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ONE JOURNEY TOGETHER

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A General Dynamics Company
FOR AS LONG AS THERE'S BEEN AVIATION, THERE'S BEEN AVIATION PUBLICATIONS! That being said, Western Europe had to wait until the beginning of the Cold War before it saw a real expansion of the aviation publishing sector. This launch coincided with key European countries started equipping their defense capabilities with the latest armored flying gears. Not only military airplanes and helicopters, but anything and everything flying for defense and attack.

This was the era when General Dynamics was advertising the F-16 and Dassault was promoting its Rafale. Westland campaigned for the Lynx Helicopter and Agusta was all about the A-109. This was a Golden Era for European aviation magazines, most of which were largely supported by advertising. Across Europe the sector was covered by such titles as Flying in the UK, Aviation Magazine in France, Flug Revue in Germany, Volare in Italy and, last but not least, Interavia, a Swiss monthly aerospace magazine published in English, French, German and Spanish between 1946 and 1993.

However, with the exception of some national aviation club magazines, nothing was being published in Europe that had a real European flamboyance. This incited my team and myself to launch Avianews International, the first aviation magazine (which covered commercial and military aviation) published by an independent European publisher and available in French and English. The initiative was immediately welcomed by aviation enthusiasts, operators and pilots.

Things were going great for Avianews International. But then, in 1985, President Reagan and Michael Gorbachov signed the end of the Cold War. The military era was over.

Not long after, in 1987, one of my friends, who flew a BAE 125 operated for a German businessman, landed five miles from our Belgian office, at EBCI Charleroi airport. This was my first look at Business Aviation, a segment that only quasi existed in Europe. Impressed and seeing the sector's vast potential here in Europe, in July 1988 I launched the first issue of BART International from our offices in Nivelles, Belgium. Europe had its first English language Business Aviation magazine. Dispatched internationally, the initiative was immediately welcomed by operators and manufacturers on both sides of the pond. To enhance our transatlantic coverage, in 2016 we launched BART International LLC, based in Arizona USA. The two entities, working together, collaborated on a daily basis.

Unfortunately, age and health now force me to announce that after 32 years of independent publishing, we will no longer publish BART. Issue 186 will be our final edition. This is a unique announcement, as the magazine was not announced for sale. We apologize to our editors, our production team, our advertisers and our readers. Kathy Ann and I are very sorry about this outcome, but everything has an end and for us, this is it… unless of course somebody else is ready to take the reins.

“The perfect ending to any day, race or project is to FINISH STRONG”
Gary Ryan Blair
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OUR COVER
The adaptability of the Pilatus PC-24 Super Versatile Jet made it a first class candidate for an interior adaptation to the Air Ambulance sector. The generous pressurized cabin offers sufficient space and comfort for up to three patients plus medical systems. The large cargo door ensures easy loading and unloading, and the cabin can be reconfigured as required for maximum operator flexibility.

LIFESAVER
Swiss Air-Rescue Rega’s three Challenger CL-650 ambulance jets are used all over the world by seriously ill or injured people. Equipped like an intensive care unit, they fly up to four lying patients back home.

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IF YOU ARE OPERATING AS AN AIR AMBULANCE, THE FOLLOWING IS AN OVERVIEW PREPARED BY BRUNEL CESAR OF WHAT YOU NEED TO KNOW:

Advance notification requirements
Depending on the urgency of the flight, landing and overflight permits can usually be arranged within a few hours. For example serious or unstable medical situations and organ transfers are considered "urgent" requests. While most air ambulance permit requests will be processed anywhere from a few hours to a full day, the processing time depends on the country. Due to the nature of these flights, civil aviation authorities are generally very cooperative and accommodating in terms of permits and operational requirements. Still, potential operating issues/glitches are possible, and effective trip pre-planning remains just as important as ever.

Permit documentation
For air ambulance permit applications, you’ll need to provide aircraft/crew information, as well as medical-related details. Required documentation usually includes airworthiness and registration certificates, worldwide insurance, full crew information, and the complete schedule. In addition you’ll need to provide full patient information along with hospital information from departure or destination point, a local hospital contact, and a phone contact for the party picking up/dropping off the patient.

Visas may be required
Depending on the nationality of crew members/passengers, visas may be needed. While some countries permit visa-free access for crew members/patients on an air ambulance flight, others enforce the same visa requirements as they do for all general aviation operations. For example when operating air ambulance flights to China, crew members must all have C-type visas prior to arrival.

Planning tips
Air ambulance operations may be exempted from noise and/or curfew restrictions, depending on the airport and country the flight is operating to. Overtime, to extend airport and/or Customs, Immigration, and Quarantine (CIQ) hours, may be available for these types of flights, but advance notification must be provided. Charges will likely be applicable, and approval will be at discretion of the airport authority.

Ground handling considerations
Always pre-notify your ground handler if you’re operating an air ambulance flight. Your ground handler will need relevant patient and hospital information – along with contact details for the doctor responsible – in order to make arrangements and request ambulance access airside. You’ll need to work with your ground handler to determine if CIQ clearance will be done at the aircraft or in the terminal. Any special ground service requirements – such as provision of pressurized medical oxygen – should be requested as early as possible to avoid day-of-operation delays. Always confirm visa requirements and if these visas are obtainable on arrival with your 3rd-party provider or ground handler.

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Conclusion
While it’s preferable to provide 24-hour notice for permit requests, CIQ, and ground handling, there are times when air ambulance operators may only be able to provide a couple of hours’ notice. Best practice is to provide full and proper documentation for all permit requests and to ensure that patient information is forwarded as soon as available so that your 3rd-party provider or ground handler can set up all needed arrangements.

Questions?
If you have any questions about this article, contact brunelcesar@univ-wea.com

Brunel Cesar is a Senior Trip Owner on the Charter Management Team with Universal Weather and Aviation, Inc. and has been in the aviation industry over eight years. With areas of expertise in charter operations and permits, Brunel enjoys assisting operators with the complexities of planning their trips for both international and domestic missions. Brunel has a Bachelor of Science degree in Aviation Business Administration, Airline Management and International Business and has been recognized as Employee of the Month at Universal Weather and Aviation, Inc.

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AVFUEL PRESERVES AVTRIP TIER STATUSES THROUGH 2021

Out of appreciation for its customers and in reaction to the COVID-19 pandemic’s effect on flight activity, Avfuel is preserving the tiers of its AVTRIP members who earned a gold or platinum status for 2020 through 2021. This allows members to receive the benefits they earned – including extra points per gallon, a higher point accelerator rate, special gifts, etc. – until they’re back in the sky. However, members who still fly and fuel enough in 2020 to step up tiers for 2021 (e.g., from silver to gold or gold to platinum) will still be able to do so. AVTRIP members are also assured that their points will never expire.

TAG GLOBAL TRAINING GAINS CCTO APPROVAL FROM TRANSPORT MALTA

TAG Global Training has gained CCTO (Cabin Crew Training Organization) approval from Transport Malta. TAG Global Training has also moved from being the first UK CAA accredited CCTO to gaining a Transport Malta CCTO approval as a post Brexit solution to offer a UK venue to train Cabin Crew at their world class facility in Farnborough Airport. Once the students have successfully passed either the 4 day course for those with experience or the 6 day course for those that are new to the industry, they will attain an EASA Cabin Crew Attestation, which will give them the privileges to work as Cabin Crew on any aircraft registered within any European member state.

GULFSTREAM G700 DEVELOPMENT ACCELERATES

Gulfstream Aerospace Corp. announced the second and third all-new Gulfstream G700 test aircraft have taken flight, further advancing toward certification and customer deliveries of the industry’s new flagship. The second G700 flight-test aircraft had its first voyage on March 20, departing Savannah/Hilton Head International Airport and flying for 2 hours and 58 minutes. The aircraft reached an altitude of 45,000 feet/13,716 meters and a speed of Mach 0.85. Also departing from SAV, the third flight-test aircraft flew for the first time today, soaring over Savannah for 3 hours and 2 minutes. It also reached an altitude of 45,000 ft/13,716 m and a speed of Mach 0.85.

GARMIN TEAMX UNVEILS THE 7-INCH FORMAT AERA 760 PORTABLE AVIATION GPS

Garmin International, Inc. announced the aera 760, a premium aviation portable that is purpose-built for the pilot and the cockpit. The aera 760 boasts a 7-inch bright, sunlight readable touchscreen display complete with comprehensive chart options in a compact and dedicated portable GPS. Additional features of the aera 760 include the option to load instrument approach procedures, arrivals and departures, approach chart overlay on the map, Garmin Connext wireless connectivity, as well as the option to integrate it with select Garmin avionics.
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FIRST CITATION LATITUDES CONFIGURED FOR FLIGHT INSPECTION ENTER SERVICE

Textron Aviation Inc. recently delivered the first two Cessna Citation Latitude aircraft configured for flight inspection missions. The aircraft were delivered to Kanematsu Corporation and will be owned and operated by the Japan Air Self-Defense Force (JASDF) to ensure the integrity of instrument approaches and airway procedures that constitute the national airspace of Japan. A third aircraft is anticipated to deliver in early 2021. Fitted with UNIFIS 3000 Flight Inspection System equipment from Norwegian Special Mission (NSM), the aircraft will provide flight inspection missions through the periodic evaluation of navigational aids, such as flight procedures and electronic signals, to ensure they are safe and accurate.

DUNCAN AVIATION RECOGNIZED AS 2019 HONEYWELL CHANNEL PARTNER

Duncan Aviation have recently been named the Honeywell Channel Partner of the Year and Dealer of the Year for 2019. “We are proud to be recognized by Honeywell as an important channel partner,” said Jeff Lake, chief operating officer of Duncan Aviation’s Lincoln, Nebraska, location. “We strive to provide the best possible service and support for our mutual customers and help them fly their assets safely and efficiently.” Duncan Aviation is authorized for a multitude of Honeywell avionics products for installation, repair and overhaul.

JETFLITE’S NEW CHALLENGER 650 DEMONSTRATES VERSATILITY FOR MEDEVAC USE

Bombardier Aviation and Finnish charter operator Jetflite revealed details of how a freshly delivered Challenger 650 business jet was immediately pressed into service to repatriate dozens of patients impacted by COVID-19 as airports and borders around the world shut down. The aircraft completed its first 100 hours in just 14 days. The adaptability of the Challenger 650 aircraft interior allows Jetflite to quickly transform the business jet’s 12-to-16-passenger VIP configuration to an air ambulance configuration, complete with two stretchers, a portable isolation unit, personal protective equipment, COVID-19 test kits and a medical team to respond effectively to the growing worldwide humanitarian crisis.

FLIGHTSAFETY DELIVERS RECURRENT GROUND SCHOOL TRAINING ONLINE

FlightSafety International now provides the ground school portion of its recurrent training programs online through the instructor-led LiveLearning training system. Steve Gross, senior vice president, Sales and Marketing, said: “FlightSafety worked with the FAA and other regulatory agencies to obtain approval for this innovative new approach, which includes the requirement to complete the simulation portion of the course within 90 days of finishing the online ground school.” FlightSafety will offer these courses for more than 20 helicopters and fixed-wing aircraft models.
IN ORDER TO STAY WITHIN THE PRICE RANGES, OPERATIONAL COSTS OF OWNERSHIP, AND PERFORMANCE PARAMETERS THE CUSTOMER WANTED, WE DETERMINED HE SHOULD FOCUS ON A FALCON 2000LX. AFTER AN EXTENSIVE MARKET SEARCH WE FOUND THE APPROPRIATE ONE IN THAILAND. WHEN THE SALE CLOSED, THE NEW OWNERS ELECTED TO HAVE DUNCAN AVIATION ADD FANS 1/A, RECONFIGURE AND REFURBISH THE INTERIOR, AND PAINT THE EXTERIOR.

READ OUR CASE STUDIES:
www.DuncanAviation.aero/expert-resources

Since 1956, the Duncan Aviation Aircraft Sales team has conducted more than 3,500 transactions. The team partners with our 2,300 aviation experts worldwide, each with an average of 12 years with the company, to provide technical support before, during and after the aircraft transaction.
Jet Aviation has received International Standard for Business Aircraft Handling (IS-BAH) Stage 1 Registration for all six of its FBOs in Australia. The entire Australian FBO network intends to achieve IS-BAH Stage 2 Registration by March 2022. In recognition of its high safety standards, Jet Aviation Australia was recently awarded IS-BAH Stage 1 Registration for all six (6) of its national FBO ports, including Sydney, two in Brisbane, Darwin, Cairns and Perth. The IS-BAH safety management system establishes criteria to ensure handling systems, processes and practices meet rigorous safety, security and professionalism standards.

RBI Hawker recently received OEM approval for successfully completing the industry’s first leading edge abrasion strip replacement on the Leonardo AW139 main rotor blade at its facility in Dubai. The company is the only OEM authorized repair facility to offer this critical repair. RBI Hawker supports Leonardo customers across the complete range of A109/119 series and the AW139 helicopters. With this new capability, the company expands its service offering in Dubai to include replacement of leading edge abrasion strips on Leonardo AW139 main rotor blades.

The United States Air Force (USAF) has awarded StandardAero a $237 million multi-year contract to provide engine maintenance, repair and overhaul (MRO) services for General Electric J85 turbojet engines powering the USAF fleet of T-38 trainer aircraft. The multi-year contract will continue into 2028 and all work will be performed at StandardAero’s San Antonio facility, located at Port San Antonio. Under the new contract, StandardAero will provide the same high quality service experience the USAF has received through other multi-year contracts including support for the USAF MRO requirements for Rolls-Royce T56 engines that power C-130 aircraft as well as General Electric F110 MRO engine support which power international F-15 and F-16 aircraft.

VIP air charter Aeronexus has acquired a controlling interest in the 10-year old aircraft management company, PRIVAJET of Malta, which will become an Aeronexus Group Company. PRIVAJET was specifically chosen to join the Aeronexus Group because of the synergy of its impeccable safety record, professional management and vast experience in the operation of large VIP Business Jets.
INSTRUCTOR-LED TRAINING ONLINE

Learn on Your Schedule From Your Location

Trust online training developed and perfected to maximize and enhance the learning experience. Choose from scheduled, instructor-led recurrent ground school and maintenance training, always-available eLearning courses, or develop a custom course library to meet your specific needs.
Textron Aviation Inc. announced the successful first flight of its new twin utility turboprop, the Cessna SkyCourier. The milestone flight is a significant step toward entry into service for the clean-sheet aircraft, and it kicks off the important flight test program that validates the performance of the Cessna SkyCourier. The Cessna SkyCourier took off from the company’s east campus Beech Field Airport, piloted by Corey Eckhart, senior test pilot, and Aaron Tobias, chief test pilot. During the 2-hour and 15-minute flight, the team tested the aircraft’s performance, stability and control, as well as its propulsion, environmental, flight controls and avionics systems.

Embraer Executive Jets announced that the new Phenom 300E — the fastest and longest-ranged single-pilot jet, capable of reaching Mach 0.80 — was granted its Type Certificate by ANAC (National Civil Aviation Agency of Brazil), EASA (European Union Aviation Safety Agency) and the FAA (Federal Aviation Administration). The new Phenom 300E achieved its certification goals with an intracontinental range of 2,010 nautical miles (or 3,723 km, considering NBAA IFR reserves with 5 passengers), a high-speed cruise of 464 ktas, a maximum payload of 2,636 lb (1,196 kg), a takeoff distance of only 3,209 ft (978 m) and an unfactored landing distance of 2,212 ft (674 m).

Daher unveiled technical details for its TBM 940 very fast turboprop aircraft in the Model Year 2020 version, which is equipped with HomeSafe – an emergency system that automatically brings the airplane to a runway touchdown if the pilot becomes incapacitated. The system is activated manually by an easily recognizable orange button atop the cockpit instrument panel. Its software integrates weather, traffic and terrain information to select the best airport for landing, taking into account fuel range and runway length. HomeSafe is based on Garmin’s Emergency Autoland system – available as a part of the G3000 integrated flight deck.

West Star Aviation have completed the first ever 24 year 4th C Inspection on a Falcon 900EX. The magnitude of this inspection involved most areas of the aircraft as well as in-depth inspection and repair of the winglets, nose and main landing gear, and engine. Additionally, interior and avionics updates were completed as well as custom exterior paint. The complete project was performed at the Alton, IL (ALN) facility, one of the four West Star full-service MRO locations.
AHEAD OF THE CURVE

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EMBRY-RIDDLE, GE AVIATION TEAM UP TO ENHANCE FLIGHT ANALYTICS

A new partnership between the Embry-Riddle Aeronautical University and GE Aviation is improving aviation safety education by providing students and faculty with access to a leading flight data analytics platform - opening doors to additional applied learning and research opportunities. "Embry-Riddle intends to use the software on all campuses in our aviation safety education courses and programs, and to improve operational efficiency for flight and fleet maintenance in our flight departments," said Dr. Alan Stolzer, dean of the College of Aviation on Embry-Riddle's Daytona Beach, Florida, campus.

MTU MAINTENANCE, AERLOGIC EXTEND GE90-110B CONTRACT

MTU Maintenance and its valued, long-term customer Aerologic GmbH have renewed their exclusive GE90-110B contract by a further twelve years. The contract encompasses multiple aspects of MTU Maintenance's PERFORMPlus offering, including engine trend monitoring, fleet management and on-site support as well as spare engine provision. MTU Maintenance has completed over 20,000 shop visits in 40 years and currently has 30 engine models in its portfolio - including the GE90-110 /115B.

UNIVERSAL LAUNCHES COVID-19 STANDARDS PROGRAM FOR SUPPLIERS

Universal Weather and Aviation, Inc. has launched a new COVID-19 standards program for preferred suppliers across the top 100 destinations where its trip support customers travel. The initial program covers three core logistical components within a mission that physically touch passengers and crew - FBO ground services, inflight catering, and ground transportation. Standards for the program are based on COVID-19 health and safety practices outlined by the CDC, FDA, IATA and WHO, and they are similar to what has been implemented within Universal’s own global divisions for FBO ground services, inflight catering, and ground transportation - Universal Aviation, Air Culinaire Worldwide, and Universal-Drivania Chauffeurs, respectively.

G650 TRAINING UNDERWAY AT FLIGHTSAFETY’S DALLAS FACILITY

FlightSafety International announced that training for the Gulfstream G650 aircraft is now underway at its Dallas Learning Center using a new FlightSafety FS1000 simulator. Dallas is FlightSafety's fifth G650 training location and this is the sixth full flight simulator the company has built to serve operators of the aircraft around the world. The advanced technology systems and components installed in this new FlightSafety FS1000 simulator include a CrewView collimated glass mirror display and VITAL 1150 Visual System, electric Motion Cueing System and advanced instructor operating station.

ROLLS-ROYCE LAUNCHES FIRST IMMERSIVE VIRTUAL REALITY TRAINING

As part of its IntelligentEngine vision, Rolls-Royce is further expanding the use of immersive Virtual Reality technology for customer training. The latest addition to the remote training program is an instructor-led distance learning course, providing a comprehensive overview of the construction, design and operation of the Rolls-Royce BR725 engine that powers Gulfstream's current flagship G650 business aircraft family. After completion of this comprehensive two-day training course, participants will be able to service the engine and undertake non-routine maintenance.
BRING IT ON

WE'RE READY, delivering the custom MRO solutions you need today with the only OEM approved TFE731 engine series heavy MRO service center in the EMEA region and the only OEM authorized independent HTF7000 heavy MRO service center in the world. Benefit from our OEM approved PT6-A and PW300 series engine MRO services, all supported by certified Test Cell performance capabilities, expert technicians and global 24/7 mobile service teams – getting you back in the air, fast. Rely on StandardAero to deliver the quality and customer experience you expect from the global leader in business aviation MRO services.

