**Flexjet signs on for supersonic jets**

by Chad Trautvetter & Mark Huber

Fractional-share provider Flexjet signed a firm order at the NBAA Convention last month for 20 Aerion AS2 supersonic business jets for delivery beginning in 2023. Worth $2.4 billion (2015 $) at list prices, the deal is backed by a non-refundable deposit.

Aerion chairman Robert Bass declined to say how many AS2s are spoken for with orders or letters of intent or how many commitments the company needs to put the aircraft into production.

Continues on page 41

**With t-prop, GE takes on PT6 series**

by Kerry Lynch

GE Aviation is taking on Pratt & Whitney Canada’s venerable PT6 with a new line of 850- to 1,650-shp turboprops, and it already has a key win under its belt. GE Aviation launched the as yet unnamed series with the 1,300-shp engine that will power Textron Aviation’s new turboprop single (see page 49). In winning the Textron contract, GE Aviation beat fierce competition among a number of engine suppliers, including some not currently in the turboprop market, according to Brad Mottier, v-p and general manager of GE Aviation’s Business and General Aviation and Integrated Systems division.

GE Aviation sees this engine cementing its role in the marketplace, Mottier said, noting that until now Pratt & Whitney Canada (PWC) has locked up the space with more than...
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Despite some well orchestrated pre-show tease about announcing a new Citation at the NBAA Convention, Textron Aviation’s top executive said that too much fanfare was as tactum at the big gathering about the new jet as it was about its new turboprop single program (see page 49). Beyond saying that the new Citation Hemisphere will fly in 2019, cost $35 million and move a 102-inch-wide flat-floor cabin 4,500 nm, the company provided scant detail about a product that it says is still in the definition phase.

Instead, CEO Scott Ernest chose to emphasize that Textron Aviation is spending more than $200 million annually on developing new products, among them the revamped Longitude super-midsize and the Hemisphere. He told a press conference at NBAA 2015 last month that Textron Aviation now has the industry’s fastest product development cycle, noting that in the last three years it has designed and certified “eight new aviation products.”

“This is just the beginning. We are going to continue this aggressive investment activity throughout all our product lines,” he said. “You can expect this aggressive type of investment activity to continue." Ernest characterized the market as ripe for an aircraft in the Hemisphere’s category, asserting that there has not been a new aircraft in this segment in 20 years.

After a first flight slated for 2019, Textron expects entry into service “to follow shortly.” No major system suppliers have been named, including the identity of the Hemisphere’s engine provider.

“We know how to design product and certify product that is easy to fly and is cost-effective to operate,” said Ernest. “That is what the team does. They take customer feedback and generate it into product.”

Longitude Revised

Introduction of the Hemisphere as the largest of a three-fronged refresh of the upper-end Citations prompted Cessna to rethink the trio’s middle player, the Longitude super-midsize. At the NBAA Convention static display at Henderson Airport, Textron Aviation showed off a full-scale Citation Longitude with a production interior. Although this airplane won’t fly—it is a ground-test article—it was built on what will become production tooling for all intents and purposes it looks like a real airplane. It is also evident that the Longitude is, well, long, at 73 feet from nose to tail, 20 feet tall and 67 feet from wingtip to wingtip.

Like the Latitude, the Longitude has a six-foot standup flat-floor cabin. Both airplanes share the same fuselage width (77 inches) and height, but the Longitude is just over 10 feet longer. Powered by Honeywell HTF7000-series turbofans, the Longitude is much faster, too, with a high-speed cruise of 476 ktas versus the Latitude’s 446 ktas. Full-fuel payload for the Longitude will be 1,500 pounds, 500 more than the Hemisphere’s engine. But there is no excuse for the Longitude’s more legroom.

ANALYST: SSBJ MATH MAKES SENSE NOW

A supersonic business jet (SSBJ) now makes economic sense, according to Oscar Garcia of InterFlight Global, an aviation consultancy that specializes in the issue. A study conducted by his firm shows that the SSBJ price premium can reach up to 70 percent for business aviation users, who would much rather pay the added costs “than less travelers.” The data shows that Aeron’s AS7SSBJ is now 45 percent more expensive than an ultra-long-range business jet. “I’m researching it for my clients, and the interesting thing is that the Aeron lifecycle cost, because you are flying it half the time [because it is faster], is less than that of a Gulfstream G650 or a Bombardier Global 7000,” he said. “That’s with the Aeron’s direct operating costs at $14,000 to $15,000 an hour. It becomes very interesting. And the typical client is flying 12 fewer days a year than thanks to the time savings.

ANOTHER GOLD WING AWARD FOR AIN PUBLICATIONS

AIN presented the 2015 Gold Wing Award for insightful reporting about business aviation to Mark Phelps for his work in Aviation International News sister publication Business Jet Traveler. In accepting the award, Phelps highlighted the important ways that aircraft owners and operators help make the Special Olympics possible, which is the focus of his October/November 2014 BJT article “The Brightest Side of Private Flying.” This is the second time Phelps has won the Gold Wing Award; he also won in 2005 for his coverage of owner-flown bizav activity. This marks the 11th time an AIN Publications journalist has won the Gold Wing since the inception of the award in 1996.
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Collins, Duncan Team on CJ3 Upgrade

Citation CJ3 pilots have a new route to meeting future avionics mandates, with the unveiling of a Pro Line Fusion flight deck upgrade by Rockwell Collins and Duncan Aviation. Replacing the CJ3’s factory-installed Pro Line 21 portrait displays with three 14.1-inch landscape touchscreen displays with synthetic vision, the upgrade provides turnkey compliance with airspace modernization deadlines.

Duncan is developing the STC for the installation, with certification expected by the end of next year, and plans call for the upgrade to be available for more CJ models in the future. No price has been set, but Rockwell Collins estimates the fly-away cost for the upgrade will be in the $315,000 to $325,000 range. The upgrade will also allow for future enhancements such as head-up display, enhanced vision, MultiScan weather radar and airport moving map.

Brazil OKs Legacy 500 for Steep Approaches

Embraer Executive Jets announced that the Legacy 450 and 500 received Brazilian ANAC certification for steep approaches. That certification is a prerequisite for similar approvals forthcoming from both the EASA and London City Airport (LCY). The company has been conducting steep approach testing at LCY, where the airport must approve aircraft for both steep takeoffs and approaches. The Legacy 450/500 steep approach mode estimates the mass of the airplane for spoiler deflection using flight mechanics formulas based on angle-of-attack and airspeed. It can fly approaches with glideslopes as steep as 7.5 degrees.

MyGoFlight Introduces Mount for Tablet EFBs

MyGoFlight introduced two new mounts and a universal cradle at the show. The cradle fits a universal tablet cradle at the show. The cradle fits a universal cradle for Tablet EFBs. The company’s upgrade will be in the $315,000 to $325,000 range.

Collins, Duncan Team on CJ3 Upgrade

The second Pilatus PC-24 prototype made its first flight last month from the company’s headquarters in Stans, Switzerland. P02 is one of three test aircraft that will be used in the new jet’s certification program, expected to last into 2017.

The first test aircraft flew in May. A third will be used for function and reliability testing and will join the program next year. The aircraft that flew last month will be used primarily to integrate the Honeywell avionics and autopilot and will be based in Deer Valley, Ariz.

To date, P01 has logged 150 hours on 100 flights, incrementally expanding the flight envelope and cg range. At press time, the company plans to move the aircraft to Spain in the coming weeks to take advantage of milder winter weather and better flying conditions there. The entire flight-test program is expected to require 2,350 hours of flying.

Andre Zimmerman, vice president of the PC-24 development program for Pilatus, said the order book for the PC-24 will remain closed at least until 2017. He indicated that the company will continue its work with BMW Designworks on developing interiors for the jet and will expand its completion facility in Broomfield, Colo., by at least 50 percent to handle the anticipated load from PC-24 completions. Pilatus currently employs 80 people at Broomfield and is working with area technical colleges to establish an internship program there in anticipation of more hiring. At the NBAA Convention last month Pilatus exhibited the various executive interior options it has developed for the PC-24 in collaboration with BMW Designworks.

Las Vegas resort buys Lineages and Legacys

Embraer came up a winner in Las Vegas, inking a deal at the NBAA Convention last month worth more than $200 million for letters of intent covering three large-cabin Lineage 1000Es and three Legacy 500s. The prospective buyer is MGM Resorts International, which plans to use the aircraft to fly its customers.

The new Lineage has a range of 4,600 nm with eight passengers, allowing it to fly non-stop from Las Vegas to Dublin. It is equipped with fly-by-wire flight controls and can be fitted with optional autoland and an enhanced vision system. The Legacy 500 has a range of 3,125 nm with four passengers.

“An important element of our overall guest service is delivering a comfortable travel experience to some of our more important guests,” said MGM Resorts International chairman and CEO Jim Murren. “At the same time, we are also committed to the environment and improving our company’s operating performance. We believe this action, which replaces our older equipment, will provide an attractive return on investment and is consistent with our profit growth plan, which is geared toward improving our operating performance.”

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Chinese firm orders 20 Eclipse 550s

by Kerry Lynch

One Aviation received an order for 20 Eclipse 550s very light jets worth roughly $60 million as part of a recent dealership agreement with Jinggong General Aviation in China. Deliveries will extend over several years as One Aviation and Jinggong work to obtain Chinese certification and build sales, training and support networks in China, said One Aviation CEO Alan Klumpmeier.

The company announced the partnership in late October, citing the “untapped potential” of the Chinese market. In announcing the aircraft order, at the NBAA Convention, Klumpmeier added, “we’re bullish on China. The issues there are difficult, but it represents a huge opportunity.” One Aviation expects to secure Chinese certification of the Eclipse 550 in about six months, he added.

At the same time, the company said European certification for the aircraft is imminent. In July, One Aviation named Jet Lounge its exclusive representative for the Eclipse 550, Eclipse SE and Kestrel 350 in Germany, Austria, the Netherlands, Luxembourg, Denmark, Sweden, Norway, Finland and the non-French-speaking portion of Switzerland and Belgium. Klumpmeier noted that although the 550s’ predecessors, the Eclipse 500, already had European certification, the aircraft has changed so much over time that it required revalidation.

In the U.S., One Aviation has struck a deal to provide Eclipse 550s to Ascension Air for its owned-fractional ownership model. Ascension Air founder Jamail Larkins said his clients have begun to look to step up from the Cirrus SR22T GTS in his program, and the Eclipse is a good fit for the operation. Larkins has ordered the first, which will be delivered in the next few weeks and be based at Ascension Air’s Atlanta base. He plans to order more as the market builds for the aircraft in his program, including potential additions to the company’s base in Fort Lauderdale, Fla.

HondaJet service entry planned for this month

Honda Aircraft says it is nearing full type certification of the HondaJet HA-420 with the conclusion of final function and reliability testing expected at press time. President and CEO Michimasa Fujino anticipates certification and first deliveries by year-end, he said last month at the NBAA Convention.

The company has amassed more than 3,000 flight hours, with testing conducted at some 70 locations. Five production aircraft are flying and 25 more are on the production line, Fujino said.

Full certification, beyond the provisional type certification issued in March, will culminate decades of research, testing and preparation. Honda Aircraft has built a staff of 1,700 employees and expanded its campus in Greensboro, N.C., to encompass 680,000 sq ft of facilities, including a FlightSafety International learning center on site. The company has also obtained a Part 145 repair station certificate and set up a network of 11 dealers in the U.S., South America and Europe. The training center is operational, and the first training classes are expected to begin shortly, Fujino said.

Fujino maintained that the company has orders for more than 100 HondaJets, a number the company has recited for the past several years. Plans call for production to begin at an initial rate of three to four a month next year, he said. While creating a sales presence on three continents, the company is evaluating possible dealership networks in Asia and India next, Fujino said.

“It may not be very soon,” he said, but the company believes there is substantial potential in those regions.

As for the next in line, Fujino quipped, “I like family very much,” and added the technology behind the aircraft was not designed for a single specific product. It was designed to be scalable, and he said the company must evaluate “how we can expand the business with derivatives.” –K.L.
Barring the immutable laws of science, Embraer designers and engineers enjoy a unique freedom to create our executive aircraft. To reshape a fuselage that slips through the air while providing unrivaled cabin roominess. Or tweak the delicate balance of lift and thrust to increase efficiency. Or create control systems that help pilots always perform at their very best. All are a product of unconventional thinking at its finest. With all deference to pioneers like Newton, Galileo and Einstein—we simply don’t think their good work is finished.

Rethink Convention.  

Embraer Executive Jets
U.S. Legacy Assembly To Start in June

The expansion of Embraer Executive Jets’ assembly facility in Melbourne, Fla., to accommodate Legacy 450 and 500 production, in addition to the existing Phenom 100 and 300 lines, is well under way and on pace to be completed in the spring, according to facility managing director Phil Krull. The first U.S.-assembled Legacy 450 is expected to enter the initial build station in June, he noted. Midsize jet production will start slowly at Melbourne, with six Legacy 450/500s coming off the Florida line in 2017, said Krull. However, output will eventually be ramped up to 72 of the midsize jets per year. Also in June, all Phenom production will transition to the Melbourne facility. The Melbourne facility has the capacity to assemble 96 Phenoms per year.

GA Customs Group Gets Under Way

A new U.S. Customs and Border Protection (CBP) general aviation working group assembled recently to discuss issues with both government and industry representatives. NBAA, AOPA and a number of industry leaders were among the participants, and NBAA said it expects membership to grow as the group establishes itself. The first meeting examined ways to improve communications between industry and the agency and to establish more consistency from port to port, NBAA said. The group also discussed streamlining procedures for operators. “CBP is clearly committed to working with industry and wants to hear directly from operators on the issues that are most important to them,” said Sarah Wolf at NBAA.

CAN Makes Milestone Patient Flight

In late October Corporate Angel Network (CAN), the charity that uses available seats on business aircraft flights to transport cancer victims to treatment, flew its 49,000th and 49,001st patients since it was launched in 1981. The flight was operated by Dow Chemical, one of the first companies to offer flights to CAN, and carried 54-year-old Richard Gremillion Jr. and his 74-year-old father–both prostate cancer patients–from Baton Rouge to Houston, where they are receiving treatment.

Cirrus Breaks Ground on Vision Center

Cirrus Aircraft broke ground on its $15 million, 11-acre “Vision Center” at Knoxville (Tenn.) McGhee Tyson Airport. According to Cirrus, the Knoxville facility will be a “flagship location for all Cirrus Aircraft pilot, owner and customer activities” and include a design center where buyers can customize their SF50s, a service center, sales and product support staff, an FBO and type-rating training in a level-D full-motion simulator built by CAE. It will also host company social events. The new facility will open in the second quarter of next year with a $2 million, 15,000-sq-ft hangar; other buildings will be added later. The hangar is an interim facility while the main center is under construction. All Cirrus aircraft production remains at Duluth, Minn., and Grand Forks, N.D., and SF50 certification remains targeted for year-end.

NBAA Publishes 2016 Forum Dates

NBAA signed an agreement to hold its Southeast business aviation regional forum at Atlantic Aviation at Palm Beach (Fla.) International Airport for the next five years. The Southeast Regional Forum, to be held on January 28, is one of three regional forums that NBAA has announced for 2016. Other forums are planned for June 9 in Van Nuys, Calif., and September 15 in White Plains, N.Y.

JetNet: bizjet fleet to grow through 2024

The world business jet fleet will grow by 33 percent over the next 10 years, approaching 27,000 by 2024, according to a recently released forecast from JetNet. But the researchers also anticipate a wave of retirements, with nearly 3,000 aircraft going out of service in that time frame.

The business aviation market analysis specialist released its latest JetNet IQ market intelligence findings and long-term outlook at NBAA 2015, predicting a market for 9,365 business aircraft worth $255 billion over the next decade. That is close to Honeywell’s latest 10-year forecast for 9,200 new business jets (see article on page 48), but JetNet’s outlook includes personal jets, such as the single-engine Cirrus SF50 Vision.

