of Industry and Trade.

Growing Bizav in Russia
For the second year, the Russian United Business Aviation Association of (RUBAA) conducted an extensive business program at RUBAE. This year it was devoted to the issues of cyber security in Business Aviation, the new IS-BAO standards, and fresh solutions in the context of the digitalization of the market. The business program allows RUBAE to attract a wider audience, including representatives of international business circles. In addition, the enrichment of the exhibition format at RUBAE creates the main analytical and key discussion platform for negotiations and the development of proposals aimed at growing Business Aviation in Russia.

“This year we witnessed an important event, as for the first time in history we held a joint session with the European Business Aviation Association (EBAA),” says Anna Serezhkina, Executive Director of RUBAA. “We discussed the performance of flights on foreign registered aircraft in Russia and Europe, the status of the market, investment projects, and business opportunities in Russia.”

A Change in VAT
A pleasant surprise that followed immediately after the close of the RUBAE exhibition was the government’s adoption of a bill introducing a zero rate of value added tax (VAT) for the import of aircraft and helicopters into the Russian Federation. The change will affect aircraft that have been imported into the Russian Federation and are registered in the state registry of civil aircraft.

Specifically, the bill provides that the import of such aircraft and helicopters will not be subject to VAT, a move that will ensure the development and modernization of civil aviation. It is proposed to exempt the importation into Russia of civil aircraft, as well as aircraft engines, parts and accessories, printed media, prototypes and other components necessary for the development and testing of such aircraft from VAT.

Let’s hope that such measures will indeed provide an incentive for the import of new business jets to Russia and next year RUBAE guests will be able to see an even wider range of business jets!
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Landing in a strong, gusty crosswind is a skill that pilots must master. 

and being the valuable commodity that it is, it’s becoming more and more difficult to find an airport offering a choice of runway directions – other than the two alternate ends of a single strip of pavement. And so, more often than not, we’ll be faced with exercising our crosswind takeoff and landing skills. This task does not come naturally; proper alignment is something that must be forced on the airplane.

If I am called upon to evaluate a pilot’s airmanship, the one series of maneuvers I’d like to see is a crosswind takeoff, circuit and landing. That tells me if the person at the controls truly has command of the aircraft, because airplanes do not cope with a sideways wind on their own. Left to their own devices, they will be happy to depart the narrow confines of the runway, drifting away under the influence of an angled wind.

Of course, we were all taught the rudiments of crosswind operation in the early days of our piloting career, but it never hurts to review the basic of hands-on flying. The objective, during any runway operation, is to maintain landing gear alignment with the aircraft’s track, which hopefully will be along the runway centerline. At the same time, lateral movement, caused by wind acting at an angle to the aircraft’s longitudinal axis, must be resisted.

Picking Up the Gauntlet

As takeoff begins, the friction of the landing gear rolling against the runway surface will hold the airplane on a straight path, but as the wings develop lift, particularly at rotation when the nosewheel is removed from contact, resistance of the landing gear lessens and aerodynamic forces become primary. A crosswind component will then act to push the aircraft toward the downwind side of the runway, and a weathervaning yaw will attempt to turn the aircraft’s longitudinal axis into the wind. In the absence of pilot input, the forces produced by sideways scrubbing of the maingear tires will develop severe stress on the gear, alleviated only by liftoff if not corrected.

Hopefully, the pilot will have anticipated the wind’s influence and will steer straight, first with the nosewheel and then with more reliance on downwind rudder as the takeoff run progresses. In extreme cases, differential power application from wing-mounted engines, using greater power on the upwind engine, can help maintain control early in the takeoff run. Additional rudder input may be needed as rotation occurs. Upwind roll control application, applied to create sideslip and negate the crosswind, must be used judiciously, to avoid excessive drag from up aileron or roll spoiler. Use only enough aileron to counter the wind drift. Once free of the surface, rudder pressure is released and a crab angle is set up that keeps the climbout path aligned with the centerline. However, this crab may be modified to comply with a “maintain runway heading” clearance by ATC.