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By Irene Lores, Global General Aviation Sales and Marketing Director, Air BP

Over these past few months we have all had to accept the world is in a very different place. All of our lives are affected and many aircraft and airports have had to press ‘pause’ on their operations.

For those still flying – primarily on repatriation, freight and medevac flights – our customers around the world can continue to rely on Air BP. Our commitment to ensuring safe, reliable fuelling operations is unwavering.

Operational safety in supplying fuel to customers and the well-being of our people remain our absolute priorities. We’re doing all we can to support our partners and customers, monitoring the situation in line with advice from governments. Our already high standards of safety and hygiene at airport locations around the world have been enhanced and we are working closely with our airport partners to tackle new and rapidly evolving challenges head on.

As the impact of COVID-19 touches every corner of the globe, we’re supporting the communities in which we operate through a number of initiatives, working closely alongside our customers and partners.

In Australia we worked with our procurement team to donate 35,000 N95 masks to the Royal Flying Doctor Service (RFDS) for their frontline staff. Our donation builds on a long-standing relationship with the organization which spans decades of providing bespoke fuelling services. Air BP has also been a national partner of the RFDS for the past three years.

Also in Australia, Air BP’s rapid response helped to keep a Qantas Sydney to London ‘Kangaroo’ route going after Singapore banned stopovers in late-March. We provided an average of 266,000 liters of fuel per flight at Darwin Airport, enabling aircraft to continue on the historic non-stop 16-hour flight.

In France we are supporting an initiative led by Aviation Sans Frontières, an aviation charity dedicated to providing humanitarian assistance. We are donating 60,000 liters of jet fuel for flights that will transport medical staff and equipment between French hospitals. These flights are carried out free of charge when requested by medical authorities. We can support this critical service from our presence at 50 locations in France.

In the UK, Air BP is providing free jet fuel for use by the helicopters of a number of UK air ambulance services, supporting their life-saving work during the pandemic. All these services are charitable organizations which we already supply with jet fuel. The Yorkshire Air Ambulance and Great Western Air Ambulance receive fuel directly from Air BP, whilst Wales Air Ambulance and Midlands Air Ambulance Charity are supplied by Air BP customer Babcock International.

In the US Air BP is donating three million gallons of jet fuel to customers FedEx and Alaska Airlines to support the timely delivery of medical supplies and other essential goods, such as food and mail, to areas of the U.S. at greatest risk for COVID-19. We will also offset the carbon emissions of all donated fuel deliveries through the BP Target Neutral program.

In China, we have been providing support through our two joint ventures. To date, the South China Blue Sky joint venture has fuelled more than 800 epidemic relief and repatriation flights. Meanwhile, at Shenzhen Airport, staff working with Shenzhen Chengyuan Aviation Oil Co. have been working round the clock to maintain aviation fuel supplies for chartered flights carrying medical and relief equipment to Wuhan and other cities in China.

We are pleased to be able to play our part in supporting our communities during these difficult times. We are especially grateful too for the hard work of our front-line Air BP operators who continue to enable us to meet the needs of our customers.

Air BP’s efforts form part of the wider bp response to COVID-19, which includes a $2 million USD donation to the WHO’s COVID-19 Solidarity Response Fund; supporting mental health charity Mind to help more people access mental health support across the UK; providing free fuel to UK emergency service vehicles; providing discounted fuel for first responders, doctors, nurses and hospital workers in the US and donating bp’s supercomputing capability to help halt the spread of the virus.

About Air BP
As the aviation division of bp, Air BP is one of the world’s leading suppliers of aviation fuel products and services. It has been investing in the aviation industry for more than 90 years to keep people flying safely around the world. Customers include commercial airlines, the military, business and private aircraft owners, airports and airfield operators. Air BP has a wide range of services to support its fuel offer including the design, build and operation of fuelling facilities, technical consultancy and training, low carbon solutions, the Sterling Card for efficient general aviation refuelling and innovative digital platforms to increase efficiency and reduce risk.
Your engine might be switched off.

But we’re still here, working behind the scenes, committed to safe and secure operations.

So when you next take to the skies, we’ll be waiting on the ground.
MTU Aero Engines Presents 1Q20 Figures

In the first quarter of 2020, MTU Aero Engines generated revenue of €1,272.7 million, an increase of 13% compared with the prior-year period (1-3/2019: €1,131.2 million). The operating profit declined by 3% from €187.6 million to €181.8 million due to the revenue mix. The adjusted EBIT margin was 14.3% (1-3/2019: 16.6%). Adjusted net income was €128.0 million, compared with €133.5 million in the prior-year period.

In the first quarter of 2020, the highest revenue growth at MTU was in the commercial maintenance business, where revenue rose by 21% to €794.9 million (1-3/2019: €655.1 million). The main source of revenue was the V2500 for the classic A320 family.

Revenue in the commercial engine business increased by 4% from €385.6 million to €399.3 million. The main revenue drivers were the V2500, the PW1100G-JM for the A320neo and the GE90, which is used in the Boeing 787 and 747-8 models. MTU's order backlog at the end of the first quarter was €19.4 billion (December 31, 2019: €19.8 billion). The majority of these orders related to the V2500 and the Geared Turbofan engines of the PW1000G family, especially the PW1100G-JM for the A320neo.

In the commercial maintenance business, adjusted EBIT increased by 16% from €56.8 million to €65.7 million. The EBIT margin was 8.3%, compared with 8.7% in the same period of 2019.

In the OEM business, adjusted EBIT declined by 11% to €116.2 million in the first quarter (1-3/2019: €130.5 million). The adjusted EBIT margin was 23.4%, compared with 26.6% in the prior-year period.

MTU spent €59.5 million on research and development in the first quarter (1-3/2019: €58.0 million).

The free cash flow was at a normal level of €68.7 million in the first quarter (1-3/2019: €141.4 million).

Aero Asset Reports Positive Q1 Preowned Helicopter Market

Aero Asset’s First Quarter 2020 Preowned Helicopter Market Trends report indicates the quarter’s market dynamic was generally positive heading into a slowdown brought about by the COVID-19 pandemic and oil price crash.

Aero Asset’s Q1 report indicates the light twin market experienced an increase in supply in Q1 with stable retail sales volume quarter over quarter (QoQ). The medium twin preowned supply remained stable and retail sales increased by a third to 15 closings QoQ. Heavy twin helicopter preowned retail sales doubled to four closings and supply declined by 30 percent QoQ.

The two most liquid preowned markets in the first quarter were the AW139 with seven retail sales and a year of supply at Q1 trade levels, and the Bell 429, which saw the biggest improvement in liquidity Q1. The two least liquid markets were the A109E Power, which saw the largest drop in absorption rate Q1, and the AW109S/SP which experienced a 50 percent decline in retail sales volume compared to its 2019 quarterly average and a 35 percent increase in supply QoQ.

The number of twin engine preowned helicopter deals in the pipeline declined 40 percent compared to Q3 2019, and 20 percent compared to Q4 2019. The amount of deals pending at various stages of transactions at the end of Q1 2020 declined to 18 units, down from 22 units Q4 and 31 units Q3 2019. “The most active market during Q1 2020 was the AW139 with seven retail sales while the least active were the EC155B1/H155 and S76D with zero transactions,” Sales Director Emmanuel Dupuy said. “The VIP market accounted for 60 percent of retail sales, while utility configurations comprised 26 percent and HEMS transactions accounted for 14 percent of the retail sales volume.”

Swissport Achieves Solid 2019 Result

Swissport achieved an operating EBITDA of 272.3 million euros in 2019, roughly on par with the previous year result of 273.2 million euros. The group’s revenue from operating activities increased to 3.13 billion euros, up 4.7 percent from 2.99 billion euros in 2018.

Swissport has started 2020 with a strong liquidity of over 300 million euros. Due to the unprecedented global market collapse triggered by the coronavirus pandemic, the company expects an 80 percent drop in revenue for April and May. Despite fast and drastic measures to quickly reduce the cost base, including an investment stop and a variety of measures to reduce its payroll, Swissport will require additional liquidity in early summer. The company currently has 40,000 employees on furlough or other state-supported programs like short-time work. 10,000 employees had to be made redundant, leaving under 15,000 of formerly 64,000 staff on active duty.

In airport ground services, Swissport performed 2.1 million aircraft turns in 2019 (2018: 2.2 million). The group served 265 million passengers on behalf of its airline clients (2018: 282 million). Air cargo tons handled stood at 4.6 million (2018: 4.8 million). At year-end 2019, Swissport was operating at 300 airports in 47 countries.
After 27 years with Textron Aviation and with his extensive experience in Business Aviation, Brad Thress has joined FlightSafety International as president and CEO. BART International asked his views on the future of his new company.

**Now that the pandemic is hitting all of us, and quarantine obliges many of us to stay at home, what are the prospects about e-learning?**

We have been taking the extensive safety measures required to provide training to government agencies and first responders. In order to help our customers remain proficient and current during this time, we worked to bring extensive eLearning & LiveLearning offerings to market quickly. We now provide the ground school portion of our recurrent training programs online through the instructor-led LiveLearning training system. This web-based recurrent ground school provides the benefits of classroom learning and the convenience of taking courses remotely. FlightSafety worked with the FAA and EASA to obtain regulatory approval for this innovative new approach, which includes the requirement to complete the simulation portion of the course within 90 days of finishing the online ground school. FlightSafety will provide this for more than 20 helicopters and fixed-wing aircraft models in the coming weeks.

In addition, we are leveraging the Online Ground School (OGS) pilot training that was developed by TRU Training and Simulation. OGS provides customers with the flexibility to complete the ground school modules online at their own pace within 60 days prior to taking the simulator training portion of the course at a learning center.

Lastly, we have extended FlightBag subscriptions to all customers to ensure they have the most up-to-date information on their training.

**In terms of new equipment, what are the next developments for FlightSafety?**

FlightSafety recently introduced a new advanced technology Mixed Reality training device. This system has a wide variety of application, including helping pilots prepare for initial training, rehearsing emergency procedures and maintaining proficiency. It helps pilots practice basic flying skills either with an instructor, or in a self-paced environment. The system is also ideal for cockpit familiarization and preflight, mission rehearsal, formation flying and more. It is equipped with FlightSafety’s VITAL 1150 visual system, virtual reality goggles with a 360-degree field of view, and an integrated front mounted camera.

**Finally, could you give us an update concerning your recent activities in Europe?**

We started training for the Pilatus PC-24 at Paris Le Bourget Learning Center in March and look forward to resuming it, and to the start of training for the HondaJet & Citation Latitude, once the COVID-19 issue has been resolved. In addition, we completed an extensive simulator upgrade program to comply with EASA Issue 2. Our Paris Center is home to the only Dassault Falcon 8X simulator equipped with FalconEye. We also created a Phased Recurrent Training Program for all major aircraft types, and an Air Taxi Program for Citation CJ2 and Mustang fleet operators. We also added an Engine Run and Taxi training capability at our Farnborough Center for the Gulfstream G450, G550 and G650. This is to support Gulfstream and its new Farnborough Maintenance Facility, which is scheduled to become operational in Q3 2020.

Thank you very much Brad Thress. We are convinced that under your guidance, FlightSafety will become an even stronger and more successful company.

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Brad Thress says FlightSafety now offers web-based recurrent ground school.
PEOPLE

In a significant advancement of its technology team, DRA and sister company 328 Support Services GmbH have appointed Martin Nüsseler as the company’s chief technology officer. Leveraging his significant aviation industry experience, Nüsseler is responsible for product strategy, technology road map and oversight of the engineering development team. “We are delighted to welcome Martin to the technology team, and to the company’s exceptional opportunity to revolutionize aviation with its focus on affordable sustainability,” said Dave Jackson, managing director of DRA. Nüsseler joins after 17 years with Airbus – the last five of those spent leading the Airbus alternative propulsion systems and technologies unit. Nüsseler worked for Fairchild Dornier in the late 1990’s.

Jason Hurst has been appointed as Bell Helicopters’ Technology and Innovation team leader. He will be unifying the military advanced conceptual design and autonomy development team with the current Innovation engineers. After spending several years on V-22, Hurst knew he wanted to be a part of new product development to take on different challenges and expand his creativity. He later landed a new role as the program manager of the Bell V-247 Vigilant. Hurst led the team through the conceptual design of the aircraft and advanced capabilities in autono-

Martin Nüsseler

John Berizzi

Mark White

my and mission systems integration.

Universal Avionics (UA) announced the appointment of John Berizzi and John Wasmund to the US Sales team. Berizzi joins the company as South-Central US Regional Sales manager and Wasmund as Southwest US Regional Sales manager. Berizzi is based out of UA’s office in Duluth, Georgia and in his new role, supports the company’s Authorized Dealer and Integrator Network along with aircraft owners and operators throughout the states of Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Tennessee, Alabama and Georgia. Wasmund is based out of the greater Phoenix, Arizona area and in his new role, supports the company’s Authorized Dealer and Integrator Network along with aircraft owners and operators throughout the states of California, Nevada, Utah, Arizona, Colorado and New Mexico.

Duncan Aviation announced that Mark White has accepted the position of Gulfstream Sales representative at the company’s full-service facility in Provo, Utah. White brings more than 20 years of Gulfstream sales experience to his new position with Duncan Aviation.

Aaron Jensen accepted the position as manager of the Seattle Satellite Avionics Shop at Duncan. In his more than 29 years in the aviation industry, Jensen worked in a variety of positions as an Airframe & Powerplant mechanic.

Pete Marte has become manager of the company’s Satellite Avionics Shops in White Plains, New York, and Oxford, Connecticut at Duncan. He and his team also routinely work at customers’ hangars on many airports in the area, including Bradley, Bridgeport and Danbury in Connecticut, and Duchess County and Stewart in New York.

Steve Farber to his new role as director of Sales and Customer Service. As an industry veteran, Farber launched his career with Hawker-Beechcraft in 2004 and came to GlobalParts from CAV Ice Protection, where he was vice president, Aftermarket Business. Faber said: “I look forward to building the sales volume for GlobalParts while supporting the excellent customer service experience that our clients expect and deserve.”

Bombardier announced that Éric Martel has been appointed president and chief executive officer, and a member of the Bombardier Board of Directors. Martel joins Bombardier from Hydro-Québec, where he has served as President and Chief Executive Officer since July 2015. “Eric is the right leader at the right time for Bombardier, as the company is completing its turnaround plan and focusing on growing its leading Business Aviation franchise,” said Pierre Beaudoin, chairman of the Bombardier Board of Directors.
AOne Parts & Logistics announced that Ryen Shultz will be joining the Global Service and Support provider as a full time Trader. In his role as a trader, Shultz will be involved in all aspects of vendor monitoring including purchasing, allocating assets for clients and stocking purposes alike, vendor monitoring, both tactical and strategic negotiations of agreements and maintaining vendor relationships so that AOne clients expectations and requirements can be satisfied.

Scott LaFleur has also joined AOne Parts & Logistics. In his role as Client Relations advisor, LaFleur will be responsible for creating and developing customer relations, sales and client initiatives. Kirk Meissner, VP of Sales for AOne, commented: “The experience and skillset which Scott brings to our group are a perfect fit for the company and our clients to assist in accomplishing AOne goals.”

Farnborough Airport announced the appointment of a new Business Development Manager Richard Wittels. Wittels brings to this position over 14 years of experience in the Business Aviation industry through his work at TAG Aviation UK. He will be responsible for identifying opportunities aimed at further developing the business and will also focus on demonstrating to the industry and customers, the complete portfolio of services and facilities available at the airport.

C&L Aviation Services, a C&L Aviation Group company, announced that Brian Sprecher has joined the company in the position of Regional Sales manager for the Corporate MRO for the Southeast United States. Sprecher will assist C&L’s corporate aviation customers with maintenance packages, including modifications, avionics upgrades, interior and paint services. Sprecher’s experience includes two decades in the corporate aviation industry. Prior to C&L, Sprecher served as Regional Sales Manager for the Southeast United States for Constant Aviation.

West Star Aviation has promoted Amber Kasting to Human Resource manager, Midwest region. Kasting will be responsible for managing Alton, IL (ALN), and the Perryville, MO (PCD), satellite locations along with their Mobile Repair Teams (AOG/MRT). “I am looking forward to providing ongoing support to our employees and listening to their feedback, ensuring a great work environment at West Star,” said Kasting.

The Supervisory Board of MTU Aero Engines AG has extended the contracts of two of its Executive Board members – Peter Kameritsch, CFO and CIO, and Lars Wagner, COO – by five years through December 2025. Kameritsch has been a member of the MTU Executive Board since January 2018, with responsibility for finance and IT. Wagner has been a member of the Executive Board and the company’s COO since January 2018. He has been with MTU Aero Engines since 2015.

Inflite The Jet Centre, part of the Inflite group of companies, announced the appointment of Steve Hughes as general manager and CAMO of Excellence Aviation Services Limited & Excellence Aviation Limited. Hughes brings a wealth of experience to his new role, providing leadership for the effective management of the Excellence Aviation businesses in delivering reliable, quality, services to its customers. He will work with the Excellence Aviation business, (the Bombardier MRO specialist acquired by Inflite in February 2019) to further develop the business.

Avfuel Corporation announced that appointment of Zinia Lerma and Candace Schroeder as contract fuel sales associates. Lerma has more than 20 years of experience in the aviation industry working for such companies as West Star Aviation, Universal Weather and Aviation, and Million Air Houston in sales, business development and account manager roles. As a contract fuel sales associate for Avfuel based out of Houston, Texas, Lerma will focus on customer acquisition and retention for contract fuel flight department accounts throughout Mexico and the southern US. Schroeder has nearly 15 years of experience in the aviation industry. During her time in the industry, she has held managerial roles in operations, customer service, business development and marketing. As a contract fuel sales associate for Avfuel based out of Los Angeles, Calif., Schroeder will focus on customer acquisition and retention across the US with an emphasis on the west coast, as well as assist in new and recurrent branded FBO training.

King Aerospace has named Steven DiGesualdo as capture manager for its business development team. He will be based at the home office in Dallas, TX. “Steve immediately seized upon how King Aerospace’s no-excuses culture and strong service offerings will benefit potential customers,” says King Aerospace President Jarid King. “His 35 years of industry experience will serve King Aerospace well in identifying growth opportunities, developing capture strategies and pursuing strategic teaming opportunities.”

Rohit Kapur joins JetHQ as president of JetHQ Asia after serving as founding partner at Arrow Aircraft. Rebecca Johnson, president of JetHQ EMEA, acted as JetHQ’s vice president of Sales prior to her promotion. “Rohit and Rebecca epitomize the high level of aviation experience our team possesses,” says JetHQ Founder and Managing Director Garett Jerde. “They have such great insights gained from hundreds of transactions and thousands of flight hours to identify and meet our customers’ needs.

Jim Busha, an experienced pilot and aviation writer who has been with the Experimental Aircraft Association since 2014, has been promoted to vice president of Publications, Marketing, and Membership for the organization. In this role, Busha continues his leadership of EAA’s editorial, photo/video, and marketing teams, with added responsibility for membership services. He will report directly to EAA CEO/Chairman Jack Pelton as part of the association’s senior leadership team.