The market analyst believes the expanding personal jet segment will account for 7.4 percent of the aircraft delivered over the forecast period but just 0.5 percent of their value. Long-range jets, meanwhile, are expected to account for 17.7 percent by volume and 40.2 percent of value. The fleet is anticipated to grow to 26,774 by 2024 from 20,193 last year, even with an expected 2,784 retirements.

Traditional Predictors Behind

JetNet analysts also pointed to mixed indicators in the current market environment. Rolland Vincent, the director of JetNet IQ, noted that strong corporate profitability is not translating into a full recovery of flight hours.

In fact, Vincent estimated that as many as 3,300 business jets are idle; many are believed to be older models, suggesting there is a “retirement wave” ahead. Also, companies proportionately are spending less on business jets, he said, pointing to a “decoupling” of corporate profits and business aircraft sales.

Used sales are a leading indicator, Vincent noted, and inventories have returned to pre-recession levels. But pricing remains a top concern, both with used and new aircraft, as soft and aggressive pricing is lowering residual values. JetNet IQ surveys of 500 operators found that nearly 60 percent cited residual values in their decision to put off aircraft purchases in the past two years.

Dassault shows off Falcon 8X at NBAA

The Falcon 8X, Dassault Falcon’s new flagship, made its North American public debut last month at the NBAA Convention. The number-six aircraft in the program left the assembly line in Mérignac, France, and detoured to Las Vegas for the show’s static display before heading to Little Rock for completion, where two other 8Xs are already being worked on.

Collectively the three 8Xs have logged 380 hours during 185 flights, and Dassault says the program is more than two thirds of the way toward FAA and EASA certification.

The flight envelope for the new ultra-long-range (6,450 nm) trijet has been fully opened, with the first aircraft recently attaining Mach 0.97. Dassault also says its engineering teams are well into the process for validating the 8X’s third-generation EASy flight deck.

With the 8X poised to enter service in the second half of next year, Dassault is expanding its Falcon Cabin Familiarization Training program to include the new model. The one-day sessions are tailored to individual aircraft operating requirements and are aimed at pilots, flight attendants and owners. Last month Dassault’s completion center in Little Rock opened a new 250,000-sq-ft facility dedicated to completion of large-cabin jets.

NEXTANT COMPLETES FAA CERTIFICATION OF G90XT

Nextant Aerospace has received FAA certification for the G90XT, its remanufacture of the Beechcraft King Air C90. On the G90XT the C90’s PT6 turboprops are replaced by GE H75-100s and the cockpit gets a Garmin G1000-based avionics suite that Nextant calls the Regent integrated digital flight deck. The G90XT’s cabin has a new acoustics package, digital pressurization control and a new environmental control system that Nextant says provides three times better cooling than the original.

Compared with the airplane’s PT6s, the H75s deliver better high-altitude performance and 10-percent-lower specific fuel consumption, according to Nextant. The Unison/GE single-lever power control offers exceedance protection and substantially reduces pilot workload. Customers can either provide their own aircraft and $1.99 million for remanufacture or Nextant can offer a turnkey aircraft for $2.75 million.

Certification of the G90XT has taken longer than Nextant anticipated. Following a January 13 first flight, the company had aimed to complete the process by March or April.

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Silicon Valley firm seeks to move charter online
by James Wynbrandt

Stellar Labs of Palo Alto, Calif., launched its air charter marketplace platform and app last month at the NBAA convention. Stellar aims to bring to air charter the same ease of online business-to-consumer commerce evident in the hotel and airline travel industries. Stellar’s platform is a back-end system for Part 135 operators that enables automated scheduling, real-time pricing, route optimization, online booking and revenue management tools that allow automated pricing adjustments based on supply and demand.

Stellar founder, CEO and chairman Paul Touw, who also founded XOJet and Ariba, a business-to-business platform sold to SAP for $4.3 billion in 2012—said the backend systems most charter operators and management companies use today were designed to support Part 91 operations and don’t have tools to optimize charter operations.

“The commercial side is an afterthought,” he said, whereas Stellar is “designed for revenue management. The pricing policies are exactly what airlines do, so [rates] will be higher on Friday and lower on Saturdays. No [current] tool can do that. That will have a profound impact on the industry.”

The platform is free to operators and doesn’t require their participation in the Stellar aircraft pool, though they can still take advantage of Stellar’s tools. “Operation and revenue management is a goldmine,” Touw said. Stellar generates revenue by taking a cut—“well under one percent,” according to Touw—of charter transactions conducted via the platform. Stellar also incorporates a secure payment app that uses a fingerprint for transaction authorization, and Touw said processing fees are “cheaper than credit card” charges for such transactions, another incentive for operators to switch to Stellar.

System Changeover Required

The changeover takes about three to six weeks. Stellar dispatches a team to install the system, conduct testing and provide training. Each system is customized to the pricing rules the operator wishes to establish, “given that technology is no longer the barrier,” said Touw. “We gather all those pricing policies and embed them in the system.”

The process also requires meeting multiple high-quality photos of each airplane in the operator’s charter fleet “so we can represent their aircraft in the best way possible,” he said.

Stellar is not compatible with current backend systems, or with services designed to work with operators to share inventory data, such as Avinode, brokers’ favored platform for sourcing available lift. Asked if Stellar aims to supplement or complement Avinode, Touw said, “I hate to say we’ll supplant, but when flash drives supplanted disk drives, that’s reality. Avinode is a [third-party] business system. Their primary customer is a broker, so they’re restricted on revenue sources for delivering a product that an end consumer would want.”

The Stellar platform will launch with a fleet of 510 aircraft; Touw said he believes 500 aircraft is the critical mass needed to launch the service. He declined to provide the names or number of operators, but said 93 percent of those pitched have signed on.

Several similar efforts since the rise and fall of Virgin Charter have faltered, but Touw asserts Stellar has identified and resolved all key issues. Many industry veterans maintain that charter customers won’t book online—if it is technologically feasible—because of the complexity of the transactions and the sums involved.

“I fundamentally disagree with that view,” Touw said, noting the growth in online auto sales and luxury home rentals, which initially aroused similar skepticism. Stellar has raised about $10 million, $7 million in September from venture capital firms.

EJM wins court case over IRS FET

A U.S. District Court has found that Executive Jet Management is not liable for $9.7 million in federal excise taxes the Internal Revenue Service assessed for aircraft management services the company provided for aircraft used in charter operations. The U.S. District Court for the Southern District of Ohio on November 12 found that “the government failed to provide EJM with precise and not speculative information” and that a “judgment on the EJM portion of the lawsuit at that time to further review whether the government provided adequate notice.”

While the case is specific to EJM, it is among the lawsuits closely watched since industry has been working with the IRS on the tax treatment of management fees. The IRS released guidance in 2012 that deemed management fees commercial activities that are covered under the federal excise tax on air transportation (the so-called ticket tax). That memorandum has led to numerous audits and hefty assessments. After an ouroping of opposition, the IRS agreed to set aside enforcement of the levies while it reviews the policy. It has not yet issued new guidance, but lawmakers in both the House and Senate have recently introduced legislation to specify that the management fees are not subject to the ticket tax. —J.L.

UAS BOOSTS TRIP SUPPORT PRESENCE IN AFRICA

UAS International Trip Support boosted its presence in Africa last month by appointing new station managers in Senegal and the Democratic Republic of Congo (DRC). Johnson Akkrefen is based at Leopold Sedar Senghor International Airport in the Senegalese capital Dakar. Kitumaini Pourquoi Rukiko is running the group’s operations at Kinshasa N’Djili Airport in the DRC.

The two station managers will work with local ground handlers with access to all airport operations to ensure that UAS’s clients get the support they need. They will supervise all ground handling services and ensure that fuel deliveries are made on time. —C.A.
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Trusted to deliver excellence.
GAMA nine-month delivery report: more jets, pressurized t-props handed over

by Curt Epstein

The industry is on track to deliver more business jets for the third consecutive year, having reached the bottom of the recent trough in 2012. According to third-quarter statistics released last month by the General Aviation Manufacturers Association (GAMA), 4,655 business jets were delivered worldwide in the first three quarters of this year, a gain of 4.3 percent year-over-year. Billings climbed to $15.7 billion from $15.5 billion.

However, those numbers should rise since they lack third-quarter input from Dassault, which has chosen to release its delivery numbers biannually, at mid-year and year-end. In its calculations, GAMA removed the French airframer’s deliveries for the third quarter of 2014 to maintain the year-over-year comparison.

At the mid-year point, the OEMs were 4.1 percent behind the pace set last year, leading some analysts to question the industry’s continuing recovery, but a strong third quarter has pushed the tally ahead of the 4,465 jets shipped through the first nine months of last year. “Although the industry’s performance among sectors in the third quarter remained mixed, new and recently certified business jet models helped raise overall billings,” noted GAMA president and CEO Pete Bunce.

Thanks primarily to deliveries of the Legacy 500, which began late last year, Embraer showed the biggest gain, up 17.2 percent, to 525 from 450 year-over-year. The 50 Challenger 350s it delivered exceeded its tally for the three quarters of last year by 15 aircraft.

Though the Canadian OEM also saw a six-aircraft bump in the number of Learjet 70/75s it delivered year-over-year, its large-cabin offerings lost ground.

The 52 Global 5000/6000s equated to three fewer aircraft than it handed over in the first nine months of 2014, and the 11 Challenger 605s represented just over half the number it delivered year-over-year. The Challenger 650 received EASA and FAA certification early last month.

Gulfstream upped output of both its mid-range and large-cabin offerings by three and five, respectively, for a 7.4-percent gain in deliveries over the first nine months of last year. Textron Aviation subsidiary Cessna eked out a nearly 2-percent rise during the first three quarters of the year, as it began deliveries of the Latitude midsize in August. However, the 13-aircraft gain in the number of CJ3+ and CJ4s handed over was offset by an equal decrease in the number of M2 and Sovereign+ deliveries.

One Aviation, which was formed earlier this year in a merger between Eclipse Aerospace and Kestrel Aircraft, saw the number of Eclipse 550 very light jet deliveries halved, to five from 10, year-over-year.

Turboprop Results

Though the turboprop segment as a whole declined 9.4 percent, the pressurized models, with 181 delivered in the first three quarters of the year, saw a 1.6-percent boost over the same period last year. French airframer Daher shipped three more TBM 900s than it did in the first three quarters of last year, for an improvement of 9 percent.

Textron’s Beechcraft delivered two fewer King Airs year-over-year. Piper added one more Meridian to its 3Q 2014 total, and Italian manufacturer Piaggio reported delivery of just one Avanti Evo through the first three quarters of this year. Pilatus remained static, with 37 PC-12s delivered.

Helicopter Sector

Erosion in the rotorcraft industry, blamed in part on slumping oil prices, continued to manifest itself. Helicopter manufacturers delivered 480 turbine-powered rotorcraft in the first three quarters of the year, down from 525 in the same period last year, representing a slide of 8.6 percent year-over-year.

The rotorcraft industry’s January-to-September billings retreated to $2.8 billion, from $3.6 billion in the first three quarters of last year, a slide of more than 20 percent.

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Give yourself and your passengers the peace of mind that comes from putting flight-critical information at your fingertips while increasing the resale value of your aircraft. Contact your Textron Aviation company-owned service center today to discuss upgrading your avionics.
**Europe moves closer to SET-IMC**

by Kerry Lynch

The European Aviation Safety Agency (EASA) issued an opinion last month that establishes a regulatory framework to permit commercial single-engine turbine operations in instrument meteorological conditions (SET-IMC). Opinion 06/2015 marks one of the final steps required before commercial SET-IMC is authorized throughout the European Union. The opinion must next receive endorsement by the EASA Committee, which includes the European Commission and EU member states.

Under the process, the EASA Committee likely will review the opinion at its next meeting, scheduled for February, and then formally vote on it at the following meeting.

The General Aviation Manufacturers Association (GAMA), which has been involved in the rulemaking deliberations, is hopeful that the regulation will be adopted by this time next year. Completion of the rulemaking deliberations, is cited several justifications for the regulation, including establishing “a level playing field” and better coordination with international regulators and organizations that already permit commercial SET-IMC.

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The International Civil Aviation Organization (ICAO) adopted rules 10 years ago for such operations. The EASA also noted the current regulatory environment does not promote use of modern airplanes and serves as a barrier to access remote regions.

**Input Welcome**

Jens Hennig, vice president of operations for GAMA and a participant on the commercial SET-IMC rulemaking committee, noted that the EASA made an effort to ensure that all interested parties, whether member states with concerns or manufacturers of single-engine turbine aircraft, had an opportunity to provide input on shaping the rulemaking.

In the opinion, the EASA mirrored those deliberations closely with no real surprises, Hennig said. The opinion includes specific requirements covering equipment, flight planning, flight procedures and crew training for the operations.

Some comments centered on equipment requirements, including a landing lights illumination capability. The EASA said that flight-testing confirmed the appropriateness of the landing-lights capability. Other commenters sought mandatory flight simulator training. But recognizing the limited availability of simulators for certain single-engine turbine models, the EASA instead said that a flight simulator or appropriate training device “should be used whenever one of them is available.”

Other comments pushed for a mandatory two-crew requirement, but the EASA noted that “it is agreed that a requirement for a second pilot is not appropriate for consistency reasons, since the possibly eligible airplanes are certified as single-pilot, and since light twins can currently be flown in IMC with one pilot.”

The agency acknowledged, however, that a commercial SET-IMC environment “might be challenging for an inexperienced pilot” and instead included minimum experience requirements for commercial pilots who will fly in SET-IMC conditions.

The EASA further agreed to address takeoff minimums for such operations. However, the agency did differentiate runway visual range criteria for cargo and passenger operations, as suggested by one commenter. Hennig called the opinion a key decision that completes the “safety work” for the regulation. With it now heading to the EASA Committee for review, he added, “the next step is the political decision.”
Dassault expands product support

by Curt Epstein

Since its establishment at the beginning of the year, Dassault’s Falcon Airborne Support team has been busy, according to company senior vice president for civil aircraft Olivier Villa. The pair of Falcon 900s dedicated to airborne support—one based at Paris Le Bourget and the second at Teterboro Airport—have flown 90 missions so far this year in support of Dassault customers, he reported last month at the NBAA Convention.

The two trijets are used for AOG events to dispatch parts and technicians swiftly anywhere in the world. The Falcon Airborne Support aircraft can also be used for alternate lift. “In case the aircraft cannot be back in service in time for the next flight, then we are able to take passengers to their final destination,” said Villa, noting that almost 50 percent of the missions were used for this purpose.

“I can tell you this has received a great response from customers facing this situation.”

Mobile Response

Villa said the company has also expanded its ground service assets. In April it established a mobile repair unit (MRU) with two technicians in the Northeast U.S. and added another two Teterboro-based GoTeam technicians in July. The OEM has also added an MRU in Dallas. Last month the company broke ground on a heavy maintenance center near the Falcon 8X assembly line in Mérignac, France. When the facility becomes operational in the middle of next year it will have six bays that can support the Dassault fleet, primarily the 7X and 8X. The airframer has 47 maintenance facilities around the world, with another project under way in Moscow. Earlier this year Dassault added regional parts distribution centers in Lagos, Nigeria, and Louisville, Ky., bringing its world-wide total to 15 with a combined parts inventory of $800 million. This has allowed the manufacturer to claim a parts availability rate of 98.5 percent.

Quest Aircraft is extending its sales reach in the South Pacific. The manufacturer’s distributor, Setouchi Trading Asia Pacific of Singapore, has named Utility Air, based in Sydney, Australia, as its exclusive Kodiak sales representative for Australia, New Zealand, Papua New Guinea, Timor Leste and the South Pacific Islands. Setouchi Trading has been a Kodiak dealer since July 2014. The Kodiak has received 21 certifications covering 31 countries. It is designed for short-takeoff and landing use and is able to accommodate floats.