The Arrival

Anticipation of the wind’s effect should be in mind long before reaching the runway. Listen to the ATIS broadcast or look at the uploaded current weather for the airport to calculate the effective crosswind for the expected runway in use. Low altitude wind experienced during the arrival segment may not mirror the surface winds, particularly above 1,000 feet AGL. If visual, consider the wind influence that will be encountered on the base leg. With a following wind on base, you’ll need to turn in earlier to reach a straight final approach without correction, and you may wind up a bit high on the glidepath, because there will be less time spent on the base leg. If a headwind is expected on base leg, the reverse will be true; the final turn should come a little later than usual and you might need to add some power to stay at or above the glideslope lights, since you have been flying on the base leg for a longer period of time.

If in the clouds, you’ll see the crosswind’s effect developing as you join the final approach course. There will be noticeable split between the
inbound course and the heading required to stay on track. Expect that number to change as you descend, but you should increase your scan rate to watch the localizer symbology more closely. If flying manually, don’t just turn onto the published inbound course. Be prepared to fly a heading that keeps the localizer centered.

At breakout, do not be surprised to see the runway behind a windshield frame or in the copilot’s side of the windscreen. That’s your clue that it’s time to go to work. Part of flying a stabilized approach is have the airplane’s track in alignment with the runway. This may not mean flying one’s final approach with the downwind rudder pedal bent over and aileron cranked in to lower a wing, thus generating sideslip to exactly cancel the wind drift. Crosswind correction technique depends on pilot and aircraft preference. However, at some point before touchdown the aircraft’s longitudinal axis will have to be brought around to approximate the runway heading.

A slipping approach, flareout and touchdown is a holdover from training in light aircraft, whose slow groundspeed allows a crosswind component have a greater influence. A wing-low landing works in business aircraft manufacturer favor, do not consider the landing finished at touchdown. A crosswind, particularly one with gusts varying its influence, requires continuing pilot inputs during the rollout. Make sure the downwind tire is in solid contact before applying the brakes, or you’ll get an antiskid cycle, if not a flat spot on the tire from locking up the wheel. Reverse thrust with aft-mounted engines requires careful attention to runway alignment; if applied when misaligned, the thrust vector will pull the airplane toward the downwind edge of the runway.

Once you’ve rolled off the runway, keep a hand on the controls to avoid wind damage from a gust forcefully shoving a control surface to the stop. After parking, apply gust locks and any other devices needed to preclude wind injury.

What’s the Limit Here?

Every aircraft has crosswind limitations, and you’ll need to respect them by calculating the amount of sideslip that can be taken on. Crosswind charts depict windspeed arcs and radial lines to match the angular difference between wind and runway, with the headwind component shown in the vertical scale and the crosswind component at the bottom, on the horizontal scale. For a rough rule of thumb, consider winds blowing at 30 to 45 degrees off the runway to be half crosswind and half headwind; if the wind is 50 degrees or greater to the runway direction, I’ll treat it as all crosswind.

If the wind is reported as gusting, use the higher gust figure in your calculations. Ask the tower controller for a wind check on short final, if there’s any uncertainty. If the airport has perimeter and midfield wind readouts, you’ll want to use the wind report closest to the touchdown zone, but beware of rapidly-shifting winds if a thunderstorm is close by. This windshear danger is particularly noteworthy during a takeoff and climbout, when the aircraft is heavy and additional power is not available.

Respect the ops manual’s crosswind limitations; they are not suggestions, they were derived from testing, using average piloting techniques, and they are probably close to the aircraft’s limits. An airplane’s maximum crosswind capability is reached when running out of downwind rudder that can be applied to maintain runway alignment. At the risk of scraping a flap or wingtip, one can always force a wing down with aileron in an effort to generate more sideslip, but if you can’t counter that bank with rudder it will simply turn the aircraft into the wind. Plant the aircraft firmly, without trying to float it gently onto the runway, and get the nosewheel down quickly to gain its steering and rolling resistance.

Crosswinds are simply a fact of modern aviation; gone are the days of “flying fields” with expanses of greensward allowing operation into the wind. Be prepared to do combat.
Leadership is a key skill for pilots. This is often repeated in command courses and management seminars.

Leadership is the force that drives a pilot in command (PIC) to guide his team to act in the best way practicable.


This particular fatal aircraft accident highlights the damage the lack of such leadership qualities may cause.

The fatal crash of a Learjet 35A in 2017 illustrates this perfectly.