Amber Kasting

Candace Schroeder

Richard Wittels
AS THE BUSINESS AVIATION INDUSTRY is facing the worst crisis it has seen in over a decade, it becomes clear its adaptive spirit is playing a tremendous part in the fight against COVID-19 – but a full recovery of the sector will require responsibility, action and solidarity from all parties involved.

The Impact of COVID-19 on Business Aviation
At the start of 2020, my team and I at the European Business Aviation Association foresaw that the pandemic and subsequent travel restrictions would have a dramatic impact on the Business Aviation industry. In March 2020, we saw a decrease of 34.1% in traffic, ending with a 70% decrease in the 4th week of March compared to the same period in 2019.

To fully understand the ripple effects of this decrease in traffic, we launched a study amongst the CEOs in our membership. This pan-European survey revealed that estimated financial losses due to the crisis range from 50-90%, with the most pressing financial issues being staff retention, fixed location costs and taxes. Taking into account there are 374,000 people working in the European Business Aviation sector, it is clear that we need to do everything we can to safeguard the continuity of our industry.

Acting Responsibly and with Solidarity
Even though the majority of normal day-to-day operations are completely disrupted, many of the businesses in our sector are jumping into action to provide relief wherever they can. Many operators specialised in medical and emergency flights are currently providing essential services to communities fighting the pandemic, including for the transport of health workers and essential medical goods. Other operators are providing empty legs to government personnel directly involved in the pandemic and manufacturers are reorganising their production lines to produce essential goods such as masks, gowns and faceguards. At EBAA, we are responding to the need in our industry to provide all the information we can to allow for the businesses in our sector to operate as safely as possible. Through our COVID Resource Centre, we are keeping our industry informed on the most up-to-date operational guidance’s and safety standards for the duration of the crisis.

Working Together towards a Return to Service
On 2 April, we partnered with national associations and the General Aviation Manufacturers Association to present an open letter containing coordinated pan-European recommendations for EU and
national authorities covering the entire Business Aviation community. Responses from numerous national governments and EU institutions to our open letter show an appreciation for the work our members are doing and the feedback EBAA provides. For instance: on April 7, EUROCONTROL Member States agreed a financial package enabling operators to defer the payment of air traffic control charges. Also, many Member States’ governments are taking measures nationally to mitigate the impact the crisis is having on the workers in our industry and EBAA is collaborating with EASA and the European Commission on a project that focuses on the future return to service.

**Holding On, For Now**

Coming back from COVID-19 will not be easy, as the general consensus amongst experts all point towards a lengthy recovery process. That means for both ourselves as a Business Aviation sector and the relevant authorities alike, that we need to hold on, work together and continue to act responsibly and with solidarity.

For EBAA, that means we will continue to be the bridge between European Business Aviation and EU authorities, we will continue to listen to the issues our members and we will continue to advocate on our sector’s behalf. For the Business Aviation sector, that means it needs to continue to serve and support governments and local communities to the best of its abilities whilst maintaining the highest safety and health standards possible. For governments and authorities, it means we need them to listen to the issues and complexities our industry is facing and work with us to safeguard the continuation of our sector and protect the jobs of all those people working in it.

It is in all of our interest to ensure Business Aviation can resume its normal activities as soon as possible. Business Aviation can play an essential role in the post-crisis European recovery due to our capacity to restart routes that can repatriate EU citizens, open up supply lines and enable business opportunities. But in order for our sector to be able to play this role, we all need to work hard to ensure Business Aviation is still there when the recovery process inevitably starts.

**EUROPEAN BUSINESS AVIATION WELCOMES THE DELAY FOR ADS-B COMPLIANCE**

The European Commission (EC) announced it is extending the deadline for ADS-B equipage in new aircraft by six months, to 7 December 2020, citing the devastating impact of the COVID-19 crisis on aircraft operators. “The outbreak of the pandemic of Covid-19 virus and the resulting impact on the aviation sector has led to unforeseeable obstacles for aircraft operators to pursue their activities to bring the aircraft in compliance [with the ADS-B mandate],” said the EC in its amended regulation.

EBAA also appreciates the additional flexibility offered by the European Commission with regards to the transition arrangements, as well as the exemption for aircraft that will stop operations before 31 October 2025. Indeed, the adapted regulation says that operators of aircraft made before 7 December 2020 will have until 7 June 2023, to comply with the ADS-B equipage mandate - if they have established a retrofit compliance program before the new 7 December deadline, and the operator has not received funds from the European Union to bring the aircraft to ADS-B compliance.

Commenting the decision, EBAA’s Secretary-General Athar Husain Khan said: “EBAA has always supported ADS-B surveillance technology, and while some of our members are already compliant, there are some who will have difficulties meeting requirements in the crisis.” Just like the rest of the aviation industry, the pandemic has severely impacted the Business Aviation sector. On 2 April, EBAA sent an open letter urging European policy-makers and regulators to protect the continuity and survival of the Business Aviation sector in the face of the COVID-19 pandemic. The measures in the letter aim at the same objective; helping to safeguard as many companies as possible.

“On behalf of the European Business Aviation community, I would like to thank the European Commission for their flexibility in these difficult times. The extra time will go a long way in easing some of the burdens on operators and help the Business Aviation sector continue to play its vital role in the fight against COVID-19 and the post-crisis European recovery,” Athar Husain Khan added.

Many operators specialized in medical and emergency flights are currently providing essential services to communities fighting the pandemic, including for the transport of health workers. But all other medical emergencies have not stopped, and are being handled by Business Aviation operators despite numerous operational challenges and travel restrictions. Along with medical and emergency flights, the Business Aviation sector also provides cargo flights, ensuring the worldwide transport and delivery of critical medical supplies. Repatriation flights are also organized, supporting European and national governments’ efforts in reuniting citizens across Europe.

“[ADS-B] surveillance technology makes it possible to periodically broadcast aircraft information, such as identity, speed or position, derived from onboard systems…thus enabling the aircraft to be tracked from the ground for surveillance purposes. This technology modernizes ground surveillance systems, with the potential to rationalize the European radars network,” the EC said.

Moving forward, more work is still necessary to implement ADS-B technology infrastructure on the ground, as well as making affordable solutions available for General Aviation aircraft and adapted to safety standards. In the long term, ADS-B requirements should address the needs of all airspace users and ensure harmonized compliance in other regions of the world.
NBAA CONTINUES INDUSTRY ADVOCACY AMIDST COVID-19 CRISIS

WITHOUT QUESTION, our international Business Aviation community has seen dramatic changes over the past few months from the ongoing COVID-19 pandemic, and it appears likely the crisis will impact our industry for some time to come.

Among the many significant effects from the coronavirus outbreak was the difficult decision made by NBAA and the European Business Aviation Association (EBAA) to cancel the 2020 edition of the European Business Aviation Convention & Exhibition. Originally scheduled for late May, EBACE2020 was anticipated to be among the most significant and forward-looking editions of the show to date, showcasing the very latest technological advances in our industry. Although those plans have now shifted, we’re already working to make next year’s show, taking place 18-20 May 2021 in Geneva, the strongest EBACE ever.

In the meantime, as we grapple with the situation at hand, rest assured that NBAA is continuing to advocate for the industry throughout Europe and around the world. As one example, NBAA has made available a dedicated COVID-19 information resource at nbaa.org/coronavirus featuring the latest information about operational considerations important to U.S. and international operators.

Even as the current situation dominates headlines, NBAA is also planning on further demonstrations of our industry’s commitment to environmental sustainability. Earlier this year, NBAA joined with other members of the Business Aviation Coalition for Sustainable Aviation Fuel to secure agreements to make sustainable alternative fuel (SAF) available for aircraft departing for the World Economic Forum from Zurich Airport.

In addition to demonstrating the fuels’ viability to those flying to Davos, operators were also able for the first time, under a payment-transfer initiative known as “book-and-claim,” to purchase SAF supplies at several U.S. airports where the fuel was not yet available.

Our industry has long been committed to the sustainability of flight. As we continue working toward increased availability of sustainable fuels, we know that these initiatives are key to moving the industry toward a carbon-neutral future in the years to come.

At the same time, NBAA is working with our partners in the United Kingdom and across Europe to determine the impact to Business Aviation operators from the UK’s recent announcement of its intent to leave the European Union Aviation Safety Agency (EASA) in favor of oversight of aircraft certification and aviation safety regulation by the country’s Civil Aviation Authority (CAA).

NBAA is also looking out for international operators based in the U.S. For example, thanks to input from input from NBAA and other aviation stakeholders, the U.S. Federal Aviation Administration (FAA) recently decommissioned its letter of authorization (LOA) requirement B034 for Part 91 operators seeking approval to operate under certain international area navigation (RNAV) capabilities, including Precision RNAV or Basic RNAV/RNAV 5 routes and procedures most commonly seen throughout Europe.

Even as we face a challenging situation unprecedented in our lifetimes, I take encouragement knowing that the people and companies in the global Business Aviation community are working to support each other, and their communities. Your service underscores our industry’s humanitarian spirit, especially at a time such as this.

As we all work to support one another, my thanks to readers of BART International for also doing your part to ensure Business Aviation will emerge from this difficult time.
FAA’S COVID-19 RULEMAKING PROVIDES MUCH-NEEDED RELIEF FOR BIZAV

STAY-AT-HOME orders and social distancing to fight the COVID-19 pandemic are making it difficult for the Business Aviation community to comply with training, recent experience, testing and checking requirements. Recognizing this, the FAA has published Special Federal Aviation Regulation (SFAR) 118, a temporary rulemaking that provides regulatory relief for Business Aviation to continue providing essential services through this difficult time.

SFAR 118 is a comprehensive rule that provides extensions for the Business Aviation industry to continue critical operations without the risk of invalidating certificates due to an inability during the pandemic to satisfy training and qualification requirements. Those covered include pilots involved in the private carriage of medical supplies and equipment under Part 91, subpart K, and Parts 125, 133 and 137, as well as pilots supporting the continuity of essential operations, such as aerial observation of critical infrastructure and flights to sustain agriculture. SFAR 118 also extends to flight attendant crewmembers, check pilots and flight instructors under Part 91, subpart K, and Part 125 as well as remote pilots certificated under Part 107.

The rule also provides relief for pilots and flight schools unable to meet duration and renewal requirements.

With such complexity, NBAA’s May 8 News Hour webinar, SFAR 118: Dissecting FAA’s COVID-19 GA Relief Package featured the FAA’s Rob Burke, group manager for training and simulation, and Barbara Adams, program analyst in the office of the executive director, as well as NBAA VP for Regulatory and International Affairs Doug Carr to discuss keys aspects of this important rule.

“As the pandemic spread around the world, it quickly became clear within the broad aviation industry that we would have to consider how to maintain privileges that had been issued by the FAA. For Business Aviation, our most pressing concerns were focused on medical qualifications and recency of experience for pilots, flight instructors and ground instructors as outlined with Federal Aviation Regulations Part 61, and most notably Part 61.58,” said NBAA’s Carr. “I have to congratulate and commend the FAA for developing SFAR 118 and for working closely with the industry to ensure our concerns were addressed,” he added.

BOLEN URGES CONGRESS TO EXPAND SUPPORT AS GA GRAPPLES WITH COVID-19

National Business Aviation Association (NBAA) President and CEO Ed Bolen has asked Congress to build on the CARES Act in calling for continued, targeted relief for the nation’s general aviation (GA) industry, including Business Aviation, in written testimony submitted before the US Senate Committee on Commerce, Science and Transportation.

“Since early March, general aviation operations have declined more than 70 percent, resulting in severe economic consequences for a wide variety of businesses, from aircraft operators to airports and aviation manufacturers,” reads the testimony submitted for the hearing, “The State of the Aviation Industry: Examining the Impact of the COVID-19 Pandemic,” convened May 6 by committee chairman Sen. Roger Wicker (R-MS).

Among the relief measures requested by NBAA include expanding the temporary suspension of certain air transportation excise taxes to include non-commercial GA fuel taxes. Bolen explained that measure will serve, “as a catalyst to help small general aviation businesses recover once the immediate crisis begins to recede,” with the resulting boost in traffic bolstering the nation’s GA airports and a variety of small businesses including flight schools and fixed based operators.

“Your efforts to provide near and mid-term relief for air carriers and small businesses under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) injected much-needed funds into general aviation businesses,” Bolen continued. “Still, we believe additional assistance will be necessary. The uncertainty as to the longer-term prospects for aviation requires us to think creatively.”

He further expressed concerns that payroll support applications have not yet been approved for some Part 135 air charter operators and requested that Treasury officials continue to show flexibility in working with these small businesses.

“This uncertainty as to potential support presents significant challenges to general aviation businesses that are already struggling to survive,” Bolen wrote. “As Congress continues its oversight of CARES Act programs, we respectfully request that you work with the Treasury Department to provide additional details on the timeline for a decision on payroll support payments to applicants.”

Despite these challenges, Bolen also emphasized that GA and Business Aviation operators continue to link communities through a network of more than 5,000 airports and provide critical support to communities of all sizes through a broad variety of relief efforts, including missions coordinated through NBAA’s Humanitarian Emergency Response Operator (HERO) database.

STAYING SECURE AND COMPLIANT DURING COVID-19

Staying secure and compliant during these unprecedented times is a top priority for business aircraft operators, but normal security safeguards may not be enough to deal with conditions induced by COVID-19. Typical security protocols may be disrupted because of staffing changes due to the pandemic, so it’s more important than ever for business aircraft operators to implement appropriate policies to deal with these disruptions.

NBAA’s News Hour webinar – “Aviation Security During the COVID-19 Pandemic” – featured four experts who emphasized the need for exceptional vigilance, research, verification and communication in the current operating environment.

Greg Kulis, one operator’s lead captain and security coordinator who is also a member of NBAA’s Security Council, noted that due to staff reductions, some airport facilities might only have one or two people checking on security and alarm systems. He suggested looking into systems for remote access in order to retrieve logs or check for unusual activities.

Also, his flight department has taken steps to partner flight crews, technicians and other staff, rather than rotating them, thus limiting their exposure to the coronavirus and making contact tracing simpler should someone get sick.

Charlie LeBlanc, vice president of global assistance and security for UnitedHealthcare Global and also an NBAA Security Council member, noted that due to constantly changing regulations worldwide, having good intelligence on your destination is “more important than ever.”

“We have been seeing unprecedented border and airspace closings and regulations are not always consistent, even within the same country,” said LeBlanc. “It’s important to know what’s going on in that country so you know what you can or cannot do.” LeBlanc cited curfews, entry requirements and other concerns that affect the safety and compliance of flight operations.

Kim Mazzeo, a chief flight attendant and a member of NBAA’s Flight Attendant Committee, suggested providing a PPE kit for each aircraft crew member, as well as providing PPE for passengers.
Business Aviation is widely recognized as an integral driver of global commerce. But what is less known is the equally vital role it plays in humanitarian support and relief efforts, where virtues like speed, individual scheduling and quick turn-around times save lives.

Volker K. Thomalla reports
N
icole, a 12 year old girl from a small town in eastern Germany, was diagnosed with a serious cardiac problem. With her health deteriorating from week-to-week, her only chance of survival was to get a new heart and to get it fast. It seems luck was on her side. Within weeks of being put on top of the European heart transplant priority list, a child in Northern Italy died after a tragic accident. The parents agreed to an organ donation, and all the necessary tests showed that the heart would be a perfect fit for Nicole.

Time was a critical factor and transporting the organ by car would take more than eight hours. Commercial airlines were also not an option due to a lack of direct flights. Business Aircraft, however, was perfectly suited for bringing the recipient and the transplant together in the hospital of Gießen, Germany, which specializes in this type of surgery. A twin turbo-prop Piper Cheyenne was dispatched to pick up Nicole from a nearby General Aviation airport and rush her to the hospital where the medical team was anxiously waiting for her. After dropping Nicole off, the Piper Cheyenne continued to Bolzano to pick up the urgently needed transplant.

Time was ticking as a heart must be transplanted within six hours of its removal from the donor. But this was December, and the Bolzano Airport was closed due to a snowstorm with visibility below minimums. The crew quickly decided to divert to Verona Airport, which is located 80 nautical miles south of Bolzano, took a rental car and was escorted by the local police to the hospital to pick up the precious package. The complexity of transplanting children’s organs often means that the same surgical team will remove it, travel with it, and implant it in the recipient. Having a multi-seat Business Aircraft available made this possible.

The team made it back to Gießen in time, and the heart was successfully transplanted. Unfortunately, complications developed after the operation and, a week after the surgery, Nicole’s new heart stopped beating. She did not survive. But her parents had previously agreed to donate their daughter’s organs so that other children could be saved. Once again, business aircraft flew the transplants to hospitals across Europe, where other young recipients with life-threatening conditions were waiting to be saved.

According to Eurotransplant, about 6,000 people received a deceased donor organ in Europe last year. However, only a small percentage of these recipients were small children. Without Business Aviation, these children would have no chance of survival.

Ideally Suited for Humanitarian Missions

Business Aviation operators are ideally suited to respond to this kind of emergency transport. But they are also a vital tool for emergency organizations during natural disasters and other humanitarian crises. They can mobilize on short notice, provide aircraft types suited for specific missions, and operate into airports that are inaccessible to larger aircraft. And, most importantly, they are willing to step up to the challenge.

As a result, Business Aviation plays a key logistical role in a variety of humanitarian and charitable organizations, including the Red Cross, the UNHCR, the World Food Program, Doctors without Borders and the Special Olympics. Quite often, business aircraft are chartered to supplement or even replace the capabilities of government agencies or international bodies. In fact, up to 9% of business aircraft movements in Europe are on humanitarian missions.

Quite a large portion of humanitarian flights using business aircraft don’t require any sort of special equipment or any modification of the aircraft because these aircraft ferry patients like Nicole with serious illnesses, medical personnel and sometimes relatives to the clinic where they undergo their treatment. In cases like the recent Ebola outbreaks in Western Africa, doctors, nurses and development workers had to rely on business aircraft as there was no other means of getting to the affected regions available.

Another advantage of business aircraft compared to commercial airlines is baggage capacity. Medical personnel can transport their equipment, some of which is sensitive, on the same aircraft without worrying about it being damaged during loading or unloading. Furthermore, business aviation dispatchers and operators are experienced in responding to flight requests quickly and to flying according to the customers schedule – just as on an ordinary business flight.

“I was not aware of Business Aviation as an industry, but I used to travel a lot on your planes,” said Bernard Kouchner, co-founder of Doctors without Borders and, from 2007 to 2010, French Minister of Foreign & European Affairs, speaking at EBACE 2016. “Reaching people in humanitarian crises would be impossible without light aircraft as these towns have no commercial airline service and rely on little planes, so the development of your industry is absolutely crucial.”
Rega chose Challenger 650 for its new air ambulance fleet (top).

Learjet 60 of FAI (center) and its interiors (below).

Business Aviation also comes to the rescue when governments don’t want to use their military aircraft to evacuate people from hostile locations or when hostages need to be flown out of a country to a secure place to reunite with their relatives. A transfer by military aircraft would be seen as a hostile act, and maybe escalate an already tense situation, so a business aircraft is the only solution. These kinds of flights are most often operated discretely, which Business Aviation is used to.

The Medevac Role
Air ambulance and medical evacuation (medevac) flights are the most widely known form of humanitarian aviation. These services are a vital link in the international healthcare system. Not only do air ambulance services fly critically ill patients to specialized clinics where they get the treatment they need, they also fly patients after large-scale accidents to hospitals with the capacity to treat them. After all, patients recover quicker when they are in a known environment with medical personnel speaking their language or having their relatives and families around them.