News Note

As a virtual DOM representing many aircraft, customers trust me to make sure their aircraft are properly taken care of. Elliott Aviation has impressed me on many major Hawker inspections and complete refurbishments. I recently had a Hawker in their facility for an eight-year inspection with structural and new paint and interior. Their extensive mechanical knowledge of the airframe is impressive and attention to detail on the paint process is unlike anything I have ever seen. Throughout the process, I was kept informed of even the most minor issues. This led to the aircraft being delivered squeak-free and on time. It’s an impressive feat to make an eight-year old aircraft look and perform as new but Elliott Aviation did it.

J. David Wood
President, BKT Aviation
Strategic Partner for 88 West, www.88westjetsales.com
Controller fatigue and safety: is FAA doing everything it can?

All of us in the aviation safety business talk a lot these days about human factors. Human factors are involved in the overwhelming majority of aircraft incidents and accidents, by some estimates more than 80 percent, as aircraft and their components have become more reliable and less prone to causing catastrophic failures.

Much of the conversation these days involves the effect of fatigue, perhaps because a fatigue connection has been cited as a contributing factor in a number of tragic accidents across modes of transportation.

So, with all this concern about fatigue I was surprised to see that a recent National Air Traffic Controllers Association (Natca) media blitz concerning air traffic controller staffing shortages focused on their potential for creating more airline delays. This effort failed to mention any safety impacts, even though union officials claimed that the staffing shortages have led to six-day work weeks at some of the busiest facilities in the U.S. (Atlanta, Chicago and New York among them). Curiously, these union officials were quoted by numerous media sources as saying that in spite of the six-day weeks, the decrease in staffing was not causing a safety problem. Say what? Routine six-day work weeks and no concern for fatigue? That seems rather odd.

Six-day Work Week Studied

I was curious to see what basis the union had for saying that controllers’ routinely working an extra day did not affect safety, especially since a NASA report prepared at the FAA’s request had found a number of concerns related to controller fatigue.

With a little digging—the FAA had kept the 2012 report secret until this past summer—I found a copy of not only the NASA report but also a cryptic FAA cover memo prepared two years after the study was completed. The cover memo is dated July 8, 2014, from the FAA’s v-p for safety and technical training to the air traffic COO. The memo states that although the FAA paid NASA $1.2 million to “conduct an independent, baseline assessment of fatigue in the air traffic controller workforce,” in the end the agency did not accept NASA’s report, which reached numerous conclusions and made a number of recommendations regarding air traffic controller fatigue related to their work schedules. It did, however, use some of NASA’s study to prepare its own fatigue risk management system in conjunction with the controller union.

The FAA’s memo states that it did not accept NASA’s report because “the academic approach used by NASA did not sufficiently integrate an understanding of the air traffic 24-7 operational environment with a scientific approach. As a result, some verbiage in the report contained judgmental rather than quantitative results—often based on sourcing opinion versus science.” I reached out to the FAA, Natca and NASA for comment but none of them responded.

In any event, reading through the 225-page report—which looked to me to be exhaustively and scientifically researched, including an extensive field study—I came upon some interesting information related to six-day workweeks. First, the study found that of all the aspects of controllers’ jobs included in the research, schedules were the number-one complaint and the one controllers felt contributed most to their fatigue. Six-day work-week schedules were the least satisfactory. They also appeared to be the most troublesome from a safety perspective.

According to the report: “Respondents working this schedule reported having a higher percentage of operational events in the previous year than those on any other schedule (32 percent versus 17 percent)” although the percentage that reported constant six-day schedules was small (4 percent). However, the percentage that reported working a six-day week their last week of work was 14 percent.

The study concluded, “Fatigue was associated with working six-day schedules with only a single day off.” However, the study left unanswered whether alertness was affected by working six-day schedules. NASA recommended investigating the impact of six-day schedules on controller alertness.

To date, it does not appear that those additional studies have been done by or for the FAA. It would certainly seem to me that the biggest concern with staffing shortages increasing six-day work weeks at our busiest facilities should in fact be safety. And whether the fatigue produced by those schedules does, in fact, affect controller fatigue.

Why doesn’t the FAA want to find that out? And why is the controllers’ union letting it get away with not finding out? I welcome your e-mails at gogliaj@yahoo.com.

The opinions expressed in this column are those of the author and not necessarily endorsed by AIN.
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As prices rationalized, buyers have returned to the market and found plenty of good deals.

Looking back at 2015 one can see a slow build of inventory and fewer transactions than in the previous year, but that comparison by no means suggests that 2015 was inactive. Rather, it’s a commentary on how off the charts 2014 was compared to several previous years. In retrospect, last year now seems more like a punctuation mark to the market’s comeback, if not in values then in overall sales. While pricing in many markets is well off owners’ hopes, it seems that it is pricing that has brought buyers back to the market and enticed some to jump in for the first time. The supply of business jets for sale remained essentially flat during the third quarter and currently stands at 2,332 airplanes or 11.4 percent of the worldwide fleet. For the first nine months, worldwide sales transactions are off 5 percent compared to the same period a year ago.

Buyers are downright giddy at what their bankroll can buy them in today’s market. For example, a Citation X operator with a walk-away lease was ecstatic, as he didn’t need to deal with the sell side of the equation before upgrading. Considering there are 40 for sale and they’re selling at a rate of one per month, finding a buyer in a timely manner can be a daunting task. Seven years ago the average price of a used Citation X was $13.3 million, according to JetNet; today it’s less than half that. The same story is unfolding with other aircraft. The GIV-SP average seven years ago was $28 million. Today that number is $6.8 million. No doubt these aircraft are seven years older, but they still do the same job today they did then and there seem to be buyers ready to pounce at the right strike price.

While we’ve witnessed some operations scaling back, more often we are seeing buyers upgrade, which for a broker in the pre-owned market is typically a two-part equation with the sell-buy. Typically, there’s little dance as buyers clearly state they don’t want to own two aircraft at the same time and they don’t want to be without one. Strangely, this mandate is often efficiently met and perhaps that’s because the buy side of the equation can be an easier task given the relatively high number of choices in the market.

Firm pricing still seems elusive and at some levels that’s easier to understand. Clearly a G550 owner rolling up to a new G650 doesn’t want to be holding on to $100 million worth of aircraft, especially if the outgoing one is not being used to the level it had been. While no one is going to give away an aircraft, it often makes no business sense to hold out for the long ball. It’s often said in our business that your first offer is the best offer, simply meaning that a given price today, while seemingly low, might be better than a higher offer three months from now, as one accounts for holding costs and the possibility, or perhaps probability, that market conditions will deteriorate. Add to that the negative perception of an aircraft that languishes on the market and you get the point.

So, in recent years when a seller made the decision to accept an offer, I suspect it wasn’t like the good old days when he might have exclaimed, ‘I can’t believe we lost $10 million on our aircraft!’ To be fair, sellers are taking it in stride, but I’m sure not without a shake of the head at how low aircraft prices have fallen. Setting the right price for aircraft might have given the impression that the sky is falling, but it simply adds to the efficiency of the market. I’m a firm believer that it’s the buyers, not the sellers, who set the prices. At times, an owner might ask what his aircraft is worth. In theory that’s not hard to answer, but in practice it’s worth what someone will pay, and at times that can seem excruciatingly low.

**Downward Pricing Pressure**

As most of us have seen, today’s wholesale value may be tomorrow’s retail value. So, when a seller accepts a lower offer than the previous comparable sale, the average values fall, but what also occurs, especially when this happens at the upper end of any model type, is that it compresses values of all the other downstream same-manufacturer-type models. This can also cross over into types from different manufacturers. If things get too out of balance, say in the Global Express market compared with the GV market, you will see a market reaction that will bring one or the other back in line. A glance at research firm AircraftPost’s database shows Globals bringing higher average sales figures, but closer study shows six Global sales in six months compared with 16 GV sales over the same period. The average model year for the Globals that sold was 2002 and 1999 for the GVs, so at a glance, buyers seem to be keeping the two models in check. There are nearly an equal number for sale. However, when you consider their respective and recent sales rate, the
technology and the transaction

five ways top aircraft brokers leverage digital tools for their clients’ success
One call to Avjet sets in motion the talent and resources to achieve your private air travel objectives. More than just a brokerage firm or charter company, Avjet delivers integrated aviation solutions with heroic, superhuman responsiveness.
The aviation field has witnessed a long series of technological innovations, yielding ever greater performance and efficiency. Perhaps nowhere aside from airplanes themselves are those achievements more evident than in the business aircraft brokerage field, where pioneering digital technologies have made today’s global market possible. Using everything from online databases and proprietary data-analysis software to instant-communication tools and apps and IT specialists, leading brokers now marshal an arsenal of technology to stay on top of markets and get deals done.

“Technology plays a big part in the success of the top-tier brokers I’m familiar with,” said attorney Paul Lange, who handles aircraft transactions. “They really manage the sales process, and they have a greater chance of getting the deal done quickly and on time, with a minimum of fuss and added costs.”

Yet these same brokers are the first to emphasize that technology remains secondary to relationships in this business. Technology provides the raw data, the means of communication and the processing power needed to complete a successful transaction. But it takes a broker’s team of experts and network of industry contacts to develop and execute a strategy and tactical plan for each client’s transaction.

Having the technology edge is more crucial than ever, however. The preowned arena remains volatile, with valuations changing within days or even hours; and technology plays a key role in enabling brokers to navigate that market on behalf of their clients. But not all brokers have these tools, or a certified professional on board who knows how to use them.

Meanwhile, the reams of information that technology makes publicly available—online listings, valuation and transaction activity reports from data services and the like—lead some on the sidelines to conclude they can dispense with representation and go it alone when buying or selling business aircraft. “All this information can create the false sense of confidence and security,” said Dennis Rousseau, founder and president of AircraftPost.com, an online business aircraft market data service. “A little bit of knowledge can be dangerous in the wrong hands. By using information technology, a qualified broker can provide the knowledge and expertise part of the equation.”

The benefits of working with a broker are widely recognized; 89 percent of preowned-aircraft transactions take place with broker representation, according to business aviation data-provider Amstat. But not all brokers have the technology resources or the people experienced in their use required to achieve optimum results. Successful brokerages are distinguished by their application of technology throughout the transaction process. This report focuses on five key areas of that process and on how some of today’s top firms leverage technology.
Today’s business aircraft market is a global bazaar, and brokers use technology to keep on top of it. “A lot of these deals are worldwide, so the time zones get really difficult to manage,” said Lange, the aviation attorney. “But if your broker sets up a secure cloud repository, with documents that show how the deal is supposed to flow, sample agreements, checklists for absolutely everything, then it’s very easy.”

Jay Mesinger, CEO and president of Mesinger Jet Sales, who is well versed in such practices, noted that the market went “from three time zones to 15” since his company’s founding in 1982. “Today, it’s not only global but 24/7,” he said. “I don’t lose the ability to be on the short list of prospects in other parts of the world because I’m not awake; they can go to my website. I don’t think the globalization of our industry would have occurred as rapidly as it did had we not had the power of the Internet.”

This digital revolution has made sales tools more sophisticated and accelerated the pace of the market. “Technology has allowed for the faster dissemination of information, whether it’s market intel, contract issues, maintenance information or items that need processing,” said Andrew Bradley, president of global sales at Avjet. “We can reach all corners of the globe in real time and cast a much wider net.”

In international markets, technology trumps language barriers as well as time zones. “Years ago you had to have someone within the firm who could translate,” said Robert Rabbitt, Jr., managing partner of Avpro. “Technology has brought automatic translation to websites.” Rabbitt added that his Annapolis, Maryland-based company has several multilingual staffers. Avpro’s website offers readers content in English, Spanish, Chinese, Russian and Portuguese. Avpro also pays close attention to high-level graphic design, produces videos and uses “every available technology in the space,” to disseminate its message.

Founded in 1991, Avpro will celebrate its 25th anniversary in 2016. Conducting an average of 100 to 125 transactions per year with a value in excess of $1.5 billion, the company has specialists in Gulfstream, Falcon and Bombardier aircraft, some with OEM experience. Avpro added a helicopter division three years ago to meet the needs of many fixed-wing clients in New York, Los Angeles and London, bringing on top rotor-wing sales specialists to head the effort. In addition to brokerage, Avpro offers consulting services, including aircraft selection; residual-value analysis and forecasting; and aircraft fair-market-value analysis.

The simple digital photo allows all parties almost anywhere in the world to see evidence of condition issues, damage, repairs and other physical elements of the aircraft during inspections and other transaction phases. But digital imagery has its limits, as Tyler Webb, a sales director at Jeteffect, noted in recounting recent trips to London and the Philippines to inspect two Challenger 605s and a G550. “They say a picture is worth a thousand words, but sometimes they’re worth two words,” he said. “You see pictures and you say, ‘This is a great airplane,’ and then you see it and you think, ‘This isn’t the same airplane,’ There have been situations,” he continued, “where [sellers] mistakenly put a picture of a different airplane up.” So what did Webb do when he arrived? “I took pictures of the airplanes and emailed them back.”
From the moment I signed the brokerage agreement, the Elliott Jets team covered every detail. The professionalism throughout the entire process was impressive and gave me peace of mind that my aircraft would bring me the price they said it would. They marketed my airplane aggressively, with attractive photos and videos, and kept me up-to-date on all of the effort of the selling process. When it was time for the prebuy, their technical group worked with my pilot and helped make the transaction with the purchaser go off without a hitch. Most importantly, Elliott Jets did everything they said they were going to do and it led to a successful aircraft transaction.

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transforming data into intelligence

everaging human expertise to create clear, actionable intelligence from a ceaseless torrent of data is the essence of information management in today’s aircraft market. The cost of maintaining subscriptions to data services such as Amstat, JetNet and AircraftPost.com, at thousands of dollars per month, is only the ante. “The more information there is, the more you need to analyze,” said Avpro’s Rabbitt. “We have dozens of people doing that every day.”

Moreover, the web is only one input channel. “People fail to realize that the information that is publicly available on the Internet is only a fraction of the true market. You need to have a team that is constantly in contact with the market to have an integrated picture of what’s available,” said Rabbitt, citing aircraft coming off lease, trade-ins and repossessions among the unlisted inventory.

“I’d love to say we can jump on the Internet and find what we would consider quality inventory or good value, but unfortunately that’s not the case,” agreed Todd Jackson, v-p acquisitions at Elliott Jets. “Here, the technology is not as helpful as our human capital is, getting real-time information we critically need. A lot of [brokers] know what’s on the market. It’s the ability to know what’s off the market that really brings value to our clients. The good deals generally never make it to the Internet.”

Tyler Webb, a sales director at Jetefect, recounted a recent conversation that highlighted the listing disparities: “I had a client last week who wants to buy a particular model. He’s looking at Controller [the online aircraft-listing-aggregator site], and he said, ‘There’s 22 of these out there for sale.’ I looked at my resources and I said, ‘There’s actually 33 for sale.’ That’s a good example of what we have at our fingertips compared with what anyone else would have. If there were websites able to provide those types of things, I’d have to find a new line of work.”

Founded by partners Bryan Comstock and George Marburger in 2001, Jetefect has offices in Los Angeles; the Atlanta area; Washington, D.C.; Palm Beach, FL; and Dallas, enabling its specialists to be anywhere in the world in 12 hours. Comstock, managing director of Jetefect’s West Coast office, is a noted industry expert and frequently writes about aircraft valuations. Jetefect’s team members have backgrounds in banking and finance, aeronautical engineering and design and development of Cessna and Hawker Beechcraft business jets.
Understanding onboard technology

The most important technology driving today's aircraft market is often on the airplane itself. Connectivity and communication equipment in cabins and cockpits has a growing impact on sales of new and preowned aircraft, especially with requirements for NextGen avionics installations looming.