Michael R. Grüninger and Capt. Andreas Grauer report

The cockpit audio transcripts reveal dysfunctional cockpit operations between the pilots.

BOTCH

PIC SHOUTS #$@$&%! ALONG AND CRASHES

Every pilot should understand the basic concept of leadership and its underlying elements as it is a quality that can profoundly influence flight safety.

The fatal crash of a Learjet 35A in 2017 illustrates this perfectly.

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Leadership is a key skill for pilots. This is often repeated in command courses and management seminars.

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This particular fatal aircraft accident highlights the damage the lack of such leadership qualities may cause.

The Last Leg of the Day

The PIC and his second in command (SIC) started their working day in the morning of May 15th, 2017. The crew was required to fly three legs on that day, from Teterboro, New Jersey, to Bedford, Massachusetts, thereafter to Philadelphia and then back to Teterboro. They were scheduled to land in Teterboro by mid-afternoon.

The weather was good, with prevailing visual meteorological conditions. For the final leg, at around 3 pm, from Philadelphia (PHL) back to the starting point Teterboro (TEB) the crew filed an instrument flight rules plan under Part 91 as a positioning flight without passengers.

The aircraft flown was a Learjet 35A, N452DA, operated by Trans-Pacific Air Charter, LLC.

The Crew

The 53-year-old PIC held an ATP certificate with 353 flight hours as PIC on the Learjet 35. His training and professional records were not without stains. He was refused to be given certificate approvals on the first attempt repeatedly, and before working for Trans-Pacific, he had been unemployed as a pilot for about 6 months. Prior to being hired by Trans-Pacific as a PIC, he had served as a SIC only. Trans-Pacific had sent him to a 4-day recurrent training on the Learjet. During the first simulator training session, the PIC was graded “not yet proficient – additional training required” for engine failure, circling approach and landing from a circling approach maneuver. After he had received additional training, the instructor stated in an email to the training center’s Learjet manager that the PIC was not recommended for a check ride and that he needed additional training on circling approaches. Additional training was delivered to the PIC. Finally, the PIC succeeded in passing his simulator check ride in July 2016.

The 33-year-old SIC had his own rather shaky training history. He too failed circle-to-land training during his 2016 simulator training. In addition, he struggled with normal procedures, and lacked basic flying skills leading to crashes during simulator training.

Circle to Crash

Circling approaches are indeed demanding. On the day of the accident, the crew did not properly plan
for the flight. The investigators based this conclusion on the fact that the filed IFR-Flight Plan was inaccurate and that the latest weather information was not checked prior to the flight.

The flight from PHL to TEB is short, it takes less than 30 minutes. During the flight it is not possible to reasonably prepare for the approach, unless the flight has been properly planned for and the approaches studied beforehand.

When the Learjet flew towards TEB, the crew got confused about the approach given by ATC. ATC wanted the crew to fly the ILS-approach towards Runway 06 to then circle to land on Runway 01.

The approach profile followed by the crew did not match the required altitude, and the break-off point to turn right to line up with Runway 01 was missed. Wrong setting of navigation equipment and confusion in the cockpit about the required course of action worsened the lack of situational awareness.

In addition, the SIC was the flying pilot, while company procedures prohibited the PIC to hand over the controls to the SIC.

During the final turns towards Runway 01 and being too high and to close to it, the pilot allowed the aircraft to decrease speed to below stall speed. The SIC shouted “airspeed, airspeed!” The PIC answered with “4”. The aircraft stalled and impacted in a parking lot about 0.5 miles south of Runway 01 at TEB.

The crew perished, three buildings and 16 vehicles were damaged or destroyed by the impact forces and post-crash fire.

Improvising

The CVR transcript reveals how stressed the cockpit atmosphere must have been. The short flight to TEB did not provide for enough time to thoroughly prepare for a change of runway and the crew mishandled the approach.

Situational awareness was lost, and the designated break-off point was missed. Being so near to the landing runway without being properly aligned induced the pilot to execute a sharp bank maneuver at low altitude, and the speed was too low to avoid a stall.