Medevac and air ambulance flights are officially recognized by international law and therefore receive priority by air traffic control (ATC). But as the FAA’s FAR AIM (Aeronautical Information Manual) points out: “Because of the priority afforded air ambulance flights in the ATC system, extreme discretion is necessary when using the term ‘MEDEVAC’. It is only intended for those missions of an urgent medical nature and to be utilized only for that portion of the flight requiring expeditious handling. When requested by the pilot, necessary notification to expedite ground handling of patients, etc., is provided by ATC. However, when possible, this information should be passed in advanced through non-ATC communication systems.”

A typical air ambulance aircraft has, on average, space for one or two patients, two pilots, a qualified medical team (usually a doctor and nurse) and, potentially, a companion.

Patients are placed on a comfortable stretcher with electrical supply for mobile medical equipment, which is identical to the equipment used in a hospital’s intensive care unit (ICU), but especially certified for use in an aircraft. With oxygen tanks, even patients on full ventilation can be transported over long distances.

FAI Aviation Group (Nuremberg, Germany) is not only Germany’s largest business jet operator, with 25 business jets, but also a global leader in air ambulance patient transport. The company was founded over 30 years ago as a private club and started flying jets in 1989. Since 2001, the company has focused on its air ambulance business. FAI’s air ambulance business has logged more than 200,000 total flight hours of ambulance missions. The company has received the EBAA Diamond Award for having flown over 100,000 flight hours without accident. They operate specially equipped ambulance aircraft like the Bombardier Challenger 604, Learjet 60 and Global Express, some of which can transport ICU patients. FAI is the largest air ambulance operator worldwide in terms of revenue.
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The company’s fleet of intensive care air ambulance jets is operational 24/7. All aircraft are fully equipped with state-of-the-art medical equipment and staffed with highly qualified medical personnel. This means patients who need to be evacuated or repatriated can be treated and transported as fast as possible. All aircraft are designed to carry up to two stretchers, and FAI air ambulances offer bedside-to-bedside support of the medical team without any additional costs. This means that the medical crews will pick up a patient at the hospital of origin and deliver the patient to the receiving hospital.

Medical treatment on board FAI air ambulance jets strictly adheres to the highest international standards. FAI follows international guidelines for the composition of the crew. The medical crew consists of specially trained physicians and paramedics, and the required qualifications as per FAI Medical Operation Manual (MOM) are a condition for operation.

As a member of a European political delegation involved in an air ambulance mission to Mauretania in Western Africa, FAI recently gave a presentation on their services at the European Parliament in Brussels. FAI was alarmed at 8:15 pm to medevac the patient either to the Canary Islands or to Brussels. After a careful assessment, the medical director decided to fly the patient directly to Brussels. At midnight, FAI’s Learjet 60 took off from Nuremberg and flew 5 hours and 50 minutes to Nouakchott. Two hours and 30 minutes later, the Learjet took off from Mauretania with the patient on board and landed in Brussels after a 5 hours and 40 minutes flight. The medical director handed over the patient to the Brussels University Hospital, where he was taken care of.

Air ambulance operators also repatriate patients from abroad after health problems or accidents. During the ongoing coronavirus crisis, with borders in Europe being closed, intensive care patients from Italy and France were flown via helicopters and state-owned medevac aircraft to hospitals in Germany and Luxembourg, thus reducing pressure on the French and Italian healthcare systems. After these patients were cured and released from the hospital, some of them were flown back with specialized aircraft from air ambulance operators because the borders remained closed and these people would have been trapped abroad.

Air Ambulance Configured Aircraft

While pre-owned aircraft like the out-of-production Learjet 60 prove to be very popular aircraft among air ambulance operators, widebody aircraft like the Bombardier Challenger and the Gulfstream G550 are also popular because of their large cabin and range.

Nearly all types of business jets, with the exception of personal and entry-level jets, can be found in the global inventory of medevac operators. Even turboprop aircraft like the Beechcraft King Air and the Pilatus PC-12 play an important role in the air ambulance business. The number of brand-new aircraft being used in the medevac/air ambulance role is increasing in recent years as the volume of flights continues to grow. Therefore, aircraft OEMs are becoming more involved in the design and production of air ambulance aircraft.

Gulfstream Aerospace has a long history of delivering state-of-the-art medevac and ambulance jets to operators around the world. In July 2018, the company delivered a brand-new Gulfstream G550 to the Beijing Red Cross Emergency Medical Center. “This aircraft showcases what’s possible when you combine innovation, talent, commitment and expertise,” commented Gulfstream President Mark Burns during the delivery ceremony in Savannah. “With this aircraft – and our collaboration with the Beijing Red Cross Emergency Medical Center – we have done exactly that and, as a result, we will change – and save – lives, forever altering the expectations for medevac support.”

Since entering into service, the aircraft has provided disaster relief and air rescue services worldwide. This particular G550 features an unprecedented degree of technological innovation that draws on Gulfstream’s more than 50-year heritage of providing special missions aircraft worldwide. It features a dedicated medical bay outfitted with advanced equipment to sustain and stabilize critically ill patients, including 360-degree in-

MEDEVAC

PC-12 owned by the RFDS (left).
A Gulfstream G550 of Beijing Red Cross (right).
flight patient access, a medevac first advanced life-support capabilities (ECMO – extracorporeal membrane oxygenation), a bed designed to accommodate an infant incubator, a powered gurney loading system on aircraft stairs, X-ray viewing equipment, refrigerated medical storage cabinets, fold-out nurses’ seats for individual patient care, and crew rests with berthing.

At EBACE 2019, Textron Aviation highlighted the first Cessna Citation Latitude in an air ambulance configuration. The aircraft was wearing the bright yellow livery of Babcock Scandinavian Air Ambulance, the launch customer of this version. The aircraft is the first of its type to feature a custom OEM interior solution for medevac missions. Every part of the interior has been production-certified and offers compatibility with a wide range of medical equipment. This allows operators to select the perfect fixtures in order to meet their individual mission requirements.

“For our mission-centric customers, we are excited about what the medevac Citation Latitude offers by the way of range, cabin size and speed in emergency situations where minutes count,” said Doug May, Vice President, Special Missions at Textron Aviation. “Having our medical interior certified in production as part of the aircraft type certificate is another major win for our customers, providing significant cost and risk reduction for those outfitting the Latitude with their medical equipment of choice as it comes off the line.”

The medevac Citation Latitude offers a single-sled stretcher, expanded cabin doors and a SATCOM radio for medical emergency communications. Textron Aviation also announced that it is planning to certify further aircraft interiors for medevac missions.

When Pilatus designed its first business jet, the PC-24, the Swiss company had air ambulance operators in its mind. The PC-24 was designed as a super versatile aircraft with a large cargo door and rough-field operations capability. The Australian Royal Flying Doctor Service (RFDS) was one of the launch customers of the PC-12 single engine turboprop and helped Pilatus define the PC-24. The flexibility of the PC-24 opens many possibilities for its deployment on medevac missions. The spacious cabin can accommodate up to three patients plus medical personnel. The large cargo door also facilitates rapid and careful loading and unloading of patients. These characteristics, plus the PC-24’s capacity to use short runways, make it the ideal aircraft for all medevac missions. The RFDS took possession of the first PC-24 in the ambulance role in November 2018 and started flying medevac missions with it in early 2019.

Swedish ambulance aircraft operator Kommunalförbundet Svenskt Ambulansflyg (KSA) followed RFDS’s example. After what Pilatus Aircraft had called “a long period of intensive and very professionally conducted negotiations”, KSA opted for six PC-24s in a fully equipped air ambulance configuration.

“The highly professional selection process confirmed that the PC-24 is indeed the perfect aircraft for medevac missions,” said Oscar J. Schwenk, Chairman of Pilatus. “I’m also particularly happy that we managed to carry the day with our Swiss aircraft in a highly competitive market segment, and we see further worldwide market potential for our PC-24 in this area.”

“We are very pleased to announce that we have completed our procurement of air ambulance aircraft, and to award Pilatus the contract,” adds Annika Tännström, Chairman of KSA. “The fleet of PC-24 aircraft will allow us to fulfill the needs of all regions in Sweden in terms of air ambulance transports and we look forward to deliveries in 2021!”

These PC-24s will provide aeromedical care across the Scandinavian country starting in 2021. KSA is a national organization formed, mutually owned and financed by all 21 regions in Sweden. The regions are responsible for ensuring that everyone living in Sweden has equal access to good healthcare. Time is the essence for patients in an emergency and, given the vastness of Sweden, the establishment of a national air ambulance service provides all residents with access to rapid, professional aeromedical care. Combining the speed of a jet with the ability to use short runways – one of the great
MODELS

The Learjet 75 Liberty is ideal for EMS conversion (top). Wing Spirit of Hawaii is using HondaJet as medevac (center).

strengths of the PC-24 – makes this Super Versatile Jet the ideal aircraft for KSA.

“By signing the contract with Pilatus, Svenskt Ambulansflyg has passed a major milestone on the way towards establishing a national air ambulance,” says Andreas Eriksson, CEO of KSA. “The performance and capacity of the PC-24, combined with the spacious and easily re-configurable emergency medical service equipped cabin, will allow us to conduct the required air ambulance missions safely and efficiently.”

KSA plans to fly its PC-24 a total of around 6,000 hours a year on air ambulance missions.

Bombardier Aviation recently received an order for two new Learjet 75 Liberty with medevac interiors from Polish air ambulance provider Lotnicze Pogotowie Ratunkowe (LPR), based in Warsaw, for delivery this year. According to Bombardier, the Lear 75 Liberty has enough range to reach any European destination out of Warsaw. Both aircraft will be converted to the medevac configuration by Fargo Jet Center.

With a flat floor and the longest cabin in its class, the Learjet 75 Liberty aircraft is ideal for EMS conversion. It has room to accommodate up to three stretchers and sophisticated medical equipment, as well as seating for medical staff. The Learjet 75 Liberty aircraft also has the smoothest ride among light jets, which on EMS missions adds to the comfort of patients receiving care.

“The acquisition of the new Learjet 75 Liberty aircraft fits perfectly into our strategic plans for growth in Poland and will provide the necessary combination of speed and range to drive the expansion of our operational capabilities and EMS transport availability into international operations,” said Wojciech Wozniczka, LPR Director of key project management. LPR operates 27 rotary wing and two turboprop aircraft for ambulance missions.

The newly established operator Wing Spirit of Hawaii introduced light jets to the islands of Hawaii by starting operations with two HondaJet Elite in July 2019. The company ordered no less than 15 aircraft of that type and intends to explore Hondajets as air ambulances for use throughout the Hawaiian Islands. The aircraft serving as air ambulances will be outfitted with custom medevac configurations, marking the first time this design has been implemented in a HondaJet.

“When creating the HondaJet, my goal was to design a technologically advanced aircraft that would improve the lives of customers around the world,” said Honda Aircraft Company President and CEO Michimasa Fujino. “Wing Spirit using HondaJets for lifesaving transportation and as a method of convenient transit between islands is true recognition that the aircraft is achieving that goal.”

BizAv Takes on Coronavirus

During the coronavirus pandemic, Business Aviation was severely hit by closed borders and by travel restrictions. But the industry answered the call for help. Dassault Aviation made two of its customer support Falcon jets available for the French Defense Ministry’s “Operation Resilience” effort to provide logistical and medical support to civilian efforts combating the virus. The company flew its first mission on April 5th using its own 15-seat Falcon 8X and 13-passenger Falcon 900. Both aircraft ferried a team of 26 doctors and other medical personnel, who previously accompanied Covid-19 patients on board a converted TGV high-speed train to Brest, back home to Paris. Both aircraft are operated by Dassault Falcon Service maintenance and flight operation subsidiary based at...
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SAVE THE DATE | nbaa.org/2020
Dassault made two of its Falcon jets available for combating the virus (left). Daher Kodiak 100 Series II aircraft transporting ventilators (right).

Paris’ Le Bourget Airport. Both Falcons remain available to support future ‘Resilience’ operations as conditions warrant, say Dassault officials. In some humanitarian flights, it’s not about transporting people but precious and time critical cargo. During the current pandemic Business and General Aviation Aircraft operators are showing what they can do – when they are allowed to. The California Department of Public Health, for example, had ordered 1,000 ventilators from Percussionaire Corp of Kootenai, Idaho. California has – amongst other states – a particularly high number of coronavirus cases. Percussionaire had already ramped up its production and was able to deliver the ventilators in the shortest possible time. But logistics was a different story.

A delivery by truck would have taken considerably more than a day, as there are over 850 miles of road between the drop-off-destination in Sacramento and Kootenai. Kootenai is a suburb of Sandpoint, the city that is home to Kodiak Aircraft Company, which belongs to the French manufacturer Daher. The aircraft manufacturer immediately agreed to support Percussionaire in transporting the TXP 5 ventilators and provided a brand-new Kodiak 100 Series II single engine turboprop to fly the important equipment to Sacramento.

On April 16th, employees of both companies loaded the unpainted Kodiak 100 with a total of 120 ventilators and sent it on its way to Sacramento Executive Airport. With a range of 845 nautical miles and a cruising speed of 154 knots, the Kodiak reached its non-stop limits on this flight. But in less than six hours, the plane and its valuable cargo arrived in Sacramento. There the equipment was received and distributed to the hospitals. The very same week, a second batch of 120 devices was flown to the California capital once again.

Very early in the pandemic, Universal Weather and Aviation announced that it would donate its flight planning services for humanitarian medical supply missions. The company said it will waive its fees for mission-feasibility assessments and consultation services for any flight classified as a humanitarian medical supply flight, as well as for direct ground handling setup.

“We are in an unprecedented and trying time for our industry and the world,” said Universal Weather Chairman Greg Evans. “Business Aviation missions are still flying and are now more critical than ever as we battle the global coronavirus pandemic.”

Evans emphasized that Universal Trip Support team members have continued to support such missions, working to route flights safely through ever-changing domestic and international restrictions and local quarantines. “Now is the time for Business Aviation to come together and support each other,” he added. “Not just for our industry, but for the people that fight this pandemic and those in need – these missions are saving lives.”

Likewise, Quest Aviation of Reading, Pennsylvania is providing fast and safe transportation of test samples from hospitals and doctors to Quest Diagnostics laboratories. These tests are important in the diagnoses and treatment of patients. Quest Aviation has over 30 years’ experience in operations and currently operates a fleet of 22 aircraft, including nine Beechcraft Baron, eight Pilatus PC-12 and five Embraer Phenom 100. Quest Diagnostics annually serves one in three adult Americans and half the physicians and hospitals in the United States. Quest’s laboratories operate 24/7, 365 days a year. Without its aircraft fleet, it wouldn’t be capable of testing such a large number of samples.

In Europe, Prague-based ground support company Euro Jet has seen a significant increase in its support of humanitarian, repatriation and medical evacuations. The company has supported humanitarian operations of their customers from the US, United Kingdom, Russia, Czech Republic, Slovakia, Poland and the Middle East.

“While the past couple months have been very challenging for everyone in aviation, we have continued to support cargo, humanitarian, and repatriation flights,” said Euro Jet CEO Charlie Bodnar. “Our staff in the Euro Jet OCC and at airports across the
world have been working around the clock to support these operations and be available 24/7.”

While helping to ensure that the medical equipment will be successfully delivered to the countries where it was needed the most, Euro Jet is also supporting humanitarian flights coming from China through Kazakhstan, flying mainly to Italy and Romania. The company has also overseen the transport of migrant workers, who were travelling from Romania and Ukraine to Germany in order to help harvest seasonal produce.

While some companies are focused on transporting much needed equipment, others are working to build such equipment. Embraer, for example, is working in partnership with companies and research centers on technologies that can increase the availability of equipment and solutions to combat COVID-19 in Brazil.

The actions, developed jointly with Embraer’s supply chain, includes the manufacturing of parts for the ventilator and respirator industry.

In partnership with the Albert Einstein Hospital, located in São Paulo, Brazil, Embraer is also working to provide technical support for the development of biological air filter systems for air-quality control, which can convert regular hospital beds into intensive care beds. Using highly efficient filters for absorbing air particles, already utilized in air conditioning systems on aircraft, the objective is to provide this solution to hospitals with immediate needs.

Another work front is dedicated to analyzing the manufacturing of control valves and flow sensors for another respirator industry in the country, in addition to adapting an existing respirator model for use in combating COVID-19.

“The analysis of innovative solutions and the potential of additional actions presented by the market can contribute to the identification of new opportunities for action,” says a company spokesperson. “The global health care system is facing an unprecedented scenario, and Embraer plans to apply its capacity during this moment of global collaboration and demand for effective and short-term solutions.”

Embraer will keep monitoring the situation to find ways to contribute by utilizing its expertise integrating complex systems for the benefit of the society in this worldwide cooperation to combat COVID-19.

At Avfuel’s headquarters in Ann Arbor, Michigan, OEM professionals in its Avtank division have joined the effort to make personal protective equipment (PPE) for the medical community during the COVID-19 pandemic. To assist in the PPE shortage, the team uses four 3D printers – with another two to four
People in bizav who

Database is a list of

mobilization efforts.

COORDINATION
disaster-response

NBAA’s HERO

are part of

skills to use to support them.”

“We’re thankful for the front line

requests hits zero,” adds Van

machines come online, Avfuel esti-

site for distribution as production

reached capacity with on-hand print-

bands that went to the sanitization

stage – sending 175 of these to the

University of Michigan Hospital – as

well as more than 30 face shield head-

bands that went to the sanitization

site for distribution as production

reached capacity with on-hand print-

ers on April 9. The team looks for-

ward to adding more printers, includ-

ing a larger, faster unit. Once all

machines come online, Avfuel esti-

mates it will be able to produce more

than 100 pieces of PPE per day.

“Avfuel staff will keep up its produc-
tion until the queue of pending
requests hits zero,” adds Van Camp.
“We’re thankful for the front line

workers and proud we could put our

skills to use to support them.”

Natural Disasters Too

When natural disasters strike, the
Business Aviation community snaps
into action whenever it is needed,
delivering relief to people and com-

munities. Financial or in-kind dona-

tions of aircraft and flight crews are

often offered to transport specialists

and supplies into disaster-stricken

areas.

When hurricanes María, Irma and
Harvey devasted the Caribbean and
Texas in the fall of 2017, the Business
Aviation community offered immedi-
ately assistance in the form of aircraft,
pilots, dispatchers and others to sup-
port relief efforts in the region. As
soon as the airports had cleared their
runways, all types of business aircraft
flew in medical supplies, food, tools,
rescue teams and relief workers.

After the clean-up, Texas state Rep.
Dade Phelan praised General
Aviation’s relief efforts following
Hurricane Harvey. “The people of
Orange and Jefferson counties are
forever indebted to Business
Aviation’s response after Hurricane
Harvey, which was heroic in their
efforts to provide relief to our devas-
tated community,” he said.

Phelan specifically highlighted the
work of PALS Sky Hope flights, not-
ning that the organization helped deliv-
er more than 200,000 pounds of criti-
cal supplies. “When immediate action
was needed, they reacted quickly and
without the red tape of other agen-
cies,” he said. “They worked in con-
junction with military personnel and
an army of volunteers on the ground
making the operation seamless.”

When Haiti was stricken by a devas-
tating earthquake back in 2010 that
took the lives of thousands of
islanders and destroyed most of the
country’s infrastructure, business air-
craft flew in much needed rescue

teams and gear like water purification
systems. The NBAA took the oppor-
tunity to develop an online registry of
aircraft, volunteers and humanitarian
groups available to assist in relief
efforts whenever the need arises.
Over 400 aircraft, from professionally
operated piston aircraft to turboprops
and large jets and even helicopters,
are included in the registry and are
standing by.