"With the evolving technology in today's aircraft marketplace, every successful broker understands how that's driving value in these aircraft—everything from cabin entertainment systems to Internet connectivity to NextGen avionics mandates," said Jeff Agur, CEO of business aviation consultancy VanAllen. "Good brokers understand that and can educate their buyers about it."

Such expert knowledge is critical when someone is making upgrade decisions in anticipation of a sale or in valuing an upgraded aircraft.

"In many cases, the costs associated with [upgrading] make up a large percentage of the aircraft's value," Avjet's Bradley pointed out. "On a new or near-new G550, the value is almost dollar for dollar, because the buyer will need to install it if it's not on board. On older aircraft, which may not even fly to regions of the world where these technologies will be required in the future, the added value can be as little as 10 to 20 percent."

Agreeing that avionics mandates are "a huge issue to take into account in evaluating aircraft," Webb of JetEffect noted, "On the other side of it, in the cabin, one of the first questions [from buyers] now is, does it have Internet?" With a host of new cabin connectivity solutions in the offing, Webb injected another consideration that brokers weigh in the upgrade decision: "Inevitably, new technology is going to have its gremlins. You can do tried-and-true technologies while we wait and see, and the costs [of the new technology] will typically come down."

Leading brokers have the benefit of briefings from aircraft OEMs and engine and avionics manufacturers, who recognize them as important conduits to potential buyers and keep the firms informed about their products and services available and in development.

"With the complexity of regulatory compliance," said Mesinger, "this is a real hot-button issue [among firms that receive regular visits from manufacturers]. This is now a subject that comes up with every airplane anyone considers buying." Boulder, Colorado-based Mesinger Jet Sales has an avionics specialist on staff to stay ahead of the technology. Founded in 1982, the company was an early adapter of technology in the space and has introduced a host of innovative evaluation, marketing, communication and sales tools to the brokerage community. The family-owned company employs Jay's wife, Sandra, as CFO, and sons Josh and Adam have joined the executive team. Mesinger Jet Sales guides clients through the legal and tax issues, completions and refurbishment, maintenance and asset-management decisions of aircraft sales, purchases and operations.

Engine maintenance programs

The engines incorporate the most expensive and advanced technology on almost any aircraft, and in today's buyer's market, enrollment in an hourly engine-maintenance program is almost a requirement for the sale of many models. But the elements of coverage programs are complex, and technologically savvy brokers provide guidance in this critical area, as well. "We like to check that and double-check it," said Elliott Jets' Todd Jackson, of engine-maintenance agreements.

"We just had a situation on a Citation XLS," recalled Jackson. "The operator of the airplane told us the type of engine program, but when we dug deeper, we found it wasn't accurate. It was going to cost $400,000 to put the engines on the program the buyer was expecting, and our offering was based on that information. It caused quite an issue." Ultimately the seller absorbed the difference.
strategic asset management

market timing

“Clients hire us to project and predict where the market is going, not where the market is today,” said Robert Rabbitt at Avpro. The company’s proprietary evaluation tools make it possible. “We know the costs per hour and per year over five and 10 years, and the optimal period of time to own the airplane, taking into account tax depreciation, the warranty situation, maintenance cycle and residual values,” he said. Clients use the data to determine when—and what—to buy and sell. “Sometimes buying new is the right solution, other times a late model makes a better option,” said Rabbitt. “We look at the entire market, not just the preowned, to find the best opportunity. We help a lot of customers buy new equipment, fixed wing and rotor. The processes to evaluate, negotiate and contract are equally complex. A lot of people don’t understand that.”

Savvy owners increasingly view business aircraft as strategic assets to be operated, managed and sold in a manner that maximizes their value, an approach many leading brokerages embrace. “In today’s environment, with fast-changing markets, you would be nuts to ignore this element of aircraft ownership,” said Avjet’s Bradley. To meet this need, Avjet has developed a proprietary pricing model that calculates values currently and predicts them three, six and 12 months into the future. The company has several analysts with finance and economics background who utilize econometrics to make forecasts with constantly updated real-time information.

Headquartered in Burbank, California, Avjet provides a suite of aviation services in addition to sales and acquisitions, including aircraft charter, management and completions. Founded more than 30 years ago, Avjet specializes in ultra-long-range, large-cabin aircraft with a focus on Gulfstreams, Bombardier Globals and Boeing BBJs, conducting some $500 million in transactions annually. Avjet has offices in Washington, D.C.; Palm Beach, Florida; Abu Dhabi; Moscow; and Seoul.

Elliott Jets conducts not only cash-flow analysis and sophisticated financial modeling for clients, but at a more basic level offers a tool on its website enabling side-by-side cost and performance comparisons of business jets. “If you’re thinking of a [Citation] Bravo, you can click on the Bravo, the [Citation] XL and the Lear 45,” said Todd Spangler, president of Elliott Jets, explaining the app. “You can then compare them side by side. You have the ability to look at range, payload, direct operating costs and the size of the airplanes."

Mesinger Jet Sales uses proprietary market analysis and valuation tools to help select the optimum platform for clients’ needs. A pioneer in the space, the company developed aviation asset-management software in the late ’90s and today uses proprietary tools developed in house to create fleet plans and mission transition plans for flight departments and other large operators. To keep the tools up to date, “you have to keep aware of what’s coming from OEMs, the [aircraft] age requirements lenders have an appetite for and many other factors,” said Mesinger. “Without technology, I don’t know how you could do that with such accuracy.”
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though it relies on technology, aircraft brokerage remains a relationship business, based on trust between clients and brokers, and longstanding ties among colleagues in the industry that keep in constant contact, always in the market. “You can’t overlook the relationship that we have with the rest of the dealer-broker community, and the ability to find out what an aircraft is truly traded for,” said Jackson at Elliott Jets. Paradoxically, successful brokers use cold, impersonal technology to foster and strengthen these relationships.

Elliott Jets creates educational articles and videos on its website, and tools like its aircraft comparison app, to establish relationships with prospects and strengthen bonds with clients. Part of a second-generation, family-owned business established in 1936, Elliott Jets leverages eight decades of experience in all facets of business-aircraft operations. Elliott rebranded and expanded its aircraft-sales division as Elliott Jets in 2014, adding offices and personnel to support the growth. The company now has sales offices in Los Angeles; Minneapolis; Atlanta; Washington, D.C.; Moline, Illinois; and Des Moines, Iowa.

Many brokers keep in touch with customers and prospects through periodic market reports and transaction alerts they can easily blast out to a list of contacts. JetEffect sends out quarterly market updates, among other communications, and Webb, a Gulfstream specialist with OEM experience, creates a report dedicated to that market. “I keep it informational, low on details. I want it to be something they can look at in a minute or two,” he said. “That’s one of the things I’ve done to build relationships.”

The impact of these efforts is admittedly unclear. “It’s hard to know how effective it is,” said Rabbitt at Avpro. “You can do the analytics [on Web traffic], but the simple fact is that it’s a way to get your name, brand and product out to people, and so you have to embrace it.” As there’s something of a generational divide in familiarity with these communication channels, Avpro’s marketing team includes “a marketing professional who is completely up to speed” on the technology.

social media

Nobody buys a business jet because of a tweet or a Facebook “like.” Social media plays a small role in today’s aircraft market, but brokers are utilizing its channels to expand their reach, experiment with new applications and ride the crest of this branch of technology into the future. “I can remember the Monday morning meeting when my son said, ‘Dad, we need to get a Twitter account,’” recalled Jay Mesinger of Mesinger Jet Sales. “Now we use Instagram, we have Twitter, a Facebook page, and my sons use blogs to enhance the story of every airplane we have for sale.” With so much important information coming through these emerging channels, “this creates a huge opportunity for me to have conversations with clients,” said Mesinger. “It’s a windfall for developing interpersonal relationships.”

finding a tech-savvy broker

You can’t judge a brokerage by its technology, but having it and knowing how to use it gives clients of such firms an advantage in the marketplace, whether buying, selling, considering or valuing a business aircraft. Ascertaining a brokerage’s technical proficiency is relatively easy. Look at the deliverables—the market reports and aircraft comparison charts—the firm generates for clients. Ask the company to explain its sales process, research capabilities, level of experience in international transactions and IT infrastructure. Look at its website, check out the inventory, and consider the presentation of the aircraft offered.

Of course, the use of technology is only one element in choosing the broker that works best for you. But in surveying those firms that consistently lead the industry in transactions, referrals and repeat clientele, technology is just one of the spheres in which they perennially top the ranks.
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Each transaction is unique—and we treat each one with the care and concern it deserves. We leverage our collective knowledge and experience to customize the process for your specific needs and apply an unparalleled level of intelligence and skill to successfully complete your transaction.

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Turboprops by Mark Huber

Tired of reading the tea leaves from the Federal Reserve? Want to keep your money safe in these troubled times? Seeking a way to avoid capricious market gyrations and the turbulence of an uncertain global geo-political system? Looking for something less staid than gold coins and lots more fun than stuffing cash under the mattress? Yearning for a solid investment that holds its value year after year after year?

Then Buy a Business-class Turboprop!

That’s right. For around $500,000 you can step into a gently used, but probably needs paint and new upholstery, 90-series Beechcraft King Air and fly off to places where the airplanes dare not venture, mainly because the runways are too short, confident in the knowledge that your pre-owned set of wings holds its value better than those larger and pricier jets bleeding resale value all over the ramp. For decades the business aviation smart set has predicted the death of turboprops in the age of fanjets and for decades they have been wrong, more so now this year with jet-A readily available for $4 per gallon or less.

Yes, propellers might be antiquated, but saving money is time-less. For that, turboprops are the ticket. “Our Vref Turboprop Index shows that the market has been relatively stable,” notes Vref publisher Fletcher Aldredge. “In fact, you can use the word stable for most things with a propeller and not for things that don’t have them. It’s good news for turboprops. They continue to fill a much-needed niche. A decade ago some of us were saying they were on their way out. That’s simply not true. King Airs and other turboprops are holding their own, and there’s a place for a turboprop in most flight departments.”

Best Fit for Mission

Aldredge said that some used turboprops, such as the (single-engine) Pilatus PC-12, are appreciating because they continue to fill an unchallenged niche. “It’s a relatively economical turboprop that goes as fast as a King Air B200,” he noted. “And it’s got a solid worldwide market.” Just how good is the PC-12? Aldredge noted in his recent newsletter that it is “not only the best turboprop for maintaining value, but with a percentage of new at 75 percent, it topped the entire [Vref] study.” Still, turboprop propulsion alone does not guarantee value, especially when worldwide product support is perceived to be chronically lacking as with the Piaggio Avanti, one of the worst aircraft—jet or turboprop—for holding value.

GV has a 5.6-month absorption rate, versus 14 for the Global.

The above holds true in many segments, whether it’s pitting the super-mids against each other, like the G200 against the Sovereign, or an XLS+ against a 60XR. If things get too far out of synch it generally won’t last more than a couple of quarters.

While the old news is that prices have fallen, the rate at which most have fallen has become steadier and therefore more predictable, giving buyers greater confidence, which spurs buying. No one likes to catch a falling knife. In other words, the dynamic price instability of the past caused the market to stall. The buyer today is not the buyer of the last decade who might have reasonably expected values to hold; today’s buyer can accept a normal rate of annual depreciation.

With the huge depreciation of the past, savvy buyers are having a field day. We’ve seen GVs for less than $10 million, Citation Xs for less than $3 million, GVs and Learjet 60s for less than $2 million and on and on. The cheapest and the best often sell, and I can guarantee the low prices put a smile on each buyer’s face. Aging aircraft are definitely having a challenge trying to find new homes. While the number of GIV offerings for sale seems reasonable, the number selling, four in six months, does not. One has been on the market since 2010 and another since 2012, and others have been on the market for more than 800 days. Some might question if these are legitimately for sale, but they truly add to the perception of a stagnant market. I think all but one of the last GIVs we were involved with could have been considered pro bono work had we been successful in selling them, but the sad

Continues on next page

Piper Meridian

“The BRIC [Brazil, Russia, India and China] countries that were driving the used aircraft market in 2009 and 2010 aren’t doing so as much now,” he conceded. “But even in this climate the price of used turboprops isn’t moving much to the downside except for very late-model ones. Overall, if you can put a King Air or some other turboprop to work, it’s a great time to buy.”

Aldredge’s turboprop optimism is shared by Cary Friedman, sales manager at Bell Aviation in Columbia, S.C. “We’ve seen a lot of action this year in the older 90-series King Air market,” he said, pointing out that the airplanes carry a price tag of less than $600,000. “They’re reliable. You know what you are getting. It’s a lot of transportation for the money. Think about it. You see a 400-series piston Cessna out there for $300,000 or $400,000; you can get a King Air for $500,000 or $550,000, especially one on the More”

For-sale percentages shown are for each model’s individual operational fleet total, not for the combined G550 and G650 fleet.

For-sale percentages shown are for each model’s individual operational fleet total, not for the combined G550 and G650 fleet.

Continues on next page
Another Falcon worth mentioning is the 2000. Since the beginning of the year the number on the market has declined to 12 from 24, equaling 5 percent of the fleet. Seven are available in the U.S. and Canada, three in Europe, and one each in South America and Africa. Asking prices currently range from $4.5 million to $8.3 million. Most of the activity has been in the $5- to $7 million price bracket and the average sale price has remained stable in the $7 million range since the first of the year. The 2000 is a relative bargain in the supermidsize segment and we believe prices could begin to tick upwards if the supply tightens further.

Sales have been active with 24 changing hands year-to-date, or 2.5 per month for the first 10 months, compared with 25 sales in all of last year. Sales prices have ranged from $5.5 million to $8.3 million. Most of the activity has been in the $5- to $6 million price bracket and the average 2000 sold after 416 days market exposure. The low of $5.5 million was set by a 1996 model with 5,000 hours and a 2004 model with 3,800 hours set the peak, selling for $8.3 million in June.

The Learjet 60's supply's downward trend reversed in August when inventory jumped by 10 percent. Currently there are 42 for sale, which represents 14 percent of the active fleet. Asking prices range from $1.59 million to $3.39 million, with the average ask price hovering near $2.3 million. The average year of manufacture is 1998 and the average airframe time is 6,200 hours. Approximately 45 percent of today’s offerings are equipped with an AP1, while 25 percent have Wi-Fi. Eight Learjet 60s sold last quarter and sales prices generally ranged from $1.35 million for a 1994 model with 8,800 hours to the mid-$2 million range for a 2001 model with 5,200 hours. The average sale price was around $2 million and the average model year sold was a 1998. The successor Learjet 60XR offerings have edged down recently and currently number 14 for sale, or 12 percent of the fleet. A corresponding upturn in 60XR sales has occurred, with September experiencing more activity than all of the second quarter. Five aircraft sold last quarter, with sales prices ranging from $3.8 million to $4.6 million.

There are 19 Global 5000s for sale currently or about 10 percent of the number produced. Only five of the 19 for sale are U.S.-based, three percentage points lower. Slightly more than one third of the Global 5000s produced are U.S.-based, perhaps an example of the international appeal of the aircraft. Six of the 151 Global 6000s in operation are for sale, equaling just below four percent of the fleet. The few choices are typical of a fairly new model and consequently the aircraft is thinly traded. Pricing on these runs from $41 million to $47.5 million and only two of the six are U.S.-based. Though the supply is low the absorption rate stands at 12 months, driven by trading.

Continues on page 24
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Turboprop Modifier Raisbeck Sees Steady Market

The head of aftermarket and OEM turboprop modifier Raisbeck Engineering views the market as steady, growing at a modest annual rate of approximately 8 percent. “It’s steady as she goes. We’re basically repeating 2014,” said James Raisbeck. “Our retrofit business is up a little bit. We’ve got two new King Air 350 programs in FAA flight-test certification now: an aluminum four-blade swept propeller and a five-blade swept composite.”