**Poor Leadership**

Considering the Forbes leadership criteria, the PIC did not demonstrate that he was applying the leadership qualities proposed by the Forbes Magazine:

1. **Sincere enthusiasm:** The crew was merely performing a job. The PIC, also through the use of foul language and lack of flight planning, didn’t show any sign of sincere enthusiasm for the flight.
2. **Integrity:** Operational procedures, such as the prohibition in the manual of letting the SIC fly this particular flight, were not followed.
3. **Great communication skills:** The conversations did not show good communication. At times, there was even no communication. While reading the Cockpit Voice Recorder transcript, one thing pops out prominently: the high frequency of expletives being used by the PIC. This is disturbing in a professional environment and suggests that pressure and stress had to be released by the PIC, while, at the same time, reinforcing himself by adopting foul language.
4. **Decisiveness:** Once it became clear that the ILS approach toward Runway 06 was not stabilized, the PIC should have decided against the continuation of the approach and opt for a missed approach.
5. **Managerial competence:** Managers plan the course of action before they engage in it. The flight plan details suggest that the PIC did not plan the flight as required by regulations, SOPs and good airmanship.
6. **Empowerment:** It could be argued that the PIC, by allowing and tutoring the SIC into flying the aircraft on that particular flight, tried to empower the SIC to perform as pilot flying. However, empowerment does not mean to allow unqualified personnel to perform high-risk activities.
7. **Charisma:** The PIC adopted frequent foul language and thus deteriorated the cockpit atmosphere to an informal level. In a cockpit, the appropriate level of communication and interpersonal exchange must be professional, particularly during critical phases of the flight such as approach and landing. The PIC displayed a charisma, which prevented him from promoting a professional conduct of the flight. Critical safety information was not given its weight but was implicitly ridiculed by the foul language. This drew the attention away from fully appreciating the consequences that disregarding that information would have for the safety of the flight.

**What to Learn?**

Leadership is vital. No one in aviation would argue against that statement. However, it seems that in many organizations that idea is still not adopted at all levels. As the investigation results suggest, many stakeholders knew about the difficulties of that captain, but still it was possible that he could get away with such conduct in a commercial air operation. There may be multiple reasons why nobody took the necessary action – including good intentions combined with own leadership deficiencies.

As players in the “aviation game”, what can we do about this?

As managers, we will have to put our focus on leadership training, coaching and monitoring.

As pilots, we will have to promote the leadership principles by adopting them ourselves and by taking appropriate action when we are confronted with unacceptable behavior. This includes addressing the issue directly in the cockpit as well as reporting such events when necessary.

Foul language is only an indicator for poor leadership – but it can be a valuable one.

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**Michael R. Grüninger** is managing director of Great Circle Services (GCS) Safety Solutions and Capt. Andreas Grauer is the deputy managing director of GCS. GCS assists in the whole range of planning and management issues, offering customized solutions to strengthen the position of a business in the aviation market. Its services include interim and start-up management, training and auditing (IS-BAO, IOSA, EASA), consultancy, manual development and process engineering. GCS can be reached at [www.gcs-safety.com](http://www.gcs-safety.com) and +41 41 460 46 60. The column Safety Sense appears regularly in BART International since 2007.
The market for the sale and acquisition of business aircraft is continuing to grow. A company’s flight department is told to locate an aircraft to purchase that meets the needs of the company. Initially, the flight department must be aware of the market for its selected make and model of pre-owned aircraft. In addition, the flight department personnel involved in the aircraft purchase need to know how to identify a back to back (also called a B2B and a flip) transaction. There are several indications that the aircraft transaction may be a B2B, but they are subtle and easily overlooked if the company is not actively looking for these indicators. Consequently, knowing the indicators, asking questions and including contractual protection mechanisms can help protect the company’s interests.

What is a B2B?
A B2B aircraft transaction involves the current owner of the aircraft (Owner) who enters into a contract to sell the aircraft to an intermediary (Intermediary) and the Intermediary enters into a contract at the same time to sell the aircraft to the buyer (Buyer). Accordingly, on the closing date, title to the aircraft transfers from the Owner to the Intermediary (without registration in the name of Intermediary) and then immediately transfers to the Buyer and the Buyer registers the aircraft with the aviation authority.