NBAA’s registry has evolved into
the association’s Humanitarian
Emergency Operator (HERO) data-
base, which includes type of aircraft,
home base, range, available seats,
cargo and special capabilities of each
registered aircraft. NBAA also pro-
vides recommendations on best prac-
tices for planning and conducting
mercy flights. NBAA recommends
that mercy flight crews coordinate
their flights with a disaster relief char-
ity as unexpected flights can put
crews and disaster responders in dan-
ger. The association also recom-
mands to always fly with a minimum
of two experienced pilots as these
missions can be extremely stressful
and possibly overwhelm a single pilot.

In disaster areas like a tsunami-hit
region or an earthquake-stricken
area, relief aircraft should always be
equipped with a collision avoidance
system like TCAS as ATC service
might be unreliable or not available at
all. Another helpful tip concerns flight
planning. Here, the NBAA says: “Fuel
is likely to be in short supply or more
difficult to procure than usually
expected. Operators should plan
accordingly to ensure they’re carry-
ing enough fuel to safely return no
matter what the situation is like on
the ground. The same applies for
mechanical problems – resources to
help fix flat tires or other aircraft dis-
crepancies will likely not be available,
so consider carrying spare parts to
address any common mechanical
issues that arise.”

An Indispensable Service

The humanitarian side of Business
Aviation might not be the shiniest or
the most profitable side of the indus-
try, but whenever disaster strikes, a
business aircraft is taking-off on a
humanitarian mission – showing just
how indispensable Business Aviation
is for everyone.
WE’RE HERE FOR YOU

FROM HORIZON TO HORIZON

We want to reassure you, our clients and partners, that we are here to support you, from start to finish, from horizon to horizon.

We haven’t changed. Our business model is designed to adapt to a changing world, and we are moving forward to meet your needs. We’re still here working for you, we’re still researching, and we’re still developing the tools you need to sustain your business and help you grow during this crisis and beyond. We have the intelligence you need when you need it most.

As you work to sustain, to grow, to gain an advantage, we are here for you. Let’s do this together.
Air services have always played an essential role in assisting people in times of disasters. And now in the wake of the Covid-19 crisis, the aviation sector is showing the world how it is a force for good. Nick Klenske brings you inspiring stories from humanitarian organizations.
Sure, EBACE 2020 may be cancelled, but that doesn’t mean Business Aviation is!

The silver lining of this horrible disease is that it’s bringing the best out of people. Around the world we are volunteering to help those in need, giving blood, and staying inside to protect the most vulnerable among us.

Aviation is also going above and beyond. From the New England Patriots using their team’s jet to transport much needed medical supplies to airlines helping repatriate stranded citizens, the aviation sector is showing the world how it is a force for good.

Of course, this isn’t news for Business Aviation, which has long put philanthropy and service at the forefront. Whether it be the NBAA’s sponsorship of the Corporate Angels Network or individual aircraft owners donating their jets for disaster relief, Business Aviation has always been a leader in humanitarian response. And with the COVID-19 pandemic, Business Aviation has once again jumped into action.

“Business Aviation has long served as a lifeline to people and communities in crisis,” says NBAA President and CEO Ed Bolen. “That’s because business aircraft can reach locations impacted by natural disasters when airliners and sometimes even automobiles cannot.”

Bolen also notes that because business aircraft can operate on short notice into outlying airports with small runways, and sometimes unpaved airstrips, or even onto roads – they are uniquely suited to providing a first response to natural disasters and other emergencies.

In support of these humanitarian efforts, the NBAA maintains a Humanitarian Emergency Response Operator (HERO) Database – a list of people in the Business Aviation community who are part of disaster-response mobilization efforts. In the aftermath of major crises, basic information from the database is provided to organizations coordinating relief efforts.

The NBAA also offers the Al Ueltschi Award for Humanitarian Leadership in recognition of the spirit of service demonstrated by humanitarian leaders within the Business Aviation community. Created in 2006, past recipients include Sean Tucker and the Bob Hoover Academy, Harrison Ford, FedEx Express, the Corporate Angels Network, Cessna and the Veterans Airlift Command, among others. The award is named after Albert L. Ueltschi, who was instrumental in developing an international non-profit organization dedicated to preventing blindness and saving sight.

At BART, we think it’s time we shared these amazing – and often inspiring – stories. So in lieu of what would typically be our EBACE roundup, here’s a look at how Business Aviation consistently goes the extra mile.

**AERObridge**

This NBAA-endorsed group of experienced aviation specialists coordinate emergency aviation response during disasters. By drawing on the resources of business and general aviation, the organization has the capability to respond to catastrophic disasters in a fluid and rapid manner.

“Our primary mission is to assist governments and NGOs by moving people and supplies to where they are most needed,” says AERObridge President Marianne Stevenson. “By matching aircraft with emergency response teams and critical supplies, we are able to provide a vital window of assistance to save lives and aid those in need.

To maintain a heightened state of readiness, AERObridge engages in International Humanitarian Aid projects that help transport needed donations directly to the poorest people in seven underdeveloped countries. “By continuing relationships with our aviation partners globally, we will create a working relationship that will achieve a faster disaster response should we need to activate it,” adds Stevenson.

**Air Care Alliance**

Air Care Alliance is a nonprofit public benefit umbrella group that lists and supports all known volunteer pilot and similar charitable GA groups. ACA lists and make referrals to more than 65 aviation relief organizations of various kinds. To maximize charitable aviation through organizations and pilots flying to serve the needs of humanity, the organizations
promotes, supports, and represents public benefit flying.

Public benefit flying organizations utilize the unique capabilities of general aviation aircraft to lend a hand whenever rapid and safe air transportation is needed to make health care accessible, save lives or otherwise serve the public. “They and many other non-flying volunteers work to transport needy patients to facilities where they are able to receive the medical attention they might otherwise have to do without,” says an ACA spokesperson. “Many groups also play a significant role providing disaster and emergency relief, flying for environmental support or performing other community service missions.”
US charities delivering emergency aid, disaster relief, humanitarian assistance and ongoing development programs abroad. “We merge diverse skills and precious talents with a passionate commitment to eradicate poverty, disease, hunger, ignorance and injustice,” says an organizational spokesperson.

ALFA arranges mission flights in a variety aircraft. The gifts of wings are made possible by gracious pilots and aircraft owners freely offering cargo space or empty seats whenever possible. Every flight is unique, yet all are life-transforming experiences. Missionaries team up with airlift flyers through ALFA to deploy safe, efficient and successful missions.

ALFA advocates public-service aviation and promotes awareness of rewarding opportunities for participation among all aviation communities. “Our volunteers take pride in the quality of service devoted to aircrew and missioners alike with great joy and personal satisfaction for every small accomplishment,” says the organization.

**Air Serv International**

Air Serv’s 35 year history of providing lifesaving access into the world’s most remote locations began in 1984 as a response to the
Angel Flight was created by a group of pilots who believe in the benefit of volunteering. “We strive to keep all aspects of the organization volunteer – we are a non-profit charitable organization of pilots, volunteers, and friends,” says founder Doug Vincent. Angel Flight coordinates non-emergency flights to help country people access specialist medical treatment.

“The service is available to individuals and health care organizations. Angel Flight will also arrange transportation of those people who are financially distressed, or who are in a time-critical, non-emergency situation due to their medical condition.

Corporate Angel Network
The Corporate Angel Network (CAN) is the only charitable organization whose sole mission is to transport cancer patients to the hospital at which they need to be to receive a specialized form of treatment. To do this, CAN pairs empty seats on both private and corporate aircraft with qualified patients who need the rides – all at no cost to the patient. This not only improves the patients’ chances of survival but, at the same time, reduces their emotional stress, physical discomfort and financial burden.

Participation is open to all cancer patients, bone marrow donors and recipients and stem cell donors and recipients who are ambulatory and not in need of medical support while traveling. Eligibility is not based on financial need, and patients may travel as often as necessary.

Thanks to the generous cooperation of 500 of America’s top corporations, including half of the top 100 in the Fortune 500, CAN has coordinated more than 60,000 flights since its founding in 1981. “Our program offers an obvious and meaningful benefit to cancer patients and their caregivers, along with the opportunity for compa-
nies with corporate aircraft to provide a wonderful community service by merging business activities with corporate social responsibility,” says CAN Executive Director Gina Russo.

**LifeLine Pilots**

Founded in 1981 by Wanda Whitsitt of Champaign, IL, LifeLine Pilots’ mission is to facilitate free air transportation through volunteer pilots for financially distressed passengers with medical and humanitarian needs.

LifeLine Pilots began as a small group of pilots in Illinois who envisioned using their special skill of flying to help people with emergencies reach medical centers. With only 40 pilots, all activity was limited to departing or arriving within the state. All operations were under the auspices of Illinois Emergency Services and Disaster Agency, taking advantage of their 24-hour phone service and liability protection. After five years, the group separated from the state agency to expand the service area outside of Illinois. Criteria was expanded to include a financial need and logistical concerns. Board Members served as volunteer mission coordinators. The 100th mission was flown in 1987.

By 1990, it was evident that the increase in mission activity would require a paid mission coordinator to handle the volume. In 1998, the move was made to relocate LifeLine Pilots’ office to Byerly Aviation at the Greater Peoria Airport and broaden the scope of activities. A steady growth in mission activity has underlined the importance of this decision. To date, over 8,000 missions have been flown by LifeLine Pilots’ Volunteer Pilots. The service area has grown to include free air transportation to those traveling between the Rocky Mountains and the East Coast.

The generosity of 450 volunteer pilots makes the mission of LifeLine Pilots’ a reality. Their decision to donate their time and resources to those with transportation needs has resulted in over 5,000,000 charitable nautical miles flown. The volunteer pilots come from all walks of life, are FAA certified, have met the LifeLine Pilot’s volunteer pilot criteria and have a willingness to donate 100% of flight expenses.

LifeLine Pilots’ passengers must have financial need, be able to sit upright, be ambulatory and be willing to fly in a small unpressurized aircraft. They have exhausted resources in their own community and are needing to travel a great distance to continue lifesaving treatments. LifeLine Pilots does not limit the number of times a passenger can utilize the service. Missions are facilitated for babies through senior citizens. LifeLine Pilots’ has also participated in relief efforts for natural disasters by transporting volunteers and supplies to areas of need.

To continue to meet the growing need of those with transportation barriers, ongoing outreach to referral sources such as medical centers and
SUPPORT
Flying Doctors of Mercy (top). MFI works with companies willing to donate aircraft flight time to the cause (center and below).

**LIGA International Flying Doctors of Mercy**
Since 1934, the Flying Doctors of Mercy have been creating miracles deep in the heart of Mexico, where only the employed can afford medical and dental care. With modern donated equipment, Liga volunteers treat tens of thousands of persons every year and provide millions of dollars in services to the local peoples. Audiologists, physicians, surgeons, podiatrists, anesthetists, nurses, translators and others from all corners of the globe depart in aircraft from California, Arizona and Nevada for their flights to historic El Fuerte in the State of Sinaloa, México. When they return to their homes early Sunday afternoon, they will have been away little more than 48 hours, but together they will have changed over 1,000 lives – and have experienced a trip of a lifetime.

**Missionary Flights International (MFI)**
MFI maintains regular passenger service each week to and from the countries of Haiti and the Dominican Republic in support of missionaries and aid workers when needed. In times of crisis, MFI works with companies willing to donate aircraft flight time to the cause.

**Patients AirLift Service (PALS)**
Patient AirLift Services is a 501(c)(3) nonprofit that arranges free air transportation for individuals requiring medical diagnosis, treatment or follow-up who cannot afford or are unable to fly commercially.

service organizations, as well as participation in general aviation events to recruit volunteer pilots are necessary functions of LifeLine Pilots’ operations. The organization is a 501 (c) (3) charity that is privately funded by individuals, corporations and foundations.
PALS also arranges volunteer flights for family members of patients as compassionate missions, to ensure patients have support when they are away from home for long periods. PALS is proud to assist military personnel and their families with free flights to aid in the recovery and rehabilitation processes for wounded veterans. PALS also has a history of supporting humanitarian efforts in the event of natural or man-made disasters.

Veterans Airlift Command

The Veterans Airlift Command (VAC) has put together a national network of volunteer aircraft owners and pilots to provide free air transportation to post 9/11 combat wounded veterans and their families for medical and other compassionate purposes.

Wings of Mercy

Serious or rare illnesses are not always treatable at local or even regional medical centers. Sometimes the best or only treatment can be hundreds of miles away. And, even when a patient's health insurance will cover treatment, it rarely covers transportation to those services. That's where Wings of Mercy comes in, connecting people who can't afford the financial burden of commercial flights with volunteer pilots who can get them there.

Wings of Mercy was founded by a Michigan native and pilot, Peter VandenBosch. Peter founded Wings of Mercy in 1991, and since then, the organization has flown over 8,000 missions. It has grown from just a handful of volunteers to a registered, organized nonprofit, and has seen the formation of two additional chapters in Minnesota and East Michigan. The organization can fly anywhere in the US east of the Rocky Mountains, and it is currently looking to grow its network and services further.

With accountability and stewardship, Wings of Mercy ensures that 80% of all donations go directly toward sustaining the cost of its flights, most of which are fuel expenses. All pilots are volunteers, generously lending their time and oftentimes their planes to our cause. With minimal staff and low overhead, the organization coordinates flights to meet appointments, pay for aviation fuel/expenses and raise funds to continue our operations. It is entirely funded by charitable contributions.

✈

SOLIDARITY

The Veterans Airlift Command (top). Wings of Mercy (center). Patients Airlift Service (below).

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Air ambulances are not new. Their first documented use occurred during the Siege of Paris in 1870 when balloons were used to evacuate more than 160 soldiers from the besieged city. However, the first true air ambulance flight happened during World War I, when a Serbian officer was flown from the battlefield to a hospital by a plane operated by the French Air Service. According to French records, if casualties could be evacuated by air within six hours of injury, the mortality rate among the wounded would fall from 60% to less than 10% - a staggering reduction!

The First Ambulance Jets

The first ambulance jets, as we know them today, coincided with the arrival of the first business jets at the end of the 1960’s. Two of the most popular models for medical evacuation (medevac) missions were the Learjet 35 and 36, both of which offered the advantage of high speed and service ceiling. As air ambulances, they were configured to carry one full stretcher, two medical staff and one to two traveling companions. Thanks to their high cabin pressure differential limit, sea level pressure could be maintained up to FL 250, and even FL 280 on the latest models. Their doors were not only tall, but more importantly, they were much wider than those of other light-medium sized jets in the segment. And the installation of a slightly larger ‘cargo’ door, wider than the standard Learjet door, allowed for even easier loading and unloading of patients. Also, the door was close enough to the ground that a stretcher ladder was usually unnecessary.

Today, there are a total of 474 Lear 35 and 36 jets in operation, with more than two-thirds still used for medevac missions. LifePort, based in Woodland, WA, USA, produces a range of equipment for Learjets, including multi-mission medical interiors. These interiors are built around the company’s Patient Loading Utility System (PLUS), which includes an Advanced Life Support (ALS) base unit, manual loading system, and AeroSled stretcher. Designed for a wide range of mission profiles, its ALS systems offers low-maintenance standard packages that include oxygen, compressed air, vacuum and electrical inverters. To keep critical backup systems functional during an emergency, the company designed backup power sources, such as J.E.T. Brand Emergency Power Supplies and Power Conditioning equipment, which provide mission-critical functions and enable operators to power two to three essential systems for more than an hour.

Multi-Mission Aircraft?

Most medevac aircraft are now dedicated specifically to these missions, for the simple reason that when a flight is requested, it is very often urgent, and reconfiguring the aircraft from executive to medevac takes time. Another reason is that air ambu-
Ambulance missions can have a negative impact on the aircraft’s interior as doctors and nurses taking care of patients in emergency conditions have more important things on their minds than not scratching ceilings and seats.

Beechcraft has built more air ambulances than any other manufacturer. Its King Air series is particularly well-equipped to handle medevac missions. The aircraft feature cabins that can be fitted with medical equipment either on a permanent or temporary basis, thanks to medical floor covering and easily cleaned sidewalls, allowing for an easy transition from air ambulance to VIP transport. Furthermore, their optional large cargo door facilitates the loading and unloading of patients on stretchers.

“The ability to quickly convert VIP charter aircraft for medical evacuation purposes offers significant benefit to aircraft operators who want to extend the serviceability of their business jets,” says Erik Vandegrift, Director Maintenance Operations at Jet Aviation in Basel.

**Transporting Intensive Care Patients**

Defibrillator, infusion pump, oxygen tank, stretcher, heart rate monitor. All this equipment is usually found in a hospital. However, they are also the basic items found in medevac aircraft, which are equipped to help patients in critical health conditions or who need to be transported under medical care.

Standard on board medical equipment includes heart monitors, mechanical fans, infusion pumps, mobile blood analysis devices (COPD), ultrasound equipment, external pacemakers, portable incubators. Specialized and advanced devices, such as Extra Corporeal Membrane Oxygenation (ECMO) and Intra-Aortic Balloon Pumps (IABP), can also be installed. It is even possible to adjust cabin pressure to the air pressure on the ground, providing a so-called “sea-level flight”, which is necessary when transporting patients with certain medical conditions like anemia, pneumothorax or intestinal injury.

Most cabins feature easy-to-clean vinyl sidewalls and floors, and most medical systems are bought as standard items by the aircraft manufacturers that then proceed to retrofit the air ambulances. The only main modification is generally the power supply, which must be independent of the aircraft power supply. Its electrical system must also support hospital equipment that requires a lot of power, like the defibrillator, for example.

**Air Ambulance Transport Options for Covid-19 Patients**

After purchasing a portable medical isolation unit manufactured in Norway by EpiGuard AS, known as the EpiShuttle, Germany’s FAI Air Ambulance, based at Nuremberg, has started transporting patients with confirmed Coronavirus infection. For this purpose, the company installed a customized stretcher configuration on its
Challenger CL604s, with specific EpiShuttle equipment and accessory modules ready to deploy. It also positioned dedicated teams of four ICU Flight Doctors and eight Flight Paramedics, all of whom are trained in accordance with the ECDC European Center for Disease Control Technical.

Following numerous requests from clients, FAI carried out repatriations of infected patients, working around the clock and averaging around six missions per day with its 10-strong fleet of five Learjet 60s, four Bombardier Challenger 604s, and one Global Express air ambulance aircraft. At the time of going to press, the demand was such that FAI had a backlog of three days.

Epiguard AS, mentioned above, has developed the EpiShuttle, a medical transport isolator system designed to carry infected patients. Aircraft that transport highly infectious patients within this system do not have to be disinfected afterwards. This saves time and money and ensures that aircraft can remain in operation as much as possible.

The EpiShuttle is reusable and can be safely disinfected and re-assembled in less than two hours. This significantly reduces the cost per transport, compared to single-use transport isolators. Glove ports provide medical personnel access to the patient’s entire body. The patient can be intubated and mechanically ventilated during transport, and IV-lines and monitoring equipment can be attached.

To deal with the health crisis linked to COVID-19, Dassault Aviation recently made two Falcon business jets, a Falcon 8X and a Falcon 900, available to the French Defense Ministry as part of the Operation Resilience intended to supply logistics and medical support for civilian coronavirus control activities. The first mission took place on Sunday, April 5th where the aircraft transported a team of 26 doctors and other medical personnel from Brest, Brittany back to Paris. The team had accompanied COVID-19 patients to Brest on a special medical train. The two Dassault aircraft were equipped for 15 and 13 passengers respectively.