The four-blader will be available in January and deliveries of the Hartell five-blader will begin in April.

Raisbeck is also developing a ram-air recovery system for the 350 and has done initial flight-testing for it. The system is similar to the factory-installed system now available on the King Air 250. Raisbeck is developing an overall drag-reduction package on the 350 that will work in concert with the new props. The goal of the drag reduction and new propellers is to boost cruise speed at altitude by 10 knots. “We’ll see what happens,” he said, noting that the new programs are making heavy use of computational fluid dynamics before flight-testing to ensure that the new kits were delivering every last knot of efficiency from the aircraft. – M.H.

frequency of roughly one per quarter.

Six Global 5000s have sold in the past six months and prices have ranged from $15.5 million to $32 million. Of the six aircraft that sold, four were U.S.-based and all but one was on an engine program. Global 6000s traded at a rate of one every two months over the past six months. Two of the three were based outside the U.S. and moved in the low to mid-$40 million range. The average time on market was 239 days.

For the last 12 months, G550 inventory has wavered between 29 and 34 aircraft, or roughly 6.5 percent of the 500 in service. Nineteen of these are U.S.-based. Pricing ranges from $201.73 million and $45.95 million for an average of $30.05 million. Sales activity has picked up considerably in the last six months (compared with the previous six-month period), by a nearly 2-1 margin and driving the absorption rate down to 12.7 months. Sales of new aircraft have run from a low of $20.5 million for a 2006 model with more than 6,000 hours, to a reported $48.25 million for a 2013 model with fewer than 500 hours.

Now that you can no longer be the first on the block to own a G650, we’ve seen some of the ether come out of the premiums prevalent a year ago, which is not a bad thing. As it adjusts to the change we currently see a 6.5%-percent supply, with eight of the 122 in operation for sale. Six of the eight are N-registered. Roughly 20 ERs are in operation, some manufactured that way and others modified, which is why only two aircraft are for sale. Pricing runs from $62.95- to $74.95 million. Five aircraft have sold in the past six months, which is twice the number that sold in the previous six-month period. The four G650s that sold brought between $66.5- and $72.5 million and the sole G650ER commanded $73 million and was on the market for only 16 days, compared with an average of 73 days.

Among the super-mids—we’ve seen the Sovereign inventory build this year, to 30 this quarter from a low of 17 in the first quarter. Falcon 2000 inventory fell noticeably, to six at one point from 21 at the beginning of the year, before rising to 10 early last month. Challenger 300s held relatively steady and are currently situated slightly below the 12-month moving average of 31 aircraft for sale. In that same vein, the G200 stayed close to its moving average of 32 aircraft for sale, offering as few as 29 and no more than 33 for the past 12 months. The Citation X hovered around 40 for sale this year. While that tells part of the story, when you take a look at the number produced of each model type above, you see that the number of Falcon offerings represents just 4.3 percent of its fleet, compared to 6.3 percent of Challenger 300s, 8.5 percent for Sovereigns and 13 percent of Citation Xs and G200s currently for sale.

In conclusion, the bar set in 2014 is perhaps the only reason why 2015 seemed a bit off pace, and once fourth-quarter activity, JetNet recently pointed out in the U.S. has long been the leader in sales of its (safety) reputation, but now people are realizing that it is a lot of bang for the buck. The values are inching up slowly. The MU-2 was bypassed for many years because of its (safety) reputation, but now people are looking at it again. The airplane is in a different situation now, and buyers today are very different from the buyers we had 15 years ago. They’re relentless and they have a lot of information. They are installing the Garmin G600, the GTN and the latest touchscreen avionics. It’s kind of funny: people will beat you up on acquisition price and then go spend $200,000 on toys for the panel. Buyers today are putting money into their airplanes with paint and interior and avionics. They spend the right money and go to the right training. We’ve got a more educated, more sophisticated buyer today.”

The used turbine Twin Commander market also is holding its own, according to Florida broker Bruce Byerly. “The market is stable—not volatile—for the late-model airplanes in particular. The inventory right now for Commander 1000s is tight. They still have their niche, no doubt,” Byerly said. “And we still have some pretty good investment—$450,000 to $550,000—on the airplanes with the Garmin G950 panel upgrades. It’s a three-screen fully integrated flight deck.”

Byerly said the panel upgrade takes about 10 to 12 weeks depending on what other upgrades are being performed on the aircraft concurrently and includes everything that is either standard or optional with a factory-fresh Garmin G1000 system on a new aircraft. The availability of that upgrade has helped keep the market for 900- and 1000-series Twin Commanders strong, giving the avionics the same capability as those in new light jets, Byerly said. Of the 700 Twin Commanders still on the federal registry, an estimated 130 are 900 and 1000 series, seen as the most desirable, and an estimated 20 of those likely will change hands in the coming year, predicted Byerly.

There also has been an uptick in demand for the 690 for use as a fire spotting aircraft, placing price pressure on those aircraft. Late-model 900- and 1000-series Commanders with panel upgrades are trading for between $1.8 and $2.4 million; prices for legacy Commanders without panel upgrades are typically $1 million for 690s, $1.2 million for 840s and $1.5 million for 900s and 1000s, Byerly said.

Griffith sees some soft spots in the market such as the Conquest I, which he calls “considerably softer” than a year ago and “certainly in the last eight to ten months.” He said he has received reports that the King Air C90A and B market also is softening, while the market is picking up for the F90 and the B200, especially those with the upgraded Dash 52 engines and upgraded avionics. Conquest IIs with the Honeywell TPE331 Dash 10 engine upgrade continue to bring “good money,” Griffith said. “Airframe time, engine time and upgraded avionics is what it’s all about with older airplanes. There are buyers for the older airplanes if they have had some of those things done to them. We are seeing some buyer resistance to older airplanes—1980s vintage—just due to their age, unless they have something that stands above the crowd in terms of condition and upgrades.”

The hottest upgrades that add value continue to be “in the panel,” Griffith said. “The Garmin G600 continues to be a popular retrofit on those older airplanes and there are STCs to put them in a lot of them. It’s just unbelievable the amount of money some people are putting into the panel of an old $400,000 to $500,000 airplane. We thought the old Garmin 430/530 was God’s gift to aviation for years, but now we have the 750s, Avionix screens, and the Garmin G1000 in B200 King Airs. I saw a late-1970s B200 King Air come on the market the other day with G1000 avionics and [Pratt & Whitney Canada PT6A] Dash 52 engines. That’s a lot of money to put in a 1977-vintage airplane.”

Griffith doesn’t think the current low fuel prices are luring new buyers into the market as much as the current aircraft values. “You can go out there and buy a heck of a Conquest I for $800,000. A nice airplane, not the bottom of the bucket. You can get a top-end Conquest II for $1.4 million. I’ve sold several for those prices in the last two or three years. There’s a lot of value out there and a lot of people [for whom] a turboprop will still fit the mission better than a jet.”

“It hasn’t been as brisk a market this year as it was a year ago,” Griffith said. “But we’re doing deals and selling airplanes. In fact, we’re short on good airplanes right now.”
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Bombardier axes Learjet 85, bizjet deliveries flat in Q3
by Kerry Lynch and Chad Trautvetter

Bombardier ended months of speculation about the fate of the Learjet 85 when it confirmed on October 29 that it has formally cancelled the program. The decision comes a year-and-a-half after the all-composites midsize business jet first flew, in April 2014. When the program was launched in January, the sole flight-test Learjet 85 had logged more than 70 flights. The Canadian manufacturer cited “lack of sales following the prolonged market weakness” in its decision to cancel the program. “Although this is a difficult decision given the years of effort and hard work put into the program, it is the right decision given the market dynamics for this segment,” said Bombardier president and CEO Alain Bellemare.

When Bombardier first announced the pause, analysts pointed to the overstretched research and development agenda and the severe cash shortage Bombardier faced. On October 29 Bellemare conceded that the decision to cancel the program also reflected the reality of balancing multiple programs against the backdrop of a tougher market. “It’s a really challenging segment and the program still needed money injected… You find yourself in that situation when you have too many initiatives,” he said.

Global 5000/6000 Production Cuts

Further fueling the Business Aviation division’s loss was the decision to scale back Global 5000 and 6000 production. In July Bombardier revealed plans for a roughly 30-percent cut in production of the existing Globals.

Bombardier CFO John Di Bert acknowledged that reining in Global production “is resetting the level of advances at Business Aircraft” and lowering cash flow. Di Bert estimated that pared production will have a cash impact of about $1 billion this year. But he said this will not recur next year, adding that “adjusting the supply and demand was the right decision and it protects the brand value for the long term.”

Bombardier delivered 15 Globals in the third quarter, four shy of the number for the third quarter of 2014. For the first nine months, Global deliveries are down by three, for a total of 52. In total for the quarter, Bombardier’s business jet deliveries were down by two aircraft. The tally included a six-delivery jump in Challenger 300/350s, but also three fewer Challenger 605s. The Learjet 70/75 program held steady at seven. For the first nine months, Bombardier is ahead with 135 business jets delivered, nine more than last year.

“Bombardier remains the largest business jet manufacturer in the industry with 33 percent share of deliveries and a portfolio of products ranging from the light to large categories,” Bellemare maintained.

Aside from the substantial order losses from the Learjet 85 cancellation, he added, “In Q3 Bombardier Business Aircraft recorded one of its best quarters in years with gross orders for 41 aircraft. We are confident in our ability to maintain market leadership.”

Despite the cancellations and persistent talk that Bombardier has been shopping Learjet, the company maintains in its quarterly financial report that it remains committed to Learjet.

As for the company’s cash issues, Bombardier received some relief when the province of Quebec committed to investing $1 billion in the beleaguered CSeries program. The investment gives the province a 49.5-percent stake in a new limited partnership in which the Canadian company will own the remaining 50.5 percent.

The investment by the Quebec government came three weeks after Bombardier and Airbus each confirmed that they had explored “certain business opportunities” together and that talks had ended following reports that Bombardier offered a majority stake in the CSeries to the European airframer.

Political maneuvering rescues languishing Ex-Im legislation
by Kerry Lynch

The Export-Import Bank (Ex-Im), once facing a bleak outlook after staunch opponents in the U.S. House of Representatives promised to bury any effort to renew its charter, received a boost after the House approved two separate measures that would make the names public. It was a House-Senate conference at press time. The document became a bill—pending further investment.”

Ex-Im Bank’s charter expired at the end of June, preventing the institution from approving any new loan guarantees. The General Aviation Manufacturers Association has appealed for the bank’s renewal, saying the bank’s inability to approve any new loan guarantees is costing business that will lead to loss of jobs and skew the playing field. “There’s no question that the lapse of Ex-Im’s charter has already done damage to American businesses and workers and to our economic recovery,” Waters noted.

Hensarling has remained opposed to Ex-Im renewal, and said the discharge petition “is the exact opposite of regular order.” But the discharge petition cleared the way for a vote on renewing the bank’s charter, and on October 27 the House approved the reauthorization legislation 313-118. The second vote followed on November 5, when the House agreed to a comprehensive highway funding bill that included an amendment to reauthorize Ex-Im. By the November 5 vote, the House’s will on Ex-Im reauthorization was overwhelmingly evident. The highway bill, which had already cleared the Senate, was headed to a House-Senate conference at press time. As for Sen. Inhofe, he has expressed strong opposition to Ex-Im.
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The rising dollar and declining aircraft residual values are proving to be a drag on the industry’s recovery

by Curt Epstein

With the economic downturn now seven years in the rear-view mirror, the U.S. economy has continued its slow but steady recovery this year, reaching, in the eyes of most of the world, an enviable streak of 22 consecutive quarters of expansion. But the strengthening of the U.S. dollar has placed a chill on the international business jet market, which is still dealing with the effects of declining aircraft residual values.

Through the first half of the year, the U.S. gross domestic product rose 3.9 percent, a substantial jump from 1.2 percent the previous year. Economic bellwethers such as the stock market indices reached record levels in late May, when the Dow Jones Industrial Average hit 18,312 and the S&P 500 peaked at 2,131. Likewise, unemployment has dropped from a high of 10 percent in October 2009 to nearly half that now. “We continue to reduce the slack in the labor market that has persisted since the great recession,” noted Gus Faucher, senior economist at the PNC Financial Services Group. “I think by the spring we should be back to full employment [defined as 5 percent or less unemployment] in the U.S. economy. With that tightening of the labor market, more competition for workers should translate to rising wages, which would further stimulate the U.S. economy.”

Despite the brightening economic picture in the U.S., for many the wounds from the downturn inspire caution in the decision-making processes. In this economic expansion, notes Wayne Starling, senior vice president and national sales manager for PNC Aviation Finance, “companies and individuals have retained more cash, deferred capital expenditures and deferred investment in plant, property and equipment” to a greater extent than in previous recoveries.

However, “that fear is fading and will continue to fade as we get farther and farther away from the great recession,” Faucher told AIN. “The conditions for business capital spending overall remain pretty good. We have low borrowing costs, and banks are becoming more willing to extend credit.” In the Federal Reserve Bank’s July survey of senior loan officers on bank lending practices, more than 45 percent of the large U.S. bank respondents reported they had somewhat eased the spread of loan rates over the bank’s cost of funds for large and middle-market companies [those with annual sales of $50 million or more]. Of those that had eased terms for lending, more than 95 percent indicated that more aggressive competition from other banks or nonbank lenders was at least somewhat important in that decision.

“The jet finance and leasing space is more fragmented now,” said Joseph DiLallo, head of corporate aviation finance and leasing at BMO Harris Equipment Finance. “Until just a few years ago, two major financiers dominated the leasing market in the U.S. today that same space is shared more evenly by a half-dozen or so active lessors.” With the recent increase in U.S. corporate flight activity, smaller players such as local and regional banks have once again joined the major lenders, though some in the industry lament that the number of lenders and the level of competition for loans still has not recovered to pre-downturn levels. “While I often hear that new lenders have entered the market, I think the reality may be that lenders who pulled back in the [financial] crisis are re-entering,” said Ford von Weise, director and head of Citi Private Bank’s global aircraft finance division.

While new regulations are forcing the large banks to focus more sharply on borrowers’ credit, von Weise said “we are seeing more competition in this end of the market through pressure on spreads, loan-to-values and other deal terms.” As some lenders, such as GE Capital (see article on facing page), have left the market, others have entered, such as Global Jet Capital and Stonebriar Commercial Finance.

For many of the traditional lenders, the effects of the downturn and the resulting declines in aircraft values are still evident in their portfolios. A 10-year financing deal signed at the peak of the superheated market period of 2007-2008, when the OEMs delivered nearly 2,500 new bizjets and aircraft values reached an apex, will be staining the books for at least another year or two, and the declining residual aircraft values, likely nowhere near where they were predicted to be when the deal was signed, are an enduring concern to both buyers and lenders. “For aircraft leases closed at the peak of the market in 2006-2008, asset values have eroded sharply, forcing banks to ‘mark to market’ aircraft residuals, contributing to embedded losses,” said Michael Amalfitano, Stonebriar’s executive vice president and senior managing director of business aviation, and the former head of Bank of America’s corporate aircraft portfolio.

“Our traditional wisdom used to say that these airplanes lost three percent of their value a year, but that’s not the reality anymore,” said Jay Mesinger, CEO of Col’s-based J. Mesinger Corporate Jet Sales. “A consensus of smart industry people today would say that it will lose 10 percent the day you fly it off the lot and for the next four to five years it will lose seven percent a year.” Beyond that he believes the value will drop by 5 percent each year thereafter.