The aviation transactions industry is aware of B2B transactions, however few aircraft buyers or sellers are aware of B2B transactions. In a B2B, the Buyer and the Owner do not have a direct contractual relationship, even though the transfer of title from Owner to Intermediary to Buyer is nearly simultaneous. Some brokers are also dealers and they purchase an aircraft, register it in their name, have upgrades performed and then market it for sale. These transactions are transparent and do not fall within the scope of this article.

When to Use a B2B?
There are times when it is beneficial to utilize a transparent B2B. Ordinarily, if each party is aware of the B2B, the other parties and the costs, then each party negotiates for its desired terms.
If the flight department elects to purchase an aircraft registered in a foreign jurisdiction and the Buyer and its lender want to purchase an aircraft already registered in the Buyer’s selected registration jurisdiction, the broker, as the Intermediary, enters into a contract with the Owner to purchase the aircraft and the Intermediary enters into a substantially similar contract with the Buyer to sell the aircraft to the Buyer after the aircraft is registered by the Intermediary in the Buyer’s desired jurisdiction with a certificate of airworthiness issued by the aviation authority of that jurisdiction. The transaction is transparent to all parties, the parties agree on who pays for the various parts of the B2B transaction and consequently the Buyer knows it is paying the broker, as Intermediary, to perform additional services beyond serving as a broker for the Buyer. This transparency allows each party to address its risks in the transaction.

A B2B transaction may arise because the flight department wants to hire a broker to advise it with respect to the purchase, but the company will not pay a broker. A broker may become involved by becoming the Intermediary which purchases the aircraft from the Seller and sells the aircraft to the Buyer. Although the flight department may be aware of the B2B, the company executives, lawyers and tax advisors may not receive the necessary facts when negotiating the terms of the purchase.

Some buyers, do not want their name disclosed to the Owner, and accordingly want to use a B2B to disguise their identity. Notwithstanding the desire for privacy, purchase agreement terms, export control and anti-money laundering laws and regulations may require disclosure of the name of the new owner and the source of the funds used to purchase the aircraft.

Know the Seller and the Owner
If the flight department wants to ensure it has all of the facts, it should first check the name of the “Seller” in the purchase agreement against the name of the registered owner of the aircraft. Some aviation authorities, such as the United States, register an aircraft in the name of the owner, which allows a Buyer to easily identify the Owner. In jurisdictions where aircraft are registered in the name of the operator, the Buyer can require the Seller to provide copies of each bill of sale in the chain of ownership back to the initial purchase from the manufacturer.

If the “Seller” in the purchase agreement is not the owner of the aircraft, ask why the owner is not a party to the purchase agreement. Listen to the answer and if the answer does not alleviate all of the concerns, thoughtfully consider a response and the next step.

Purchase Agreement Negotiations – Ask Questions
Consider the amount of time between when the flight department sends the Seller a purchase agreement draft and when the Seller responds. Does the response time seem excessively long? Is the flight department just anxious to arrive on time for its scheduled slot at the inspection facility? A longer response time may be due to the unavailability of a decision-maker, but it may also indicate that the aircraft purchase involves a B2B. Consequently, ask more questions.

When the flight department receives a revised draft of the purchase agreement from the other party, do the comments respond to the flight department’s comments or at least acknowledge those comments? Can the person negotiating on behalf of the other party explain the changes made to the purchase agreement and can they explain why they ignored some of the comments the flight department provided? A B2B requires the Intermediary to negotiate two contracts and the Intermediary may significantly underestimate the time required by the Intermediary to negotiate with two different parties and document the agreement of two different parties while not informing those parties of the B2B transaction. Consequently, this can result in an extended period of purchase agreement negotiations and may even result in new terms being introduced into a purchase agreement near the end of the negotiation process. If this occurs, then ask more questions.

Who has Rights to the Deposit?
One of the risks of a B2B involves the deposit. If a company, as the Buyer, places a deposit in escrow, the company believes its deposit will apply only to the purchase agreement to which it is a party. The Buyer sending the deposit does not want the Intermediary using the Buyer’s deposit to become the deposit for the contract between the Intermediary and the Owner.

At this point in the transaction, the escrow agent may ask questions about why it appears that two transactions involve the same funds for the deposit under both contracts. In many jurisdictions, an escrow agent must (for anti-money-laundering and other governmental requirements) know all of the parties in order to perform governmental required due diligence checks.