SARS, Avian Flu, Ebola, and now Covid-19 – epidemics regularly threaten human lives. A unique kind of aircraft is necessary to transport and treat such highly infectious patients just as safely as on the ground. At the height of the Ebola epidemic, Lufthansa Technik was commissioned by Germany’s Federal Foreign Office to convert an Airbus A340 into an evacuation aircraft for transporting and treating highly contagious patients. In the middle and rear section of the airplane, passenger seats, galleys and luggage bins were removed to make room for a patient transport isolation unit surrounded by an airtight tent with negative pressure. Two exterior tents, also airtight, served as buffers so that the treatment tent could be entered and exited safely. Disinfection procedures ensured absolute hygiene, and waste management was also taken into account.

Many more specific requirements also had to be met, such as electrical connections for the intensive care systems, separate ventilation systems for the air inside and outside the tent, the disinfection system and, last but not least, a special system for communication between the aircraft crew and the medical staff in the isolation unit.

Air Ambulance Retrofitting

Because it is a niche market, a limited number of companies modify standard business jets or helicopters into medevac aircraft. At the beginning of the year, Bombardier sold two Learjet 75 Liberty aircraft to North Dakota-based Fargo Jet Center (FJC). The aircraft are to be converted to dedicated medevac configuration and
delivered to air ambulance service provider Lotnicze Pogotowie Ratunkowe (LPR), based in Warsaw, Poland. Fargo Jet Center is expected to take delivery of the aircraft from Bombardier in late-2020, then deliver the converted EMS aircraft to LPR in Poland in 2021.

With a flat floor and the longest cabin in its class, the Learjet 75 Liberty aircraft has room to accommodate up to three stretchers and sophisticated medical equipment, as well as seating for medical staff. The auxiliary power unit is also certified for unattended operation and can continuously supply power to key life support equipment.

Spectrum Aeromed, also based in Fargo, has been selected as the air medical equipment provider on the project. Since 1991, the company has designed medical interiors and equipment for all kinds and sizes of aircraft. But the company can also create unique solutions for individual clients. For example, Life Flight Network, one of the largest not-for-profit air medical transport services in the USA, liked the Bell 429’s interior but wanted a few customizations. These included a single Pivot Stretcher, forward medical cabinet with a liquid oxygen 10-liter orb, medical pivoting seat, ceiling valance, medical lighting and a lightweight floor protection kit.

These additional components would provide a variety of benefits, specifically in the areas of accessibility. The Pivot Stretcher’s rotating, extension and locking capabilities would allow for a better ease of loading and handling patients, in addition to safer patient access in-flight. The cabin would have capacity for up to three medical seats, including a rotating seat with patient access. Medical equipment could be secured by the mounted Stretcher Bridge. For neonatal missions, an Infant Transport Deck could instead be secured to the base deck. For neonatal missions, an Infant Transport Deck could be secured to the base deck.

To meet these expectations, Spectrum Aeromed sent the interior kits to Bell, which will perform the installation and deliver the helicopters to LFN. The Pivot/Articulating Stretcher and base deck, medical swivel seat, and medical mounts are established designs, while the floor adapter attachment is an update to an existing product.

Spectrum Aeromed is currently at work on four other STCs. The current available STC is a Dual-Patient solution for the Leonardo AW139 helicopter. The other STCs concern the Pilatus PC-24 light jet, the Embraer Phenom 300 light jet and the Leonardo AW169. Spectrum also designed two loading systems. Its Manual Patient Loader fits any smaller aircraft and allows patients easy access aboard the aircraft, while its Electric No-Lift Patient Loader allows crew to load any patient or incubator safely into the aircraft without any lifting at all.

Jet Aviation Dusseldorf has performed the first Medevac conversion of an Embraer Legacy 600. The company converted it to serve both as a Medevac aircraft with four patient stretcher systems, and as a VIP charter aircraft accommodating up to 14 passengers. The Medevac conversion was supported by the company’s EASA-approved Part-21 organization and ensured short reconfiguration cycle periods - within just one working day - and extreme flexibility in the operation of the aircraft.

In 2017, Jet Aviation was awarded two medical evacuation conversions at its maintenance facility in Basel. An Embraer Legacy 600 was converted for a customer in Asia and an Embraer Legacy 650 conversion for a customer in the Middle East. Jet Aviation developed and owns an STC that ensures short reconfiguration cycle periods and extreme flexibility in the operation of Embraer...
Executive Jets. With Jet Aviation’s modifications, it is possible to convert the aircraft from VIP charter aircraft to medical evacuation aircraft within just a few hours. As VIP charter aircraft, the two Legacy’s each accommodate up to 14 passengers. When converted for medical evacuation, the Legacy 650 presents four patient stretchers and loading systems, while the Legacy 600 supports two.

Air Ambulance Technology (AAT), based in Ranshofen, Austria, has been designing “Quick Change Interiors” for over 25 years. With a maximum installation time of under 30 minutes for a complete interior (depending on the aircraft), these kits allow operators to carry out multi-missions (EMS, SAR, Medevac) with a single aircraft. Presently offered for various aircraft, including the Beechcraft 300/350, the Citation 550/5460, the Learjet 45/55/60 and the Dornier 328, AAT kits can be installed and easily removed without any structural changes to the aircraft structure. They are built in a modular system and can cater for one patient requiring intensive and non-intensive care treatment.

LifePort, which equipped the first Learjets, has extended its portfolio. It now ranges from integrated line replaceable units (LRUs) that exclusively equip Gulfstream G-Vs, to multi-mission systems for the Airbus H125 AStar helicopters. According to the company, its systems are designed to be compact, maximizing the available space in the aircraft. LifePort also has the internal capability to design and certify liquid or gaseous oxygen systems for extended range aircraft or multiple patients that need to be supported at the same time.

Two years ago, LifePort collaborated with Piaggio on the design of its Avanti EVO Medevac aircraft, with an enlarged cabin door as an option. Around 25 Avanti in Medevac configuration or equipped with the quick-change stretcher kit, are presently operated. Last January, the Italian government ordered five medevac Avanti, but the future of the manufacturer, now operating under receiver-ship, remains uncertain after the withdrawal of Abu Dhabi’s sovereign fund Mubadala.

Lufthansa has also developed an in-flight intensive care system, the PTU Next Generation (NG), to transport an intensive care patient on a large aircraft. The PTU NG complies with all applicable airworthiness and medical regulations. It can be installed within minutes via seat track adapters in any aircraft. As it is equipped with different adapters, the same unit can be used in a fleet of different aircraft types. The units are small and light enough to be easily handled by two persons.

Recent Deliveries

Last year, Bombardier delivered a third Challenger 650 aircraft to Swiss Air-Rescue Rega, a long-standing Bombardier customer that took possession of two other Challenger 650 aircraft earlier in 2018. This trio of aircraft replaces Rega’s Challenger 604 fleet. In addition to repatriating patients from abroad with its three ambulance jets, Rega also carries out air-rescue operations in Switzerland with a fleet of 17 helicopters.

Rega’s ambulance jets are extremely versatile. Up to four patients - two of them intensive care patients - can be transported lying down at the same time. A team of Rega pilots, medics and engineers collaborated with a group of external specialists to design the new cabin fit-outs, carried out by Bombardier in Montreal. Equipped like an intensive care unit, they feature two mobile ICU respirators, one ECG monitor, defibrillator, external pacemaker, intravascular BP, NIBP, capnometer, SaO2, transport monitor, syringe pump, blood glucose analyz-
er, suction unit, ultrasound system, non-invasive cardiac support pump, fiberoptic intubation system with monitor, infusomat and integrated cuff pressure controller. Additional standard equipment includes vacuum mattresses, cervical spine immobilization collars, surgical kits for minor interventions, surgical dressings and thoracic drainage sets.

Pilatus Chairman Oscar J. Schwenk was delighted to see the Royal Flying Doctor Service of Australia (RFDS) return to his company again as a customer when the PC-24 was launched. Pilatus joined forces with a Swiss company, Aerolite AG, to design and build a medevac interior to meet the mission requirements of the RFDS. The PC-24s underwent their aeromedical fit-out at Pilatus’ factory in Stans, Switzerland.

“We have improved the stretcher design, creating a lightweight design with 1.95m length and an extra comfortable mattress,” says a spokesperson from RFDS. “Additionally, we’ve added a specially engineered auto-stabilizing stretcher-loading device that loads patients in a horizontal position, as opposed to other aircraft with inclined stretcher slides.”

The interior, accessed by the PC24’s standard 1,295mm x 1,245mm cargo door, also boasts an enhanced load capability medical electrical system with both 28VDC and 240VAC supplied. Wall-mounted supply panels are coupled with ceiling rails that support IV-hooks, enhancing the care delivery on board. Further improvements see a separate cabin intercom system that allows hand-held Satcom and VHF access for medical staff. Three PC-24 are currently in operation with RFDS.

Aerolite also announced a further order of six full EMS Medical Interiors for the Pilatus PC-24 EMS Aircraft. These aircraft will be delivered to the Swedish National Air Ambulance Organization (Kommunalförbundet Svenskt Ambulansflyg). This will allow Aerolite and Pilatus Aircraft Ltd to gain a foothold in the European market, which has been traditionally dominated by US manufacturers.

Gulfstream Aerospace recently delivered a Gulfstream G550 medevac aircraft to the Beijing Red Cross Emergency Medical Center. The aircraft features a dedicated medical bay outfitted by Gulfstream with advanced equipment to sustain and stabilize critically ill patients, including: 360-degree in-flight patient access, a medevac first; advanced life-support capabilities (extracorporeal membrane oxygenation); a bed designed to accommodate an infant incubator; a powered gurney loading system on aircraft stairs; X-ray viewing equipment; refrigerated medical storage cabinets; fold-out nurses’ seats for individual patient care; and crew rests with berthing.

The Beijing Red Cross Emergency Medical Center is already operating a medevac Dassault Falcon 2000LX. The cabin conversion work was conducted by Dassault Aircraft Services in Wilmington, Del. The aircraft is equipped with an electrical patient loading system, a full medical suite and an electrical power supply sized for a complete medical module. This module includes a stretcher with dedicated lighting, a three-bottle oxygen supply, and monitoring and analysis equipment. It also incorporates special devices like defibrillators electrocardiographs, echographs, a blood bank and an ECMO (Extracorporeal membrane oxygenation) unit.

Concerning Embraer, the Brazilian manufacturer has seven aircraft whose internal setup can be changed for medevac missions: the Phenom 100EV, Phenom 300E, Legacy 450, Legacy 500, Legacy 650E, Praetor 500 and Praetor 600. The Phenom 300E stands out among the models configured for this purpose. One of Embraer’s customers, Amil Saúde
Comlux has lent its Crystal Air Cruises B777-200LR VIP aircraft for vital cargo flights, taking advantage of its exceptionally long-range to link distant destinations as part of the fight against the coronavirus. After demand for air cruises and private charters vanished in early March, Comlux Aviation decided to convert

The two new King Air 350 are scheduled to be delivered with an 11 passenger, high-density seating configuration to transport passengers from rural and remote communities to their regional health care facilities. The organization plans to take advantage of the flexibility of the King Air 350 by converting it from its high-density seating to air ambulance configurations and back as needed for each mission. Other modifications include an added cargo door for easier patient loading and offloading as well as heavyweight landing gear that support a higher maximum takeoff weight for increased payload capabilities.

During EBACE 2019, Textron showcased its first air ambulance configuration of the Citation Latitude. The aircraft was purchased by Babcock Scandinavian Air Ambulance for medevac operations in Norway. The production-certified interior configuration offers compatibility with a wide range of medical equipment. The medevac Citation Latitude on display featured a single-sled stretcher, expanded cabin door and a SATCOM radio system for emergency communications. A number of medevac Citations are already in operation all over the world, including in Africa, where AMREF Flying Doctors, based in Nairobi, Kenya, successfully operates a Citation Bravo, a Citation XLS and a Citation Sovereign, plus a Pilatus PC-12 and several helicopters.

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The North American ADS-B Out mandate may now be in effect, but in Europe, the cut-off date is still a few months away. By June 2020, European operators must equip their aircraft with ADS-B Out avionics that meet the performance requirements of the mandate. Honeywell estimates that around 8,000 aircraft in Europe will be affected by the European ADS-B Out mandate and time is running out. Failure to comply will result in your aircraft being grounded – putting your operations at risk.

But will all these new mandatory avionics spark other upgrades in the retrofit market? According to Kevin Kliethermes, director of sales at Flying Colours Corp, there are still a fair number of aircraft in the US that have not had the mandatory ADS-B upgrades. “Other than that, our customer’s attention is turning to other things, including CNS/ATM-related...”
upgrades,” he says. “We’re also seeing a big push on inflight connectivity.”

Kliethermes says that the company’s Bombardier Global customers are doing Honeywell Ka-band Inmarsat Jet ConneX installs, while the Challenger customer base is mainly focused on Gogo air-to-ground systems.

“Looking forward a year or two, there may be other options on the table, and we think the price point is going to drop,” adds Kliethermes. “I have no doubt that there will be additional mandates coming as well, but we have no idea of the timelines.”

Justin Vena, senior avionics sales at Duncan Aviation, says that they have seen significant interest in other avionic upgrades since the US mandate deadline. “Some operators say they have just spent a ton of money on avionic upgrades in connection with the mandate and don’t want to spend any more,” he says.

That being said, Vena points out that there are a significant number of people who fit into a different category. This group is buying new aircraft and retrofitting them to meet their needs. “Hull values are coming down on all their aircraft and so they are prepared to do upgrades to make them do what they want,” says Vena. “This is ideal, as whenever you force someone to do something there is resentment, but when they want to, they tend to be excited about it.”

Vena says that Duncan is seeing an increase in the number of operators opting for inflight connectivity installations and cabin management/IFE. “There is an obsolescence factor going on with IFE, but there are so many different options available for customers and operators,” he says. “There is a top tier level for complete retrofits and, in many cases, you need to do that as nothing is supported anymore.”

There are also a large number of aircraft that have cabin management systems where the main switch boxes are obsolete, but the rest of the parts are still good. According to Vena, this is the perfect opportunity to not only update obsolete equipment, but also do, for example, a high-definition refresh. “We can update their monitors and get some HDMI ports added so that passengers can bring their own carry-on devices on board and plug them in,” he explains. “That means they can plug in and use services like they have at home, such as Chromecast and Roku sticks, and can start sharing content with other passengers even if they don’t have a strong internet pipe on board.”

This is important as, according to Vena, business aircraft users are now routinely streaming Netflix or Hulu content while on board. In fact, for the last six months, 80% of his time has been focused on internet and cabin management upgrades. “That doesn’t mean I didn’t see any activity on ADS-B or Future Air Navigation Systems (FANS), but it was small percentage of my time overall,” adds Vena. “This is a trend that’s likely to continue, especially with all the inflight connectivity developments coming up in the near future, including the launch of more high capacity Ka-band satellite from Viasat and OneWeb’s upcoming LEO satellite system (see the last issue of BART International).”

“LuxStream from Collins Aerospace also offers high-speed, high-throughput connectivity,” says Vena.

Collins teamed up with satellite provider SES to provide 15Mbps globally and 25 Mbps Ku-band connectivity in the United States with LuxStream. Collins provides the airborne hardware and its ARINCDirect unit is the service provider.

“LuxStream is powered by SES’s global geostationary high-throughput and wide satellite beams, as well as a flexible, intelligent ground network,” says JP Hemingway, CEO of SES Networks. “Its performance has been validated extensively with a large number of passengers who were able to easily access the internet and stream entertainment content to their personal devices at 25Mbps.”

Vena said they have some LuxStream systems up and running now (Vista Global was named as the launch operator back in September), but thinks they are about six to 12 months away from being a legitimate option for operators with multiple aircraft.
Collins Aerospace is targeting the aftermarket for LuxStream sales, primarily large-cabin jets such as Globals, Challengers, Falcons, and Gulfstreams.

**Inflight Connectivity on the Horizon**

At the Satcom Direct (SD) customer conference, held in Orlando in March, we saw the launch of SD’s Plane Simple antenna portfolio. These are new electronically-steered phased arrays with no moving parts. The new tail-mounted antenna system offers two variants for operation in Ku- or Ka-band frequencies. The Ku-band variant is expected to be available for STC in early 2021, followed by the Ka-band version later in the year.

With only two line-replaceable units (LRUs) and a network-agnostic design, a common form factor and wiring simplify the installation. Partnerships with Inmarsat for Jet ConneX (Ka-band) service delivery and Intelsat for FlexExec (Ku-band) connectivity have already been established.

“Until now, customers may have had to contact two or three companies to integrate or troubleshoot the equipment and services needed for consistent connectivity,” says Jim Jensen, SD Founder and CEO. “Now, with the Plane Simple antennas added to the SD portfolio, we can rapidly predict and respond to issues before or as they occur.”

SD is investing in antenna development to make secure, flexible, reliable solutions available to a wider segment of the business and government aviation communities than ever before. The tail-mounted antennas will support super-mid to large-size jets and are being developed in partnership with Germany-based QEST (Quantenelektronische Systeme GmbH), a worldwide market leader in innovative aeronautical antennas. SD has partnered with QEST to develop an electronically-steered, fuselage-mounted phased-array antenna. When it comes to market in late 2022, the lightweight, low profile, modular antenna will deliver high-speed connectivity via upcoming LEO constellations.

SD says it is also developing the Plane Simple Certus terminal, which will enhance operational safety and provide access through the global Iridium NEXT constellation. “We are committed to delivering the best-in-class aircraft connectivity experiences that augment operational efficiencies through the SD ecosystem of hardware, software, infrastructure, and data synchronization – all of which is supported by an award-winning customer care team,” says Jensen.

This now means that customers have a choice of antennas for Honeywell’s JetWave service, which is delivered by Inmarsat’s Jet ConneX satellite service. Previously, the only tail-mount antenna available for JetWave was Honeywell’s MCS-8000 unit. “For the first time, operators will be able to choose the connectivity system that best meets their mission requirements and also positions their aircraft ahead of technological changes in the satellite sector,” adds Jensen.
The Future of the Avionics Market

According to the Aircraft Electronics Association “2019 year-end Avionics Market Report”, total worldwide business and general aviation avionics sales for 2019 amounted to more than $3 billion (as reported by its participating companies). This figure represents a 10.2% increase in total year-end sales compared to 2018. During the fourth-quarter of 2019, sales increased 5.3% compared to Q4 of 2018. Furthermore, 55.1% of the total came from the retrofit market (avionics equipment installed after original production), while forward-fit sales (avionics equipment installed by airframe manufacturers during original production) amounted to 44.9% of sales.

For those companies that separated their total sales figures between North America (US and Canada) and other international markets, 74.7% of the 2019 sales volume occurred in North America, while 25.3% took place in other international markets.

The report is based on the sales figures from 23 avionics manufacturers.

This is noteworthy as it is the first time that the business and general aviation avionics industry reported more than $3 billion in year-end sales. The industry also reported an increase in year-over-year sales for three straight years and 12 consecutive quarters. “As leaders in product innovation, it’s clear that the contributions to the international economy by avionics manufacturers are significant,” says AEA President and CEO Mike Adamson.