Those dwindling residual values have played a role in operators’ holding onto aircraft longer. According to industry data provider JetNet’s IQ Survey of operators, the average length of time a buyer of a new business jet will keep the airplane has risen to more than five years today from 3.7 years in 2005. For purchasers of used jets the average term of ownership has grown to 3.2 years by 2.1 years.

Cash Up Front, Finance Later

Roughly 74 percent of all private jet purchases in the U.S. were paid for with cash, according to an analysis of documents filed with the FAA through the first three quarters of the year by JetNet’s AvData division. Strict interpretation of the filings shows that number has remained relatively consistent over the years. Many attribute companies’ and wealthy individuals’ preference for spending cash to a lack of suitable investment opportunities. Stronger economic growth “would provide buyers with more opportunities to use cash in their business,” noted Michael Kahmann, managing director and group head CIT Business Aircraft Finance. “Therefore, we think the ‘cash is king’ phenomenon is closely linked to a lack of good investment alternatives.”

What is unknown is how many of those aircraft buyers sought and received post-purchase financing that would skew the statistics for cash transactions. “Cash may not be king,” said James Simpson, managing director for aviation and marine finance with First Republic Bank. “As I often tell people, use your cash for appreciating assets, use leverage for depreciable assets like aircraft. By using leverage, the financing process keeps clients close to residual values and asset decay, and gives them a realistic view of future aircraft values.”

In the aftermath of the downturn, as prices of used aircraft tumbled, many buyers have elected to use cash to expedite the buying process on what they believe to be a good deal. “We see some people paying cash and then financing at their leisure so they don’t feel rushed,” said Allen Qualey, senior
On April 10 General Electric, long a stalwart in the business aviation finance community through its GE Capital division, announced a major change in its corporate direction. The company stated it would divest most of its lending businesses, a move intended to return it to its manufacturing roots and in the process create “a simpler, more valuable company.” While it intends to hold on to several “vertical” financing divisions that relate directly to its core industrial businesses—such as Energy Financial Services, Healthcare Equipment Finance and GE Capital Aviation Services (Gecas), its commercial aircraft finance arm—incorporated on the auction block was its corporate aircraft finance division, along with the conglomerate’s real estate, commercial aircraft finance division, along with the on the auction block was its corporate.

The business model for large, wholesale-funded financial companies has changed, making it increasingly difficult to generate acceptable returns,” GE noted in a press release. GE Capital had been a force in the corporate aircraft finance arena since it established its portfolio during the early 1980s. It eventually became one of the largest finance sources in the industry, providing aircraft financing worldwide, yet the division’s pending departure from the market came as little shock to the industry, which had seen the company become less active in the aftermath of the economic downturn.

“After 2008 is when GE started to pull back,” said Kirsten Bartok, managing director and head of aircraft finance at Global Jet Capital. “Many of our clients had their local bank. That’s interesting from a broker standpoint because we’re having to educate the banks about aircraft financing,” she said.

“Since 2008, GE Capital has been scaling back its aircraft finance activities, focusing on larger aircraft and particularly on financing aircraft in the more established, tried and tested markets,” said Charlie Bravo Aviation. “Five years ago almost everyone we were selling was paying cash.” Her company has closed 16 deals this year on small to midsize business jets worth $5 million or less, and all but three buyers received financing. “If I were a bank and I were looking at a $65 million loan on a $75 million airplane, I’d be nervous based on what’s happened in the last 10 years with depreciation,” Banglesdorf told AIN. “But if you are looking at a 10-year-old airplane that is only $2 million, the risk isn’t nearly as high from a banking standpoint.”

Long-time aircraft buyers have seen loan terms shortened markedly from what was common just a few years ago. While some are still offering terms of 10 years or more, recently enacted economic policies such as Basel III, aimed at strengthening banks by requiring them to keep more reserves on hand (see sidebar on page 30), and know-your-customer and anti-money laundering regulations are making their mark on loan structures. “Loan terms from the regulated banks have reduced greatly, typically to five years,” Amalfitano said AIN. “Banks are pressured by regulatory capital requirements, cost of capital, low margins and weak aircraft portfolios, which have led to shorter terms.”

Among lenders, creditworthiness remains one of the key criteria in determining customer funding. “Everybody wants a shorter, medium-dated deal with a really strong investment-grade credit, causing a food fight in that part of the market, which leaves the longer-dated deals, the medium and the lower-tier credit underserved,” noted Robert Gates, senior managing director at Global Jet Capital.

Global Jet Capital

What is Old?

Those constraints, coupled with the persistent issue of depreciation, have contributed to an industry-wide change in mindset. “Most folks in the business aviation today, including myself, consider a 15-year-old jet to be old in many respects,” said DiAllo. “Ten years ago everyone described old as 20 to 25 years, but today’s jet buyers want newer, nicer, bigger, faster, farther, safer and greener, and the jet manufacturers gladly obliged. The result is a relentless flow of fabulous new jets into today’s already crowded marketplace.”

On October 5 the news broke that Global Jet Capital, a recent startup that specializes in financing high-end business aircraft, had acquired GE Capital’s Americas $2.5 billion corporate aircraft portfolio, which includes Canada, Mexico and South America. The process involves transferring ownership of some 350 aircraft registered in a number of jurisdictions. “We are investing heavily in expanding the business both organically and through acquisitions such as this one with GE,” said Shawn Vick, Global Jet Capital’s executive director. Initially, the focus had been squarely on larger, longer-range jets, but with the GE Capital portfolio in hand the scope is broadening to include almost any “high-quality airplanes with good credit and in jurisdictions where we should be doing business,” Vick said.

Global Jet Capital expects the deal, which will immediately establish it as a major player in the market, to be completed in stages, with two or three tranches closed by year-end. The company launched a year ago at NBAA2014 with $2 billion from three investment firms: GSO Capital Partners, The Carlyle Group and AE Industrial Partners, which manage a combined $500 billion. Soon after the launch, company management began discussions with various institutions about the possible sale of their aircraft portfolios, and within a few months the basis of an agreement was struck with GE.

With the purchase, Global Jet Capital plans to revitalize GE’s former business, especially in the international markets. “The acquisition financing that came together to get this deal includes about a billion dollars of a warehouse facility,” Vick told AIN. “Sometimes you hear it referred to in the banking industry as ‘dry powder.’ What that really means is that’s a billion dollars with which we can go out there and finance new transactions.”

While it is prepared to build the business one deal at a time, the company stands ready to make another big splash. “Our appetite to acquire other portfolios is undiminished and we’re looking to get to even greater scale if those kinds of opportunities present themselves,” said Vick.

In the meantime, the company continues to acquire talent to supplement the 16 experienced former GE Capital staffers who joined the firm. “This is a new dawn,” said senior managing director Robert Gates. “For years they were just managing a portfolio, now it’s growing again.”

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**The Acquisition of GE Capital’s Americas Corporate Aircraft Portfolio**

On October 5, 2015, Global Jet Capital announced the acquisition of GE Capital’s Americas $2.5 billion corporate aircraft portfolio, which includes Canada, Mexico and South America. The process involves transferring ownership of some 350 aircraft registered in a number of jurisdictions. The acquisition financing that came together to get this deal includes about a billion dollars of a warehouse facility, said Shawn Vick, Global Jet Capital’s executive director. Initially, the focus had been squarely on larger, longer-range jets, but with the GE Capital portfolio in hand the scope is broadening to include almost any “high-quality airplanes with good credit and in jurisdictions where we should be doing business,” Vick said.

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Continued from preceding page

that are viable candidates for upgrades. “Aircraft are going to become haves and have nots, and those that already meet the requirements will be worth more than those that don’t,” offered Mesinger, because of downtime considerations.

Lenders are still expecting buyers to put some “skin in the game,” with down payments currently ranging from 10 to 30 percent of the aircraft value, depending on the customer’s credit. Those with top-tier credit can still find 100-percent financing if they want it. “Today clients must have invested equity in an aircraft,” explained Amalfitano. “For new aircraft it comes in the form of covering the liquidated damages in an OEM contract; for pre-owned aircraft it is the cash down payment to secure the collateral advance on a loan. Even aircraft leases might require cash in the form of a security deposit or letter of credit to protect the lease investment.”

Given the uncertainties surrounding residual values and the vagaries of the pre-owned market, leases are becoming a more palatable option for some in that they shift the uncertainty of residual value to the lessor. “They view business aviation as a tool that, ideally, comes with a known cost,” said Gates. “They don’t want to deal with surprises, either on value or on how long it takes to sell something. The pride-of-ownership phenomenon that we’ve been seeing overseas is starting to give way to pride of having driven a smart deal and a deal with certainty, an important shift in the market.”

An International Snapshot

The old adage “if the U.S. sneezes, the world catches a cold” may no longer hold true in this era of globalization. “It’s the reverse today,” asserted PNC’s Faucher. “Globally we have slow growth, and then among developed economies the U.S. is doing significantly better.” That imbalance has strengthened the dollar, complicating trade in global commodities priced in U.S. dollars, such as business jets. People in these weaker currency areas, including Europe, are starting at costs driven up 20 percent just by exchange rates, noted analyst Rolland Vincent.

In the latest quarterly JetNet IQ survey, which Vincent created and directs, 37 percent of European respondents reported the strong dollar makes it less likely they will buy a business jet.

The exchange rate fell to €1.04 to the dollar in March and dropped again in October. As a result, he has seen a “darkening of the skies” by European-based business jets heading west. “They’re going to only one place right now: the U.S. That’s where all the activity is; it’s where all the customer interest is.” The exchange rate is giving European sellers an added arbitrage bonus, according to Vincent: “If you took a loan in euros on the airplane and you bought it in dollars, that euro loan got cheap all of a sudden,” he told AIN. “To pay off a loan with a U.S. dollar proceeds makes sense, so airplanes are leaving Europe and moving to the U.S.”

The surging dollar and its effects on the business aviation industry are making themselves felt in the rest of the world as well. “Given the currently depressed economies in Europe, the Middle East, Africa and Asia and lower currency values, coupled with the continual decline in used aircraft values, it is quite difficult for an international client to get out of an existing low-value older aircraft to buy a high-value newer aircraft,” said Amalfitano.

In the depths of the recession the industry turned to the emerging markets as its salvation, but a chill has since spread across many of those places. Russia faces economic difficulties brought about by sanctions imposed for its involvement in Ukraine, and the tap on aviation financing has all but closed there. “Russians are trying to recreate themselves in the nation’s satellite countries, so they don’t look like they are in Russia, but it’s still almost impossible to finance them because most of their wealth is based there,” explained Kirsten Bartok, managing partner of AviaFinance. The slumping energy market has also played a role in stifling demand for business jets there.

While the OEMs hoped Chinese buyers would lead the industry out of the downturn, government-imposed anti-extravagance regulations have cooled that market. Indigenous lenders such as Minsheng and ICBC continue to provide financing for Chinese customers, but according to Bartok their rates are “not inexpensive,” and global lenders such as CIT, Global Jet Capital and Bank of America continue to compete there for the shrinking number of deals. “The emerging markets certainly have been the driving factor for recovery in the industry since the crisis,” noted CIT’s Kahmann, contrasting their recent cooling with a resurgent U.S. market. “The two factors probably counter-balance one another, meaning that overall demand for business jets is basically flat or slightly down,” he concluded.

In response to the 2008 economic crisis, the Basel Committee on Banking Supervision developed Basel III, a voluntary regulatory framework for bank capital adequacy, stress testing and market liquidity risk intended to make worldwide banking more resilient to stress and surprises. Implementation of the accords, ratified by 60 different federal reserves through the Bank for International Settlements, is under way. One of the main tenets of the accord is that systemically important financial institutions (SIFIs) must be able to absorb higher losses, to reflect the risk their failure would pose to the financial system. Basel III also aims to improve risk management and governance and strengthen banks’ transparency and disclosures. SIFIs are now required to hold more capital in reserve against their loans, and because that held-back capital cannot earn income by being loaned, the bank’s revenue falls. “This adversely impacts the cost of capital as it requires banks to address loss given default and collateral risks across their credit products,” explained Michael Amalfitano, executive vice president and senior managing director of business aviation with Stonebriar Commercial Finance. “This will result in higher-priced bank loans and leases for aircraft.”

“Basel III has had major impacts on our business,” said Ford von Weise, director and head of global aircraft finance at Citigroup Private Bank. “It is no longer profitable for us to offer loan terms longer than five years. Aircraft loans carry longer terms than many other comparable loans, and the reserves required under Basel III have decreased overall loan profitability.”

“Basel III will impact the largest banks the most, which will temporarily benefit others, particularly the non-bank lenders/lessors,” noted Amalfitano. “As senior advisor and president emeritus of 1st Source Bank’s specialty finance group. “The net result is that this regulation will push up the cost of money.” –C.E.
An operating lease is a popular financing tool that can provide you with the benefits of a private aircraft without the traditional risks of aircraft ownership. There are several different options, but in each case you do not take ownership of the aircraft, but have the full use of it as if you did. Plus instead of a large down payment, you put down a more modest security deposit and return the aircraft at the end of the lease term to Global Jet Capital.

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U.S. economic outlook: uncertainty lingers

by R. Randall Padfield

Dr. James West is chairman of the Department of Economics and Business at Moravian College in Bethlehem, Pa. He has provided his unique viewpoint on the U.S. and global economies for AIN’s special report on aircraft finance since 2007.

As we enter this election year, it’s a particularly important time to assess the progress of and the prospects for the U.S. economy. What is your view?

On the surface, the vital statistics of the economy look good. The U-3 unemployment rate registers at near full employment; the inflation rate (depending on the measure used) is near zero; interest rates are low; the dollar is strong; and the budget deficit at $435 billion is less than half of what it was in 2009. Meanwhile, the stock market is up again, after the downturn in August and September, although it is still below its high of 18,312 in May, and the Misery Index, the sum of the unemployment rate and the inflation rate, is at an all-time low, indicating that this is one of the best of times in the country’s macroeconomic history (now at five, the Misery Index is at its lowest point since the Eisenhower Administration; it reached its peak of 22 during the Carter years).

So, things look great, which makes economists nervous. We need to look deeper.

When we do, we find an air of uncertainty and anxiety lurking behind the good numbers. While the narrow U-3 measure of unemployment is good, the U-6 unemployment rate, which includes discouraged and part-time workers, is at 9.5 to 10 percent with a low worker-participation rate. Falling prices are a result of decreasing global demand. We are also experiencing an unprecedented and bubble-inspiring increase in the money supply; anemic industrial, housing and consumer spending; stagnant wages; sluggish exports; what many consider to be a stifling tax and regulatory environment; and let’s face it, we haven’t heard this song before.

Yet, I’m hopeful. And why not?

Our hypothetical friend Joe, the non-expert investor, is directed again to diversification. The liquidity splurge of the Fed encourages entrepreneurship and education. Our recent past shows a series of eight-year cycles of financial crisis and by 2016 we might be in for another round. Falling interest rates, even negative rates, will end, and that will also impact bond prices. As Mark Twain and Will Rogers famously agreed, “Buy land; they ain’t making any more of it,” may be good advice, as financial risks make real assets like real estate more attractive. The commercial and housing inventories are set for recovery.

Perhaps the most important investment advice for Joe is to spend his vote wisely in the upcoming elections. There are big questions on the economic front that need to be decided. Joe should study the economic issues carefully, looking for substance over sound bites, and apply his intellect to maximizing his long-term rate of return. Good luck, Joe. Maybe you can relate to the accompanying poem.
Buyer input drives G600 cabin redesign

Gulfstream revealed a new interior mockup for the large-cabin, long-range G600 last month that takes into account more than 200 customer reactions to the first mockup, which was displayed at last year’s show. Tray Crow, Gulfstream director of interior design, pointed out the most significant changes.

“The biggest thing we’ve done is change the overhead passenger service unit section. You’ll notice that it is concave now and much more simplified. Instead of having a lot of breaks it is much more monolithic, so it’s cleaner and we’ve pushed it as far outboard as possible,” he said.