The Buyer wants to retain its rights to its deposited funds per its purchase agreement. If the Intermediary did not place an addi-
nional deposit into escrow for the contract between the Intermediary and the Owner and then the Intermediary defaults under that contract, there is a risk that the Owner may terminate its contract with the Intermediary and receive the Buyer’s deposit, even though the Buyer has not defaulted under its contract with the Intermediary. In the event of a dispute over the deposit, the escrow agent may place the deposit with a court and require the parties to participate in a court proceeding to determine who receives the deposit. The Buyer may have difficulty recovering the amount of its deposit and its other costs from the Intermediary. In addition, if the Owner defaults and the Intermediary is unable to convey the aircraft to the Buyer, the Buyer may have claims against the Intermediary, but may be unable to collect from the Intermediary.

The Inspection and Conflicts of Interest
The Buyer will want to determine the scope of and oversee its pre-purchase inspection. When a broker is the Intermediary in a B2B, conflicts regarding the scope of the pre-purchase inspection may arise between the Buyer and its broker if its broker is the Intermediary. The Buyer’s goal is to obtain an airworthy aircraft following a thorough pre-purchase inspection during which discrepancies have been identified and then repaired, even if it requires an additional two weeks to close, while the Intermediary’s goal may be to promptly close. The Buyer’s desired inspection scope may be rejected by the Intermediary and may never be conveyed to the aircraft’s Owner if the Intermediary in the B2B is focused on closing as soon as possible.

The Buyer also wants to send representatives to the inspection facility, receive a copy of the inspection report, and have its representatives on any test flight allowed by the purchase agreement. In a B2B transaction, there are two “buyers” and if the ultimate Buyer is denied any of these standard rights in the purchase agreement or during the inspection period, then ask more questions.

Financing the Purchase – Lender Concerns
If the Buyer obtains financing, the timing of the release of the lender’s funds can be challenging. A lender may not release its funds to a party (Intermediary) which does not have title to the aircraft.

Taxes – B2B Complexities
Tax issues must be reviewed in a B2B. If the Intermediary is in the chain of title, how does this affect the transfer tax planning performed by the Buyer’s team? If a Buyer does not plan for transfer taxes for the double transfer involved in the B2B because Buyer is unaware of the B2B, Buyer is at risk of tax claims and even at risk of a lien on the aircraft for taxes which may be owed because the transaction was a B2B.

Changing Aircraft Registries – Additional Complexity
If the aircraft is registered on one jurisdiction’s registry when owned by the Owner and the Buyer will be registering the aircraft with a different registry, this adds significant complication to the documentation and the closing process of a B2B. The Owner’s registry may de-register the aircraft and notify the recipient registry that the Intermediary will be registering the aircraft. If the Intermediary fails to register the aircraft or is not eligible to register the aircraft at the recipient registry, the Intermediary may not have a valid method to transfer title to the Buyer and the Buyer may have released its funds to the Intermediary, only to discover that Buyer does not receive good title to the aircraft due to the B2B.

Protecting Your Interests
The Buyer expects its representatives to protect the Buyer’s interests in the aircraft purchase transaction. Consider the reaction of the Buyer’s executives if, after closing, the CFO discovers an internet ad with a photo of the purchased aircraft with a “sold for $xxx” banner. The $xxx amount is $150,000 less than the purchase price that the company, as the Buyer, paid to purchase the aircraft.

In an industry that has significant cross-border transactions, laws and regulations adopted in one jurisdiction may only chase B2B transactions to another jurisdiction. Two major aviation industry associations, the National Business Aviation Association and the National Air Transportation Association, adopted ethics codes, however they are guidelines. An Intermediary can craft a B2B, regardless of these association guidelines. Consequently, the best way to avoid B2Bs is with contractual mechanisms and oversight.

Aircraft sellers and buyers deserve transparent transactions for their purchase and sale transactions. Flight departments do not constantly buy and sell business aircraft and consequently may be unaware of how to identify a B2B. Without governmental regulation or industry self-regulation, the most effective way for sellers and buyers of aircraft to protect themselves is through adoption of contractual protection mechanisms to reduce the risks of hidden B2Bs.
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