Adamson says that a “tapering-off” in ADS-B installations is one of the reasons for the slight shallowing of growth in the retrofit segment of the market, combined with a generally flat bizjet market, which strongly drives the forward-fit economics.

It is a similar story in a report from Global Market Insights, which suggests that avionics in the business and general aviation market should see more than four percent compound annual growth in the period 2019-2025. Likewise, a report by Research and Markets projects that the global business jets market is set to grow to $36.4 billion by 2030, at a CAGR of 3.6% during the forecast period. It says an increasing number of high net worth individuals is one of the significant factors driving this, along with an ageing fleet and upcoming new aircraft programs.

A Look at Available Upgrades

Honeywell recently produced a report entitled “Maximizing Avionics Upgrades in Older Business Jets”.
According to the report, a combination of factors makes an avionics refresh ideal, one being the trade-ins and savings on new insurance plans that have been introduced by Honeywell for its Primus Elite avionics suite. Furthermore, an upgrade provides a modern replacement option for ageing cathode ray tube cockpit, with new options including its Synthetic Vision system.

The report says adding Primus Elite to the Primus 1000/2000 configuration brings improved situational awareness, new electronic displays of Jeppesen charts and maps, and XM graphical weather overlays and video inputs – all enabled and controlled through a cursor control device.

Joey Meier, chief pilot for NASCAR champion Brad Keselowski, said one of the noticeable differences he saw in upgrading his Lear 45 to Primus Elite was the amount of heat and weight that gets taken out of the cockpit and off the aircraft. “On the standard CRTs of the Primus 1000 cockpit, when the avionics are powered up and turned on, it can generate a lot of heat in the cockpit because it’s an old projector style screen,” he says. “But now on the LCD, it’s cool to the touch, you can leave them on indefinitely and there’s little to no heat generated.”

A private owner of a Global Express invested $5 million in what Honeywell calls the “largest single aircraft update in the business jet space”. That may sound like a lot of money, but he now has the same technology that features in the new $70m Bombardier Global 7500 at a fraction of the cost. “Right now, aircraft owners and operators of those older Globals and other legacy jets can decide about buying a new one for a really high price or getting their old one retrofitted and modified,” says Nils Janssen, managing director of ACC COLUMBIA Jet Service. “We upgraded a 15-year old Bombardier Global Express for $5 million, which is less than 10% of the money that the owner would have spent on a new Global jet.”

The Global Express upgrade includes geo-referenced airport charts, graphical depiction of aircraft position during approach, enhanced Map on MFD with dropdown menus via a Cursor Control Device (CCD), Synthetic Vision and XM Weather. LCD replacements for older cathode ray tubes (CRTs) brings big benefits. Honeywell says it no longer supports aftermarket repairs for cathode ray tubes as finding replacement parts for existing CRTs is getting harder and harder. On average, the weight savings per cathode ray display replaced by a liquid crystal display is 7.5 pounds. LCDs also enjoy an average of 4,000 hours mean time before failure, compared to 2,000 for CRTs.

On the Falcon 900, the Primus Elite upgrade includes a replacement of five CRT displays with five LCDs. The Falcon 900 C and EX models, which entered into service in 1996 and 2000, each feature cockpit designs with five displays in the standard configuration. That means if all five displays are replaced, there is an automatic weight savings of 35 pounds.

“Sooner or later you’re going to have to deal with the obsolescence, especially if you try to re-sell it,” says Denis Kruse, a senior sales representative for Duncan Aviation. “Having the LCD displays and the avionics to meet the ADS-B mandates is a better approach toward operating and maintaining that legacy jet and establishing a better aftermarket value for its LCD-focused upgraded cockpit.”

Recently, Honeywell released its Forge solution for Business Aviation. The system is based on its Go Direct product, which was launched in 2016, but takes the command and control options available to a new level.

According to the company, Forge provides a full suite of mission-management capabilities in the areas of connectivity, flight operations, navigation databases and maintenance, empowering flight departments to improve operational inefficiencies. It
provides customers with an easy-to-use, integrated dashboard that sends real-time alerts on connectivity issues and flight plan changes. “Business Aviation is looking for more than just a service provider for connectivity,” says John Peterson, vice president and general manager Honeywell’s software and services division. “It’s really looking for somebody that can bring it all together.”

Honeywell Forge’s dashboard gives operators a real-time analysis of its aircraft, showing their location and connectivity status. Weather information can also be displayed, and Forge also allows operators to send datalink messages to the aircraft via the satellite connection. “We are going to have releases every six to 12 weeks that bring in more and more integration,” adds Peterson. “You’ll see releases on releases on gateways, routing software and Edge nodes.”

One operator who has beta-tested Honeywell Forge says the system has proved invaluable, giving them one-screen access to data that would have previously been spread across multiple platforms.

Forge’s network monitoring can also detect online threats and shape data usage to better suit the customer.

“We can adjust and filter connections to save the customer money – one customer is now saving more than $200,000 a year by switching to a different Jet ConneX data plan,” says Peterson.

Robert Clare, director of Business Aviation aftermarket sales at Universal Avionics, says that after the US ADS-B mandate, it is keeping an eye on ADS-B in other markets, such as Australia, Canada, Europe and South America. “I think ADS-B In also has a part to play in terms of making flights safer,” says Clare. “We are also seeing an uptick in LPV (Localiser Performance with Vertical Guidance) in Europe.”

LPV approaches are designed to provide 16 meter horizontal accuracy and 20 meter vertical accuracy 95% of the time. Clare says that PR NAV (Precision Area Navigation) is also hot. “We are still seeing the benefits of DCL departure clearances over Controller Pilot Data Link Communications (CPDLC),” he says. “We’ve seen a lot of unfortunate crashes recently as well, such as the Koby Bryant helicopter crash and, as a result, I think we will see an uptick in the use of Enhanced Flight Vision Systems, such as our ClearVision product.”

ClearVision provides head-up capability combined with enhanced vision (EVS) and synthetic 3D terrain display (SVS). It allows pilots to overcome extreme weather conditions and low visibility situations - both during the day and night. The top-of-the-line EVS-5000 multispectral camera features six sensors - from visible light to long-wave infrared (IR). The compact EVS-4000 multispectral EVS camera features two sensors, visible-near IR and long-wave IR, and is suitable for smaller fixed wing aircraft and rotorcraft.
RESILIENCY
Managing through challenges is what we do in bizav, said Ed Bolen at SDC.

Whoever set the motto for this year’s Schedulers and Dispatchers Conference (SDC2020) must have prophetic abilities. You really couldn’t have found a more appropriate motto than “resilience”. The hand sanitizers spread all across the Charlotte Convention Center and the recommendation that attendees not shake hands were visible signs of things to come.

“Focusing on resiliency, we want to talk about how we can work together to move forward,” said NBAA President and CEO Ed Bolen during his opening remarks. “Managing and communicating through challenges is what we do in Business Aviation.”

“It goes without saying that Business Aviation – while challenged – is open for business,” added SDC2020 Co-chair Stephen Clark, business development manager at the Gerald R. Ford International Airport in Grand Rapids, Michigan. “The best thing you can do when facing turbulent times is to be grounded and humble – but stay engaged.”

And this is exactly what attendees did.

**Eager to Exhibit**

There’s no denying that there were less exhibitors and less visitors on the show floor than in previous years – despite the fact that 2,500 attendees had registered. That being said, more than 90% of the 500 confirmed exhibitors came to Charlotte eager to share their perspectives and present their services and products.

“We have fixed-base operators from all over the country here exhibiting with us,” said Meghan Allen, associate brand director with Phillips 66 Aviation.

“We’ve always loved coming to schedulers – it’s by far the best conference NBAA puts on,” added Matt Lawrence, COO at Fortis Riders.

Jet Aviation, Paragon Aviation Group, Epic Fuel, World Fuel Services, Farnborough Airport, London Biggin Hill Airport, Flight Aware, Gog Business Aviation, Jetex,
Despite the ongoing pandemic, 2,500 attendees registered for the show.

Collins Aerospace and Business Aviation Centre Germany were all present.

“Sometimes the only time we get face-to-face interaction with those dispatchers – who are the real decision makers – is right here at Schedulers & Dispatchers,” said Roger Woolsey, CEO at Million Air.

Bringing added energy to the show were several first-time features, including an inaugural SDC New Products Showcase, which introduced 13 products and services new to the Business Aviation marketplace. “The showcase was very well received,” noted Tyler Austin, NBAA senior manager of certification. “It not only offered these new entrants an opportunity to build relationships with customers, it underscored the innovative spirit characteristic of Business Aviation.”

Plans Change…

Exhibitors and attendees from China were excluded due to travel restrictions, and many Italian exhibitors could not attend due to the substantial COVID-19 outbreak wreaking havoc on Italy. It is fair to say that even some US-based exhibitors and potential visitors decided to skip this year’s event. For example, Atlantic Aviation and Air BP withdrew from the show, as did a number of flight departments who requested not to be named in our report.

After a thorough decision making process, Universal Weather & Aviation decided to cancel its participation to avoid exposing their employees to a potential health hazard. But even though they weren’t there in person, they were in spirit – and had news to share. The company announced that it completed the sale of its UVAir Fueling Division to World Fuel Services just days prior to SDC2020’s opening.

“At Universal, we’ve always been focused on not just supporting our customers’ needs today but looking ahead and taking the right steps to support their needs tomorrow,” said Universal Chairman, Greg Evans prior to the show. “The sale of UVair is an important milestone in meeting those future needs.”

World Fuel is now the exclusive fuel provider for Universal – including Universal Trip Support and the uvGO digital mission management platform.

Big Showing by Avfuel

Avfuel Corporation had a large presence at SDC2020 with 70 FBO partner companies, representing nearly 150 fueling locations from all over the world. Among its partners were 13 new Avfuel branded FBOs, which were open for discussions with attendees.

The company highlighted a voluntary carbon offset program for its fueling partners. It helps flight operations offset their carbon emissions in one of two ways: either by designating a specific number of gallons to offset when creating an Avfuel Contract Fuel authorization online or by opting to offset emissions from all gallons of fuel purchased through Avfuel.

According to the company, aviation currently accounts for 2% of the world’s CO2 emissions. “Other than utilizing sustainable aviation fuel, carbon offsetting is going to be the key method for reducing industry emissions in the near term,” said C.R. Sincock, Avfuel’s executive vice president. “We’re happy to help our customers efficiently and cost-effectively cut their carbon emissions with this new program.”

Avfuel is the leading independent supplier of aircraft fuel in the United
States and offers its customers a network of more than 3,000 fueling locations worldwide.

**Satcom Direct Shows Off**

Satcom Direct (SD)’s exhibit drew the attention of quite a number of operators. The company was demonstrating how the intelligent data and communications platform, SD Pro, improves modern flight operations management via standardized operating procedures and data protocols. Leveraging elements from its aircraft connectivity services, hardware platforms, and ground network infrastructure, SD sees itself uniquely positioned to create a centralized data management ecosystem that automates and enhances flight department communications and operations. The platform acts as the source of data for aviation management and flight operators, which is reflected in the product name.

To define the parameters for its software operating system, SD worked with its Customer Advisory Board to map the processes used by more than 20 flight departments, evaluating the existing procedures for planning and executing a flight from start to finish. Ranging from scheduling an aircraft to postflight logging, SD identified core similarities among these diverse organizations and common business functions that could be improved by automation and enhanced data visibility. This resulted in a cohesive product suite from SD that streamlines operating procedures and enables flight departments to more efficiently manage multiple assets and increased passenger demand.

**Even a HondaJet Sighting**

It is rare to see an aircraft mock-up at SDC, but this year was an exception. Honda Aircraft used the opportunity to exhibit in Charlotte, which is located only 90 miles from their global headquarters in Greensboro. The HondaJet mock-up was well received by attendees, who could get an up close look at the huge capacity of the jet’s baggage compartment.

In March, Honda Aircraft delivered the 150th aircraft to a customer. A month earlier, the manufacturer announced that the unique light jet was the most delivered aircraft in its class in 2019, according to numbers provided by the General Aviation Manufacturers Association (GAMA). 36 new HondaJet were handed over to customers in 2019.

**Meridian Celebrates 30 Years**

Private aviation company Meridian continued to celebrate the 30th anniversary of its jet charter business at SDC20. It started the celebration at NBAA-BACE last year. General Aviation Flying Service, as the charter company was originally named, was formed in 1983. In September 1989, it added its first jet, a Citation SII, to its fleet of piston aircraft. In 1986, General Aviation Flying Service became Million Air Charter Teterboro when its FBO joined the aviation franchise. In 2004, the company evolved into Meridian Air Charter, as it is known today.

“We officially entered the jet age in 1989 when the owner of one of the piston aircraft we managed acquired a jet,” said Ken Forester, Meridian’s CEO. “From there we continued to grow and add additional aircraft, as well as open our FAA-approved repair station.”

Meridian currently manages a wide range of aircraft types that are available for private charter. Their fleet includes the Challenger 604, 605 and 650, Global 5000, Gulfstream G550, Gulfstream GIV-SP, Falcon 7X, Falcon 900EX EASy, Falcon 2000EX EASy, as well as a Gulfstream G200, and Hawker 900XP. Other aircraft types are available through Meridian’s extensive network of qualified operators.

**A Surprise Ending to a Unique Show**

Even if attendance was lower, exhibitors were satisfied with the results of the show. They had good discussions with visitors who were in no rush. SDC2020 was a unique event in the history of the NBAA in many ways. It also finished in a unique way, as it was closed a day earlier than planned. The situation surrounding the virus outbreak prompted a series of continually evolving announcements from government and medical authorities that impacted the travel of visitors and exhibitors. Therefore, NBAA decided to conclude SDC2020 earlier and to cancel all educational programs scheduled for March 13.

“We thank all SDC2020 participants for their support in this challenging environment, and we look forward to welcoming them back for an even better conference in 2021,” said Bolen.

SDC2021 is scheduled to take place in Fort Worth, Texas, from February 23 through 26. Stay safe and save the date!
Safety and compliance training & auditing
IS-BAO preparation and audit
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Your Swiss Partner
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Now celebrating 100 years of combined aviation experience
Honda Aircraft has delivered a milestone aircraft: The 150th HondaJet has left the factory in Greensboro, North Carolina. Volker K. Thomalla has asked Honda Aircraft’s President and CEO about the company’s plans for the future.

**BART International**: What brought Honda Aircraft to North Carolina?

**Michimasa Fujino**: A significant reason for locating here is that Greensboro, at the heart of the state and of the East Coast of the US, is at the center of the world’s business jet market. Given that North America is our largest market coupled with the fact that Europe is also a very important market for us, it made sense for us to be strategically located on the center of the East Coast between both of these major markets. NC and the East Coast in general also have well-developed infrastructures and FBOs that are well-equipped to offer business jets the necessary services to operate smoothly.

Some of the other main reasons that we selected Honda Aircraft Company’s headquarters to be in Greensboro, NC were the skilled and educated workforce, developed infrastructure, airports’ future growth potential and proximity, and strong local and state partners.

We have been able to find abundant talent locally. We have partnerships with several local institutions and universities for training technicians, internship programs, joint projects and different initiatives to support both business and engineering students. North Carolina is an optimal place to start a business venture, especially one that requires a high initial investment as is the case with aviation. This is reflected in the fact that NC has attracted the aviation industry and has become the 2nd fastest growing aerospace cluster in the US. The aerospace manufacturing sector in particular is quite developed in the state, since we are home to 70 aerospace-specific facilities. Some include GE Aviation, HAECO, Collins Aerospace and Honeywell among others.

**BART**: The introduction of the HondaJet Elite brought some new features and a performance enhancement to the HondaJet. With the APMG retrofit, existing customers have the opportunity to upgrade their HondaJet to a near HondaJet Elite standard. How popular is the retrofit kit with your customers?

**Fujino**: We introduced the Advanced Performance Modification Group (APMG) package to ensure that all Honda Aircraft Company aircraft and customers, current or future, have the same opportunity to experience newly created state-of-the-art technologies, regardless of original date of purchase.

**BART**: What is the expansion status of your Greensboro Campus?

**Fujino**: Our new $15.5 million USD, 83,000 sq. ft. wing production and parts storage building currently under construction will be finished by September 2020. It will result in greater production efficiency and more storage space for service parts as our fleet continues to grow. We are also exploring the option of utilizing highly-automated technology there to support production.

Honda Aircraft has delivered the 150th HondaJet.
The APMG package is popular among our customers, as it implements some of the Elite’s technologies onto the original aircraft. One of the most notable improvements that the APMG package offers are the TOFL and performance improvements, which include the increased range of 100-120 nm from the original HondaJet.

The HondaJet Elite is 15% more fuel-efficient than any other jet in its class. The APMG package is popular among our customers, as it implements some of the Elite’s technologies onto the original aircraft. One of the most notable improvements that the APMG package offers are the TOFL and performance improvements, which include the increased range of 100-120 nm from the original HondaJet.

BART: The HondaJet is being used in several roles, from private aircraft to charter aircraft and to ambulance aircraft on the Hawaiian Islands. Do you also see a special mission role for the HondaJet?
Fujino: The HondaJet’s design and performance make it a versatile and practical form of transportation and we foresee that it will increasingly be an ideal aircraft for a wide variety of industries, missions, and users in the future. Therefore, we believe there is a great opportunity for special mission role for the HondaJet. We are also observing a trend towards fleet customers, like charter businesses, fractional ownership companies and air ambulance companies to name a few.

BART: North America is the largest market for the HondaJet today. How is Europe doing from your point of view?
Fujino: Europe is a very important market for us, because there is a lively business environment and a large population of high-net-worth individuals. As the continent is mostly under EU jurisdiction (where we have received Type Certification from the European Aviation Safety Agency), it should be noted that Europeans customers are very environmentally conscious and we foresee that the HondaJet Elite’s significant fuel-efficiency when compared to competitors will be one of the most attractive features our product offers. The HondaJet Elite is approximately 15% more fuel-efficient than any other jet in its class, which translates to a significant reduction in operational costs and a diminished environmental impact.

BART: How important are shows like EBACE, NBAA-BACE and EAA AirVenture for you?
Fujino: These shows are very important for us, because they present an opportunity to meet face-to-face with customers and prospects. These shows are also beneficial in order to learn what trends are drawing the media’s attention, build relationships with industry leaders, observe the exciting innovations being developed in the industry, and to showcase our innovative and unique product.

BART: Are you satisfied with the current backlog and the current book-to-bill ratio?
Fujino: As of March 2020, we have now delivered over 150 HondaJets. We have a backlog, which is to be expected since the HondaJet has been the No.1 delivered very light jet in 2017, 2018 and 2019.

BART: Are you working on a second type of aircraft to complement the Honda Aircraft portfolio?
Fujino: At Honda Aircraft Company, we are always looking for ways to improve personal mobility through technological innovation. We are constantly working on new future technologies, including advanced aerodynamics new structural material, automation and advanced controls. Although we cannot comment any further on current or future projects, I do hope to expand our business more as these technologies advance.

EFFICIENCY
The HondaJet Elite is 15% more fuel-efficient than any other jet in its class.
Controlled flight into terrain accidents afflict pilots of all skill levels.

Capt. Leroy Cook advises to always maintain situational awareness to avoid such occurrences.

Controlled Flight Into Terrain (CFIT) is not a phrase and acronym any pilot wants to have associated with a report concerning his or her flight – not that they are likely to be around to read it. The term is a convenient, simplistic way of assigning an obvious cause to an aircraft accident, and yet it means very little in and of itself.