“One of the key features is that we like to hide controls and reveal them as you sit down. That still exists, but we’ve also included manual gaspers and tactile switches that give you manual feedback when you touch them.

“We’ve worked on lighting for the cabin as well. We’ve warmed it for a richer environment,” Crow said.

The seating is also new—not just the stitch styling, but the seat structure. The new structure wasn’t ready in time for the mockup, but is coming soon, Crow said. The seat arms have been reshaped to be more ergonomic and feel more comfortable to the occupant’s hand. In addition, there is personal storage in the sidewall next to the seat and in-seat.

In the galley, the tower refriger-ator is gone, moved below the counter to open more counter space. The deeper cabin means more outboard storage in the galley overall and “we really tried to take advantage of that,” Crow said. The galley and lavatory floors are faced with thin layers of matte-toned flat granite. LED accent lighting runs between the cabinet bases and the floor. The galley also has cabin windows on both sides, providing ample natural light.

The center cabin has a 32-inch flip-up monitor and dual wine chillers on opposite ends of a multipurpose credenza, which is opposite a conference grouping. The wider cabin ledge is large enough for personal monitors, a tablet holder or fixed touchscreens for customers who do not want to run cabin systems from their personal devices. Controls are concealed by spring-loaded, dampened doors. “We really worked on that dampened motion; it makes a big difference on the perceived quality of the interior,” Crow noted.

Each passenger position has two different sized cupholders to accommodate virtually any size bottle, mug or cocktail glass. The mirror above the sink in the lav has been raised and the lav now features two hanging closets, in addition to the hanging space already available in the baggage compartment, which can be accessed through the lavatory in flight. –M.H.
Event delivers variety even as orders stall

by Charles Alcock

Industry and media alike have come to count on the biennial Dubai Airshow to deliver high-octane optimism driven by mammoth volumes of orders for aircraft services. But the show, staged at the impressive new Dubai World Central airport, was not short on variety, with some 130 aircraft on display. According to organizers, the show (November 8-12) drew approximately 65,000 trade visitors and 1,103 exhibiting companies. Little wonder given the military tension throughout the Middle East region, defense exhibitors had a high profile at the 2015 show. Business aviation had a significant presence despite the fact that the event was being held barely a week ahead of this year’s NBAA Convention in Las Vegas. All the leading OEMs had aircraft on display: Airbus (ACJ319), Bombardier (Learjet 75, Global 6000, Challenger 350), Dassault (Falcon 7X and Falcon 900LX), Embraer (Phenom 300), Legacy 500 and 650, and Lineage 1000); Gulfstream (G280, G450, G550 and G650); Pilatus (PC-12 NG) and Textron (Citation Latitude and Beechcraft King Air 350ER). The Citation Latitude and the Embraer Legacy 500 were both making debuts in Dubai.

Another significant exhibit was the CSeries, which Bombardier dispatched for the long flight from Canada to bolster market confidence in the delayed program. Company executives reported that the CS100 version of the aircraft has almost concluded flight-testing as it aims to complete certification by the end of this year. Shortly after the show the aircraft completed flight testing. Middle East customers for the new narrowbody include Gulf Air, Iraqi Airways and startup carrier Saudi-Gulf Airlines.

The 2016 airshow circuit kicks off in earnest with the Singapore Airshow at Changi Exhibition Centre running from February 16 to 21. AIN will bring you full coverage of the show, with three of our award-winning daily issues, as well as full online coverage. Work on these issues was set to begin during December and exhibitors with news to share are invited to contact Ian Sheppard (isheppard@ainonline.com) and Charles Alcock (calcock@ainonline.com).

Dubai FBO benefits from switch to new airport

DC Aviation-Al Futtaim (DCAF), a joint venture of Germany’s DC Aviation and the Dubai-based Al-Futtaim Group, is reaping the benefits of its decision in 2012 to establish a presence at Al Maktoum International Airport, which is part of the Dubai World Central (DWC) development. DCAF set up an FBO with maintenance facilities at the new location before any other business aviation companies showed interest in migrating from the main Dubai International Airport. It claims to have been richly rewarded for its initiative and remains the only service provider with standalone facilities at the new site.

“We made a gutsy decision in the early days of the Dubai World Central development,” Holger Ostheimer, general manager of the DC Aviation-Al-Futtaim FBO at Al Maktoum International Airport, said. “It was a momentous achievement for Falcon, as we had a short time frame in which to set up and deliver this service,” said Falcon Aviation Services COO Ramandeep Oberoi. “However, with the help and cooperation of Abu Dhabi Airports, we are able to support the oil and gas sectors by using our two Dash 8 Q400s to transport 400 passengers daily to their work.”

This has allowed Ostheimer to steer clear of the politics bedeviling the new FBO terminal planned for the airport. Last month Middle East Business Aviation Association chairman Ali Al Naqb drew attention to the hesitancy on the part of operators to buy in to the shared FBO at DWC, seated in dislike for several of the building’s common-user features.

Growth Plans

In February, DCAF secured an air operator certificate in the United Arab Emirates (UAE) and added a Challenger 604 to its managed fleet in July. In September, DCAF’s parent, DC Aviation Group, announced the addition of a Challenger 300.

“We have the prospect of bringing charter capacity to market in the first quarter of 2016. One of the aircraft we’re going to sign will be commercially operated, providing charter opportunities,” he said.

Last month DCAF announced the signing of ground handling agreements with several flight support companies and aircraft operators. These included World Fuel Services, Hadid International, TAG Aviation, Amac Aerospace, Palm Aviation, AvjetRosing, Ramjet, Aviation Services Management and Skyplan Services.

Royal Jet steps up fleet growth

Royal Jet expects to take delivery of two new Boeing Business Jets (BBJ) next year, bringing its fleet to 13 aircraft. The charter operator is still considering other Boeing, Airbus and Bombardier options for further fleet expansion.

Patrick Gordon, interim president and CEO, told AIN in an interview at the Dubai Airshow last month that he expects the company’s fleet to number some 20 aircraft by 2020. He did not mention any imminent aircraft retirements, but said he had sold one of two Gulfstream G300s in the fleet.

One green BBJ with long-range tanks and enhanced vision is at Lufthansa Technik for interior completion and will be delivered in October, Gordon said, followed by the second a month later. That will bring the total of BBJs in the fleet to eight.

According to Royal Jet, Middle Eastern customers are increasingly turning to charter rather than owning their own aircraft, and his company is reaping the benefits. “A lot of [customers] realize that it’s better to charter,” he said. In an effort to reach more prospective customers, Gordon penned a paper in which he makes the case for considering charter. From the paper: “The next time a charter company representative calls on you, don’t jump to conclusions and make the mistake of saying, ‘You’re too expensive.’ Take the time to discuss the issue to determine if that’s the case.”

Gordon estimates that Royal Jet makes 2,000 flights per year. Medical evacuation missions have accounted for 20 percent of business to date this year. Other clients include wealthy individuals, government delegations and ministers. The operator flew to 159 airports in 73 countries in the first half of this year and is well on track to beat last year’s performance of 250 airports in 105 countries, he said.
ExecuJet Middle East announced plans to expand its operations in Saudi Arabia with a new FBO in Jeddah, and to boost its presence in Dubai.

With a main base at Dubai International Airport, for the past two years ExecuJet has also operated a temporary base at Dubai World Central, or Dubai South as the massive new airport has been rebranded. It has now secured land for a permanent facility and hopes to start construction soon with a view to opening during the first quarter of 2017. In the meantime, it may opt to take up another temporary tenancy in the airport’s general aviation terminal starting next year.

“We would love to keep both bases [Dubai International and Dubai South], but it has been made clear [by the Dubai authorities] that Dubai South is going to be the main long-term home for general aviation,” ExecuJet Middle East vice president Mike Berry told AIN. That said, with some low-cost carriers such as FlyDubai moving operations to Dubai South, this could temporarily release some capacity pressure at Dubai International.

“We’ve grown tremendously,” commented Berry. “ExecuJet in the Middle East began in 1999 with just a couple of managed aircraft, but it now employs more than 345 people and runs state-of-the-art MRO and FBO facilities at Dubai International Airport and Dubai South. We’ve also expanded our FBO network into Riyadh [Saudi Arabia] and Istanbul [Turkey], making a total of four in the region.”

The planned new FBO in Jeddah will be established with existing Saudi partner NAS. In December, their joint operation in the capital Riyadh will relocate to the royal terminal of King Khalid International Airport from its current location in the general aviation terminal.

According to Berry, traffic levels in Saudi Arabia have improved in recent months, inspiring the company’s expansion bined with an FBO. Operations could begin next month, starting with simple line maintenance services. It expects to support significant numbers of Bombardier and Hawker aircraft based in India.

ExecuJet’s aircraft management business has enjoyed some growth of late, with three aircraft joining the fleet this year and two more expected by year-end. Of the 22 jets it manages, five are available for charter.

NEXUS SUPPORTS SAUDI OPERATIONS AT 15 AIRPORTS

Flight support group Nexus started fulfilling a major new contract last month to provide flight support for a large undiscovered Saudi Arabian operator at 15 airports around the country. The Jeddah-based group will dedicate approximately 200 employees to supporting the flight operations of the government-backed client.

The arrangement adds to the fleet of some 170 aircraft for which Nexus already provides flight support services. On top of this, the company manages approximately 23 more aircraft for owners based in Saudi Arabia, India, Bahrain and Egypt, including provision of crew and supervising maintenance.

Among the aircraft Nexus supports are several owned by the Saudi defense ministry and air force that are used for a variety of VIP transport, freight and logistics roles. The IS-BAO-certified company is approved as a continuing airworthiness management organization by authorities in the Isle of Man, the Cayman Islands and Bermuda.

According to Nexus president and CEO Abdullah Al-Sayed, the company is considering how it might get more directly involved in providing ground handling in India and Africa. It already has a joint venture in India with the Svakoa group and a subsidiary in Rwanda in alliance with local company Crystal Venture. The Rwandan operation, based in the capital Kigali, recently received government approval to serve as a training organization for skills such as ground handling and flight dispatch.

Meanwhile, Nexus also recently signed contracts to establish a new flight support joint venture in Shanghai, China, that it wants to have up and running by year-end. The company is making plans to set up an office in Manila, the Philippines. It also has ambitions to establish a presence in Latin America, where Mexico seems to be its favored starting point.

ABU DHABI AVIATION TO SUPPORT BOMBARDIER Q400s

Bombardier Commercial Air- craft has signed a memorandum of understanding and is in discussions with Abu Dhabi Aviation to work toward the establishment of Abu Dhabi Avia- tion as an authorized service facility (ASF) for Q-series turboprops. The final agreement between Bombardier and Abu Dhabi Aviation remains subject to acceptance of commercial terms and a final technical audit. Once the sides reach a deal, Abu Dhabi Aviation will become the first ASF for the Q series in the Middle East and offer line and base maintenance services.

In addition to two Q400s, three Q300s and two Q200s, Abu Dhabi Aviation operates the largest helicopter fleet in the Middle East.

EXECUJET NOTCHES IS-BAH APPROVAL IN SOUTH AFRICA

Adding to ExecuJet Aviation Group’s accreditations is the recent award of the IS-BAH certificate for its FBO operation at Lanseria Airport in South Africa. The ExecuJet facility is the first in Africa to receive the International Standard for Business Aircraft Handling stamp of approval from IBAE (the International Business Aviation Council). IS-BAH is a global code of standards for aviation handlers, mitigating risk and promoting safety in the same way as the IS-BAO certificate works for operators.
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Hartzell five-blade prop STC’d for all PC-12s
by Nigel Moll

Hartzell received STC approval for installation of a new composite five-blade propeller on every variant of the Pilatus PC-12 turboprop single. The prop maker, revealing the news last month at the NBAA Convention, says that the owner of a PC-12 fitted with the new prop can expect to see a five-knot improvement in cruise speed, a 30-foot reduction in takeoff roll and a 10-percent quicker climb to a cruise altitude of FL280. The new composite prop, despite having one more blade, is seven pounds lighter than the aluminum four-blader it replaces, and it is now standard equipment on new PC-12s.

Two-and-a-half years in the making, the new PC-12 prop shares the distinctive scimitar blades, stainless-steel shank, nickel-cobalt leading edge and stainless-steel mesh erosion screen of the five-blader certified on the Daher TBM series of turboprop singles but it is larger, with a diameter of 105 inches to absorb more power and pull more airflow than is required of the TBM’s 90-inch prop. It also has “a completely different airflow section,” Hartzell executive vice president JJ Frigge told AIN.

The PC-12 is one of four aircraft programs that have adopted Hartzell’s five-blade props, joining the TBMs and (to be STC’d early next year) the Piper Meridian M500 and the Raisbeck-modified Beech King Air 350. Hartzell is heartened by TBM owners’ enthusiastic adoption rate: it has already delivered 150 composite five-bladers, for 20-percent penetration of the TBM fleet. At some 1,300 aircraft, the PC-12 fleet is larger.

“The work best when we partner with the OEM on a prop for the current production version, then we work alone on obtaining STCs to equip the legacy fleet,” said Frigge.

The Swiss airplane’s power ratings range from the original’s 1,000 shp to 1,200 shp, making the current PC-12/47 NG the most powerful application yet for the Hartzell five-blade prop in the business aviation fleet. (The M500 packs 500 shp, TBMs have up to 850 shp and the King Air 350 has 1,050 shp each side.)

The new PC-12 prop costs $83,640, including ice protection, and Hartzell offers a trade-in allowance of $15,000 on the original Hartzell aluminum prop, for a net price of $68,640.

As go the GAMA shipments, so goes Hartzell’s business for the most part, and so far this year demand for props for new aircraft has been down by 10 to 12 percent on 2014. The first quarter this year was soft, recalled Frigge, with shipments of new piston and turboprop-powered aircraft down 15 to 20 percent year over year.

“The second quarter was closer to flat, and it left the first half of this year down about 10 to 12 percent,” he added.

Pilatus unveils faster PC-12 NG
by Mark Huber

Pilatus Business Aircraft unveiled a faster PC-12 NG at last month’s NBAA Convention. The new model incorporates aerodynamic improvements that boost cruise speed by 15 knots to 285 knots, reduce time to climb by 10 percent and significantly cut cabin noise and vibration levels—all achieved with no change in engine power. Base price for the 2016 PC-12 NG is $4.05 million; Pilatus estimates a typically equipped model will sell for $4.85 million.

Viewed from the outside, the most readily apparent change is the Hartzell five-blade graphite scimitar-shaped composite propeller. (See article above.) The blades feature a nickel-cobalt leading edge and are fabricated using carbon-fiber monotone structural design. The thin blade shape is optimized for low drag, and the propeller is certified for unlimited life. In addition to the new propeller, the exterior of the aircraft underwent an extensive aerodynamic cleanup that included redesign of the underwing flap actuator fairings for smoother airflow and a flush door handle for the cabin entry door. Gaps and joints around the flaps and ailerons were sealed and several antennas were repositioned to align with localized airflow patterns.

These various improvements combine to reduce takeoff distance by 50 feet, to 2,600 feet; provide a 10-percent reduction in time to climb to 28,000 feet at mtop; and extend maximum range (VFR reserves, four passengers) to 1,840 nm, a modest gain of 15 nm.

In the cockpit, the new PC-12 NG features updated avionics software. Build 10 of the Honeywell Primus Apex avionics flight deck provides common symbology, logic, architecture and design philosophies. Among the improvements incorporated into Build 10 are temperature compensation for Baro Vnav approaches, a route flight leg to show airways, Sids and Stars in the flight plan, a vertical direct-to-task menu option, pilot-entered waypoint points on the iNav map, an option for orbital search patterns and flight-plan loading into the FMS via the wireless gateway (from mobile devices).