Quite clearly, CFIT results from a loss of situational awareness; no one of sound mind intentionally steers an airplane into a mountain or lets his altitude dwindle until it reaches zero. Had the crew been keeping track of the flight situation, the crash wouldn’t have happened. Typically, CFIT accidents don’t occur in a Loss Of Control In Flight (LOC-I) circumstance; rather, they would seem to be the result of sheer carelessness. The aircraft impacted the ground while fully capable of being flown away from danger, but it wasn’t.

And so, CFIT does happen, all the best intentions by the crew notwithstanding. There were 28 such accidents recorded during the years 2013 to 2017. And since there is an 89% fatality rate associated with CFIT mishaps that makes them especially significant, even while being relatively small in number.

Terrain Awareness Warning System (TAWS) mandates, formerly called Enhanced Ground Proximity Warning Systems (EGPWS), are supposed to have eliminated CFIT accidents, but the creativity of the human mind, with its innate ability to thwart technology, cannot be entirely legislated away. Certainly, our friendly “Rock Monitors” have served us well with their “terrain, terrain” and “pull up, pull up” warnings, but there are still intervening circumstances that cause the pilot flying to ignore those stern voices.

How can we make sure we’re never the subject of a CFIT finding? Simply by remaining situationally aware. That can be easier said than done; our fine moving maps, for the most part, are two-dimensional in their depiction. CFIT involves the third dimension, so we need to not only keep away from the approaching terrain laterally, we also must monitor our true altitude, the all-important height above the ground.

How can we mess up that simple task? Over-reliance on technology is one of the chief contributors. We tend to set the altitude pre-select on a target and expect the aircraft to level off accordingly—but if we give the autopilot an incorrect number, or fail to assure it was armed, it will dutifully fly us into the ground. Or, we may accept radar vectors to the initial approach fix and fly the assigned heading without question, expecting the controller to turn us before impact. In both cases, pilot-induced or ATC-induced, the catastrophic outcome can only be prevented by maintaining situational awareness.

The CFIT danger remains ever with us, even in this day and age marked by an overabundance of information, displayed in graphic form right on our glass panels. We can see the depicted terrain turn red, we can hear chimes and alerts, but if we’re not focused on the job immediately before us, all may be lost. Distraction
from that vital task of avoiding terrain is a major contributor to pilot-induced CFIT accidents.

If our attention is diverted by flight-related tasks, such as a system fault that needs troubleshooting or an unexpected change in arrival runway, we can quickly lose situational awareness, and not recover it before it’s too late. Or, we may “tune out” the TAWS and synthetic vision alarms because the last stages of the approach into a tricky airport involves some creative nap-of-the-earth flying that requires ignoring the terrain warnings. In the first case, we didn’t know we were flying toward rising terrain. In the latter, we knew it, but thought we still had room to maneuver.

Business aircraft are particularly susceptible to CFIT risks, because they are often flown into out-of-the-way airports that are convenient for the passengers, destinations that are unfamiliar to the pilots and not always equipped with airline-style approach aids. Corporate helicopter operations are at greatest risk, frequently flying at low altitude under visual flight rules, many times flown by a single pilot.

Pay Attention

To protect ourselves from becoming a CFIT statistic, we must straighten up and heighten our awareness during the takeoff and landing stages of the flight, when most of these accidents happen. Take care to emphasize the “sterile cockpit” rule below 10,000 feet AGL; relieving boredom with extra-cockpit banter is fine during the cruise phase of flight, but not when flying down among the rocks. CRM needs to be employed effectively during arrival and departure segments; both the PF and PNF must verify crossing altitudes, check data inputs and generally keep track of where the aircraft is, in relation to where it should be next.

Altimeter errors cannot be discounted as a cause of CFIT accidents. We were all taught the training mantra “cold or low, look out below,” meaning that an uncorrected altimeter setting when flying into cold air or lower pressure conditions will result in the aircraft being lower than the altimeter indicates. Approaches at airports combining intervening high terrain and extreme cold weather may require raising the published altitudes to ensure a safe margin. Some altimeter setting scales may not even have the capacity to adjust for the high pressure inherent in super-cold conditions.

Don’t Miss the Step

The time-honored design method for non-precision IAP’s with terrain issues is to impose “step-down” fixes at intervals on the way from the FAF to the MAP. Pilots are to stop their descent if they reach the published crossing altitude before passing the fix, resuming descent after passing the waypoint. Such interrupted descents are a set-up for CTAF accidents, as pilots have to remember not just the IAP’s minimum descent altitude, but one or more extra descent limits. Distracting workload results from the multiple power and altitude changes required. A better solution is to use a tabulated constant-angle descent, as opposed to the “dive and drive” taught in basic instrument flying. Constant-angle non-precision approaches use DME distance and altitude inputs to keep the aircraft on a three-degree slope to the MAP, freeing the pilot-flying from repeatedly leveling off and re-establishing descent.

CFIT Accidents That Should Not Have Happened

A tragic ending to Korean Air Flight 801’s journey from Seoul to Guam on 5 August 1997 occurred because of several neglected issues. There was restricted visibility on a rainy night, an inoperative ILS and a lack of cross-checking by the Boeing 747’s three cockpit crew members; all of these factors inhibited situational awareness. The aircraft hit a 660-foot hill three miles short of the runway, even though GPWS had sounded a pull-up warning. Three contributing factors were too many.

Another 747 crashed at Kuala Lumpur, Malaysia on 19 February 1989 during an NDB approach when the crew followed incorrectly-stated ATC instructions of “descend two four hundred”; the published segment of the approach was 2400 feet. Instead, the Flying Tigers Airline crew descended to 400 feet, as they thought they were instructed; eight GPWS warnings later, the aircraft flew into a low mountain. Clearly, there was an ATC error, but the pilots should have kept up their situational awareness and abandoned the approach at the first ground-proximity warning.

An HS-125 business jet departed San Diego, California USA late at night on 8 March 1981 and was only in the air for four minutes before hitting a 3472-foot mountain. The crew had elected to depart under VFR and pick up their IFR clearance in flight, but failed to climb out of concern for overhanging Class B airspace (even though Class B did not begin until 5800 feet). Again, situational awareness was not maintained, perhaps due to schedule pressure, airspace distractions and darkness.

The most recent CFIT of note took place on 26 January 2020, when a Sikorsky S-76B helicopter impacted a fog-shrouded hilltop north of Los Angeles, California USA. As is typical for rotary-wing operation beneath congested airspace, the flight was conducted under VFR, by following major highways. But marine fog obscured the route in the hills that were encountered during the final stages of the otherwise-routine trip, and the pilot indicated to ATC that he was climbing from 1500 feet to 4000 feet to avoid a cloud layer that had dropped to ground level. Unfortunately, spatial disorientation caused a LO-I during the short climb and the helicopter descended rapidly into the unseen rising terrain at 1085 feet MSL. Here, positional awareness was being rigorously maintained but the transition from marginal VMC to full IMC overcame the single pilot, even though he was IFR rated. Overconfidence and pressure to meet a customer’s expectations contributed to the deaths of nine persons.

These and other CFIT accidents point out the need to always maintain situational awareness. That seems simple and obvious, until intervening factors, such as distractions, shortcutting of procedures, disagreeing instrument indications, and over-reliance on automation, take over the pilot’s focus. Watch for such preoccupying issues that cause you miss an altitude target or fail to communicate with other crew members. And don’t forget to look out the windows occasionally!
The Air Midwest accident in 2003 shows that while weight guidelines are important, they are not hard and fast rules. Michael R. Grüninger and Capt. Andreas Grauer report

Air Midwest Flight 5481 was a regularly scheduled passenger flight from Charlotte Douglas Intl. Airport (KCLT) to Greenville-Spartanburg International Airport (KGSP). On January 9th, 2003, it was a normal morning flight for the crew, which consisted of 25-year-old Captain Katie Leslie and 27-year-old First Officer Jonathan Gibbs. The Beechcraft 1900D was handed over to them by the preceding crew with the remarks that “everything was normal” and “it was a good flying airplane.”

Prior to the flight, the crew had accepted a “heavy” bag to be loaded in the aft cargo compartment as one of the passengers was a 12 years old child instead of an adult. The pre-flight controls check showed no abnormalities. At 08:46 local time, the tower controller cleared Flight 5481 for take-off. The captain was pilot flying on that sector and ordered take-off power to be set.

Ten seconds after rotation and after the landing gear had been retracted, the aircraft started to pitch-up through 20° nose-up. The unexpected nose up behavior of the aircraft surprised the captain. She experienced difficulties controlling pitch attitude and told the first officer to help her. Even together, the pilots could not push the aircraft’s nose down.

Ten seconds later, the aircraft stalled with a pitch attitude of 54°, banked to the left and entered a steep dive. The crew desperately tried to recover from the upset situation and fought against the uncontrollability of the aircraft and for their lives for another fifteen seconds before the aircraft crashed into a maintenance hangar on the airfield.

All passengers and crew perished. The aircraft was destroyed by impact forces and the post-crash fire.

Disturbing Investigation Results
The National Transportation Safety Board (NTSB) investigated the fatal accident, and found two major shortcomings that led to the disaster.

The first problem was related to maintenance issues. Two nights before the accident, the aircraft had undergone maintenance work at a repair facility in Huntington, West Virginia, which had included adjustments of the cables for elevator control. The mechanic who did the rigging had never worked on the Beechcraft 1900D before. He had incorrectly set the turnbuckles controlling the tension of the cables in a way that allowed only 7° pitch down instead of the correct 14°. As a result, elevator downward travel was limited, and thus was the pilot’s possibility for nose-down commands. The work had been part of the mechanic’s training, and no post adjustment check was conducted after the completion of the work. The airplane finally left the maintenance hangar with the elevator not being fully operational.

The NTSB noted that the Federal Aviation Administration (FAA) had been aware of serious deficiencies in training procedures at the repair facility but had done nothing about it.

The second problem was related to the company’s mass and balance program. Air Midwest used standard passenger weights instead of actual weights to determine the take-off mass and the center of gravity (CG) for each flight. The “Aircraft Weight and Balance Control” guidance AC 120-27C issued by the FAA and in force at the time of the accident suggested to use 180 lbs for an adult passenger in the spring and summer and 185 lbs in the fall and winter, both weights including 20 lbs for carry-on baggage. The Air Midwest weight and balance program, which was approved by the FAA, used 170 lbs...
for spring and summer and 175 lbs for fall and winter.

During the investigation, the NTSB found out that the actual average passenger weight on the accident flight was more than 20 lbs higher than the standard weights considered by the accident flight weight and balance calculation. Furthermore, a survey conducted by the NTSB among 22 operators showed that the average passenger weight for the observed flights was 196 lbs and average weight of the carry-on baggage was 16 lbs.

Thus, Flight 5481 was in fact 580 lbs too heavy, and its center of gravity was 5% aft of the allowable limit. Based on the too low standard weights, the pilots felt confident that the aircraft’s weight was well below the maximum allowable take-off weight and the center of gravity within limitations.

The combined effect of reduced pitch down elevator control and excessive take-off mass and center of gravity position left the flight crew no chance. With the retraction of the landing gear the center of gravity moved backwards and further out of the approved envelope causing the airplane to pitch-up abruptly. As the investigation report states, at the time of the accident, the elevator did not allow any further nose-down command. The airplane was out of control. Recovery was impossible.

**Approved Procedures and Data**

In the aftermath of the accident, both the aviation industry and the FAA reacted. The problems related to the maintenance training and supervision that had contributed to the accident have been discussed extensively and measures have been taken by the FAA and the involved companies to prevent similar cases from happening again. The same applies for the standard weights used for M&B calculations and the instructions for crews and operations personnel for preparing load sheets.

An aspect that has received less attention is the psychological effect of authority approvals on airline personnel, both managerial and non-managerial. Standard weights are subject to approval by the authorities. Thus, such data is often not questioned any more by responsible managers and operating staff after the approval has been granted. “We do not need to discuss this; the procedure has been approved by the authority and has been audited by it” is an answer that auditors often hear when they want to dig into safety critical issues.

Operational values prescribed by regulations usually state a baseline limit below which an operator cannot go. As the FAA guidance AC 120-27C states, the values given in it are not even regulatory, and standard weights used by an operator still must be based on data collected during actual operations. Despite this requirement, Air Midwest’s weight and balance program and the weights that were 10 lbs below the limit given by AC 120-27C had been approved by the FAA.

The case illustrates that approved data is not challenged by either the responsible manager or the internal auditors just because it is approved by the authority, even when its incorrectness is apparent. If the company compliance monitoring and safety management system had insisted on a verification and validation of the used data, the fact that the values are not realistic would have surfaced and the accident could have perhaps been prevented.

**Have Things Changed Since?**

Now some may say the accident happened almost 20 years ago; things have changed to the better, and this cannot happen anymore. But it still can.

Today most European airlines work with standard passenger masses approved by the authorities. Concurrently, passengers often bring more luggage into the cabin than allowed. In fact, business travelers do not want to wait for the checked baggage to be delivered at the destination and therefore try to carry everything needed on the journey in their carry-on baggage. Low fare passengers want to avoid the surcharge for checked baggage, and therefore does the same. Traveler equipment websites even offer special coats for sale that have large internal pockets to be able to bring even more items on board without having to check them in. And yet, size and weight checks on carry-on baggage are only seldomly performed at the boarding gates.

Responsible airline managers and auditors monitoring their activities often simply rely on authority approvals without further questioning the basis for such approvals. Complacency, then, waits around the corner, and doubts are not expressed or considered anymore.

**Don’t Assume, Make Sure**

While aviation managers might feel safe by confidently following authority-approved procedures, at least the operator’s internal quality assurance program should ask the critical questions. Does the approved procedure really make sense? Is it actually safe?

The operator remains ultimately accountable for the safety of its operation and the appropriateness, completeness and correctness of its operational procedures. Accountability cannot be delegated to the authority approving the operator’s procedures and operations specifications.

Flight 5481 crashed because of the complacency of the most parties involved. Accepted standard weights for passengers and baggage were assumed to do the job of loading the airplane safely. Particularly on smaller aircraft, such as the Beech 1900, differences between assumed and actual weight increase the operational risks significantly. The same applies to differences between assumed and actual position of the center of gravity.

This accident shows that an operator should not take anything for granted just because it has been approved by an authority. For the sake of flight safety, don’t assume “authority approved” necessarily means safe.

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ON-HOLD
Negotiations on the EU-UK Partnership were cancelled due to the pandemic.

The UK finally exited the European Union on 31 January 2020, but it remains de facto an EU Member State (without any say in the decision-making) until the transition period foreseen under the Withdrawal Agreement ends on 31 December 2020. The transition period can be extended by one or two years if the UK government requests an extension before the 30 June 2020.

Trade Negotiations Stall due to the Coronavirus
The EU and the UK commenced negotiations on a far-reaching economic and trade agreement (an “EU-UK Partnership”) at the beginning of March in Brussels and exchanged draft proposals, including a draft UK text covering agreements on aviation and safety of air transport.

There appears to be strong support on both sides of the Brexit to reach agreement in the area of aviation; but other topics such as regulatory alignment, level playing field provisions and fisheries are likely to be the deal breakers, says Attorney Giulia Mauri

The first round of negotiations covered a broad set of areas, including trade in goods and services, transport and level playing field provisions, which are guarantees for equal rules on, among other things, social, environmental, tax, state aid, consumer protection and climate matters. The latter are controversial as they are intended to prevent the UK operators and firms from being able to undercut their EU counterparts as a result of lower regulatory obligations.

Negotiations were due to resume a few weeks later, but were cancelled due to the spread of the Covid-19 pandemic and the introduction of stricter health measures. There have been no further face-to-face meetings, especially as both chief negotiators have succumbed to the virus and have been in self-isolation. The negotiations were moved online, but there has been little progress, which is not surprising given the sensitivity and complexity of the discussions and the technical challenges involved in maintaining secure connections amongst the negotiating teams.

There are now increasing calls to extend the transition period, especially as the deadline of one year to negotiate and sign off a comprehensive trade deal was already considered by trade experts to be unrealistic. The
UK government has, however, set its stall on Britain fully departing from the EU’s jurisdiction by the end of the year and even enshrined the commitment in domestic law. It will, therefore, need not only to amend domestic law, but also lose one of the most cherished ambitions of Brexitters. This is likely to be a tough ask, but given the current crisis, it seems hard to believe that the UK government would be prepared to risk having to deal with two crises in the same year; first, the economic and social fall-out arising from the coronavirus and, secondly, the potential economic damage of a ‘Hard Brexit’ if the EU and UK do not manage to reach a deal, which is a real prospect given the widely diverging negotiating objectives of both sides. An extension could therefore, be on the cards if the EU and UK are not able to make substantial progress in their negotiations over the coming months because of the fallout from the coronavirus crisis. Companies should, nonetheless, remain vigilant to the possibility of a Hard Brexit.

**Negotiating Positions in Respect of the Aviation Sector**

The UK government set out its approach to negotiations with the EU in February 2020 and stated that it wanted to reach an agreement with the EU on a comprehensive air transport agreement (CATA). This would include provisions on liberalized market access for air services on a reciprocal basis, close co-operation to maintain high aviation security standards, and collaboration on air traffic management to ensure interoperability between UK and EU airspace. This

EU’s proposals would allow for continued connectivity and ensure a high level of aviation safety and security standards, air traffic management, and sector specific level playing field provisions to allow for open and fair competition, including appropriate and relevant consumer protection requirements and social standards.

The European Parliament, which also has to approve any EU-UK deal, has set out its ‘asks’ for the new partnership agreement with the UK. In a resolution of 12 February 2020, the EU Parliament stated that the EU and the UK should aim to ensure continued connectivity between the two territories, based on the requirement of reciprocity in mutual access to the transport markets and considering the difference in size of the two respective markets. The resolution calls for a comprehensive air transport agreement, but highlights that such an arrangement cannot amount to allowing the UK to participate in the Single Aviation Market via the back door.

There appears to be strong support on both sides to reach agreement in the area of aviation, but other topics such as regulatory alignment, level playing field provisions and fisheries are likely to be the deal breakers. If no overall deal can be reached, it may then be necessary for the EU and the UK to conclude a narrow and bespoke aviation agreement, at least to maintain a certain level connectivity.

**Implications**

EASA, the European Union Aviation Safety Agency, mandate and role as an agency of the EU with regulatory and executive tasks in the field of civil aviation safety is not altered in respect of the UK during the transition period. It continues to process applications from existing UK Civil Aviation Authority (“UK CAA”) approval holders within the context of the early application process.

Although the UK could remain in the EASA system under a future aviation agreement, the UK government has indicated that it is the intention that the UK would withdraw from the agency. The UK Department for Transport stated recently that “being a member of the European Aviation Safety Agency is not compatible with the UK having genuine economic and political independence.” On the basis of the current declarations of the UK government, it is intended that the UK CAA will take-over the regulatory functions without having EASA as a technical agent. This decision has been heavily criticized by many
The aviation sector is currently confronted with an unprecedented crisis, says Giulia Mauri.

In Business Aviation, those include repatriation flights or cargo flights to carry medical goods and supplies. Both sides of the channel are currently focused in saving the lives of their citizens and trying to safeguard their own economies.

What would be the impact of the current Covid-19 crisis on the Brexit negotiations and respective positions of the EU and the UK is difficult to foresee. However, one thing is apparent and that is that the Brexit negotiations are currently at a standstill. It would therefore be justifiable that the temporary situation crystallized under the Withdrawal Agreement is prolonged. However, the UK government has so far always declared that no extension will be requested.

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