Passengers will notice a refreshed entry door treatment. The 2016 PC-12 NG has an all-new entry door design with an illuminated Pilatus logo and soft lighting for the entry steps and the handrail. More LED lights create a pool of illumination on each step. The 2016 NG also offers six new exterior paint schemes designed by Pilatus and BMW Designworks, along with six interior color/fabric palates.

Pilatus CEO Markus Bucher said the new PC-12 NG will continue to be the company’s “core aircraft” even as it continues development of the PC-24 twinjet. “No other aircraft is quite like it. It dutifully serves as a uniquely capable aircraft, which combines a large passenger cabin with turboprop reliability, single-engine efficiency, short and improved runway capability and the utility of a standard cargo door,” Bucher noted.

Founded in 1939 and headquartered in Stans, Switzerland, Pilatus Aircraft and the Pilatus Group include two independent subsidiaries in Broomfield, Colo., and Adelaide, Australia, as well as a joint venture in Chongqing, China. Some 1,300 PC-12s are in service, and the fleet has logged north of five million flight hours.

“The exchange rate is creating headwinds for American OEMs selling in Europe, Frigge emphasized. “The euro has come down so far that for Europeans it means a 20- to 30-percent price increase on a U.S.-made aircraft. But the U.S. domestic market is relatively steady and stable.”

Last year Hartzell shipped close to 3,800 props to OEMs and to airplane owners replacing or upgrading, exceeding the recent average of 3,500 a year. In the horsepower band it serves (80 hp to 2,200 shp), Hartzell retains a market share of about 80 percent.
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Employee or contractor?  
DOL intensifying scrutiny

by Curt Epstein

While the use of temporary pilots and flight attendants has long been a staple of business aviation, the question of whether or not those workers should legally be classified as independent contractors is part of a wider issue, pertaining not just to aviation but U.S. businesses in general, according to government agencies that are subjecting the practice to closer scrutiny.

In July, David Weil, administrator of the U.S. Department of Labor’s (DOL) wage and hour division, issued a letter addressing the matter. “Misclassification of employees as independent contractors is found in an increasing number of workplaces in the United States, in part reflecting larger restructuring of business organizations,” he wrote. “Although independent contracting relationships can be advantageous for workers and businesses, some employees may be intentionally misclassified as a means to cut costs and avoid compliance with labor laws.”

While misclassification, intentional or not, can present problems for the worker, including failure by the employer to pay unemployment tax and other benefits, government entities are clearly concerned about the potential for revenue lost to unreported income and improper tax withholding. “We’re not talking about nickels and dimes here,” said Gregory Ripple, an aviation employment attorney with Michigan-based law firm Miller Johnson. “The amount of money that the Department of Labor and the states think they are missing every year in tax revenue is in the tens of billions of dollars.” That missing revenue can have a knock-on effect, raising taxes for companies that do comply with regulations.

Check Your Staffing Provider

Rates for supplemental crews vary among providers, but those offering a significant discount might not be providing for their workers under the correct classification, thus creating an unlevel playing field. There are several ways to make sure a staffing provider is following regulations, according to Margaret Vernet, founder and president of Connecticut-based Corporate Aviators, Inc. The simplest is to ask how they are paying the workers they hire. Another option is to request documentation. “Because [staffing providers] are not paying them as a W-2 worker, they may not be able to show a certificate of insurance demonstrating that they have workers’ comp on the people they hire,” she told AIN. Lastly, prospective customers should check the staffing company’s name. “If they are an incorporated business, an I-A-C, it’s federal law that all employees be paid as W-2 workers.” –C.E.

Critiera for ‘Economic Reality’ Test

• Is the work an integral part of the employer’s business?
• Does the worker’s managerial skill affect the worker’s opportunity for profit or loss?
• How does the worker’s investment compare to the employer’s investment?
• Does the work performed require special skills or initiative?
• Is the relationship between the worker and the employer permanent or indefinite?
• What is the nature and degree of the employer’s control?

The DOL asserts that each situation must be weighed against several criteria according to the Fair Labor Standards Act (FLSA) to determine worker status, adding that courts will use the “economic realities” test, which focuses on whether the worker is economically dependent on the employer or in business for him or herself (see box above). “All of the factors must be considered in each case, and no one factor (particularly the control factor) is determinative of whether a worker is an employee,” Weil stated in his interpretation.

Once that analysis is applied and interpreted, the agency concluded that under the broad definitions of the FLSA, most workers should be considered employees. “In its guidance, the Department of Labor basically says it believes most people who are classified as independent contractors are misclassified,” Ripple told AIN. “They are going to assume that you are doing it wrong, so companies really need to do their homework to make sure they have a case for why they are doing it right.”

Further complicating matters, Ripple noted, is that the standard that the DOL uses to determine a worker’s classification might not be the same criteria that an individual state will use, which could present more hurdles for national companies. “If you are using or contemplating the use of independent contractors and you haven’t done so previously, you need to analyze whether or not these independent contractors meet the definition of an employee in your jurisdiction,” Ripple said, adding that auditors will likely be unmoved by justifications for misclassification of employees that consist of explanations of “We’ve always done it that way” or “That’s the way everyone does it.”

Aviation-specific Concerns

Most, if not all, companies are aware of the consequences of employee misclassification in the wake of high-profile cases involving corporations such as Microsoft and Federal Express, but in the case of flight departments, and their somewhat insular position in most companies, regulations can and often do get overlooked. “[Companies] have policies, but when it comes to the aviation department, they sometimes operate like a little satellite,” said Hanchrow. “Sometimes they don’t follow all their HR policies to a T and if HR did know about it, they would probably make them not hire people as independent contractors.”

Discovery of misclassification can be innocuous enough. Ripple noted the case of a flight attendant who worked occasionally for a Part 135 carrier, and was told she was no longer needed after the company discontinued flight attendant service. She filed for unemployment and was told that the company had never paid unemployment tax on her behalf. “The problem, of course, is that all these agencies talk to one another, so the minute the IRS begins to investigate you, you can expect to receive letters from unemployment and your state taxing entity as well,” he said.

“The bigger the company, the bigger the risk,” said Hanchrow. “Once a company gets flagged for employee misclassification, say in the aviation department, it can extend company-wide if the IRS feels that company is a really big offender.” If companies are found in violation of the labor classification laws, they can be liable for back taxes, interest, fines and penalties from multiple agencies and jurisdictions. A company’s worker compensation insurance provider might also be displeased if it is reimbursing a company has more employees than were reported when it established its coverage.

When flight departments need contingent labor, they have several choices, the first being use of an aviation staffing firm, which is considered the employer of the flight crew, and in most cases will relieve the hiring company of the administrative burden. Such services generally come at a premium as the staffing firm will add its overhead and profit margin to the arrangement.

But even using a staffing provider is not always a guarantee of adherence to regulations, as some will label their workers as independent contractors (see box at left). In such situations, the end user can also be liable if regulators determine that the employee has been misclassified. The second is to hire independent contractors directly, in which case Ripple suggests consulting with a human-resources professional to avoid misclassification. The third option and the one most unpopular with employers is to hire the worker as a part-time employee, even if they work as little as one hour a week, to ensure compliance with the regulations.
Aviation

BARRY AMBROSE

FLEXJET SIGNS DEAL FOR 20 CHALLENGER 350s

Fractional ownership provider Flexjet signed a memorandum of understanding with Bombardier Business Aircraft for the purchase of 20 super-midsize Challenger 350s. The $533 million deal makes the Texas-based fractional-share provider one of the largest operators of the 300-series Challenger; it already has more than 40 in service.

The Challenger 350 is “built for optimal comfort and performance and holds a particular appeal for Flexjet customers,” according to Bombardier Business Aircraft president David Coleal. “The aircraft can carry eight passengers, 3,200 nautical miles at Mach 0.80, and it has the fastest time-to-climb in the business, climbing straight to 43,000 feet. Along with the latest avionics, it has the widest cabin of any true super-midsize aircraft.”

He added that “the 350 has a flat floor, a stand-up cabin, lots of natural light and an HD cabin management system.”

Bomberbardier Business Aircraft president David Coleal (left) and Flexjet CEO Mike Silvestro celebrate the fractional provider’s $533 million deal letter of intent for 20 Challenger 350s.

Flexjet CEO Mike Silvestro commented, “I couldn’t be more excited about this announcement. Flexjet took delivery of its first Challenger 300 in 2003, and since then it has been the mainstay of our fleet.

“Back then I think Bombardier did a phenomenal job creating this great super-midsize cabin aircraft, and many years later with the Challenger 350 it has continued to define and set the standard for excellence for this category.

The Flexjet Challenger 350s will become a part of Flexjet’s Red Label offering, “which enhances the experience for our customers,” explained Silvestro. These aircraft “will have dedicated crews who fly specific N-number aircraft and special LXI interiors [with hand-stitched leather seating],”And we are committed to using only aircraft that are five years old or younger,” he added.

—R.R.P.

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Left to right: Brian Barents, Aerion co-chairman; Kenn Ricci, Flexjet CEO; and Robert Bass, Aerion chairman, celebrate last month’s order for 20 AS2 supersonic jets. The fractional provider originally planned to order 10 of the jets; after conversations with customers it decided to double that number.
Congress stalled on key issues

by Kerry Lynch

Congress made strides to avert another funding showdown and possible shutdown of U.S. government agencies, including the FAA, with the passage in late October of the two-year budget deal. But heading into December, lawmakers had yet to address a number of critical items, among them appropriations and taxes.

Lawmakers in the House and Senate each approved a Bipartisan Budget Act of 2015, which sets spending limits for Fiscal Years 2016 and 2017, avoids more sequestration cuts and raises the debt ceiling through March 2017.

Top appropriators in both chambers had called passage of a budget deal a crucial first step to passage of a bill or series of bills to fund the government for Fiscal Year 2016. The government has been operating on a temporary funding measure that is set to lapse December 11.

“With this stability, Congress can make thoughtful, responsible decisions on how to fund federal agencies and programs, and avoid the unnecessary waste and harm that comes from lurching, unpredictable budget cycles,” House Appropriations Committee chairman Hal Rogers (R-Ky.) said, adding that lawmakers will now focus on an omnibus federal funding bill.

“I am relieved our country will have certainty for the next two years,” added Sen. Barbara Mikulski (D-Md.), the ranking Democrat on the Senate Appropriations Committee. “I hope this will put an end to the practice of passing last-minute stop-gap funding resolutions that put our government on autopilot.”

Long-term Planning

While the budget established funding thresholds, Congress still had significant work to do to pass either a comprehensive government-wide funding bill or a series of individual bills for the various agencies before the stopgap funding measures expire this month.

NATA president and CEO Tom Hendricks, who praised the passage of the budget agreement, urged U.S. lawmakers to move forward quickly on spending bills for government agencies.

“Aviation businesses depend upon certainty to create jobs and make investment decisions,” he said, adding that the budget agreement provides that certainty. “We urge the House and Senate to quickly use the additional discretionary funding provided by this agreement to finalize the appropriations bills for FY2016, including for the FAA.”

Along with funding, lawmakers still have the tax extender package on their plates. At risk are the lapse of key business incentives such as the research and development tax credit, bonus depreciation and increased Section 179 expensing levels. Industry groups have written a number of letters this year to lawmakers, appealing for action on the taxes.

In October NATA joined a cross-section of 200 industry groups in renewing that appeal. “It is essential that Congress act to renew important tax provisions that expired at the end of 2014,” the organizations said in the joint letter. “The current uncertainty about these tax policies is discouraging investment in the U.S. and, in some cases, keeping companies on the sidelines. This impacts both companies that make investments and companies that manufacture capital equipment and [it] reduces job growth that typically accompanies such investments.”

But at press time, the path forward was unclear with the transition to a new House Ways and Means Committee chairman following the naming of Rep. Paul Ryan (R-Wis.) as Speaker of the House. Ryan’s successor, Texas Republican Kevin Brady, already has indicated plans to push to make some of the tax provisions permanent. But the Senate has continued to seek an extension.

Also in limbo is long-term FAA reauthorization. At the end of September, Capitol Hill provided a six-month extension of the FAA’s operating authority. One of the chief holdups was a comprehensive highway reauthorization bill, which was consuming time of the House Transportation and Infrastructure leaders.

At press time, the House appeared headed toward a resolution of the highway bill. Such a resolution would free up time for FAA reauthorization.

INDIAN BIZAV SEEKS TO CHANGE DRAFT REGS

India’s general aviation sector has expressed disappointment with the country’s draft civil aviation policy, released on October 30. The public comment period for this long-awaited draft legislation was set to end on November 20, and India’s Business Aviation Operators Association (BAOA) requested changes to various rules that, as proposed, it believes would further disadvantage an industry already held back by flawed regulations.

“We will be asking for rollback of the ill-conceived import duty on business aircraft imposed since 2007 that has throttled the growth of a booming industry,” BAOA managing director R.K. Bali told AIN. He claimed that in the past three years the government has collected barely $15 million in taxes, and that the negative effect on the industry has far outweighed this revenue. “Only eight aircraft were added [to the Indian register], while many more were sold,” he stated.

Another concern is the proposed scheduled commuter airlines (SCA) plan that permits charter companies to fly on scheduled routes. However, if they opt to participate as an SCA, they will not be permitted to undertake ad hoc charter operations. The BAOA believes the clause is discriminatory since scheduled airlines are allowed to operate charter flights. Bali said 90 percent of the charter companies would opt for the SCA plan if the clause were withdrawn. —Neelam Matthews
Court: ‘Air Cocaine’ a private flight

by Thierry Dubois

More details are emerging on the charges a Dominican prosecutor has pressed against Bruno Odos and Pascal Fauret, the two pilots convicted in the so-called “Air Cocaine” case. The 400-page judgment provides insight into why the tribunal decided to consider the Falcon’s flight private rather than commercial, a decision that leaves the pilots liable for the cargo. The crew of a commercial flight bears no such responsibility.

According to the document, Swissport’s Punta Cana Airport handling facility was serving both commercial and private flights. Witness Melissa Rijo, who describes herself as the supervisor of private flight activities at the time, said Falcon 50 F-GXMC was operating privately. She said the pilots moved the aircraft onto an apron dedicated to private flights the day after it had been parked on the apron for commercial flights.

Some time after it had taxied to the apron for private flights, the aircraft was towed close to the airport’s perimeter fence, which was not possible on the commercial apron, Rijo went on. Some 20 suitcases—full of cocaine—were later smuggled through the fence.

Rijo said, however, that she levied charges on the flight at the commercial rate.

Another witness, Valentin Rosado Vicioso, a high-ranking police officer, said the crew had deliberately obtained two “approvals”—one commercial and one private—for the flight from Punta Cana to Saint-Tropez. Rosado Vicioso asserted that the private approval would be the one used if everything went as planned. But in the event something went wrong, the crew would have resorted to the commercial one, he added. An aircraft operating privately can be seized by the authorities, while a commercial flight cannot, Rosado Vicioso explained.

Fauret and Odos have long insisted that their flight was commercial, referring to evidence such as the flight plan number.

It has also emerged that, shortly after their arrest, they were visited by Michel Ségura, a Frenchman who, according to the pilots’ lawyers, introduced himself as “working for the French embassy” in the Dominican Republic and appeared willing to help them. In fact, the lawyers say, he was a police officer. Excerpts from the conversation were used in the judicial case against Odos and Fauret, which violates the defendants’ rights, according to the lawyers.

Dominican authorities seized the Falcon 50 and installed a surveillance device on it.

Air cocaine’ Pilots Flee Dominican Republic

Pascal Fauret and Bruno Odos, the pilots of a flight now known as “Air Cocaine,” have fled the Dominican Republic, where they have been detained since their 2013 arrest, and are now in France. They are reported to have been assisted by friends who used two boats and possibly forged passports. They then took a scheduled flight from an island in the French Caribbean.

“Odos and Fauret are looking forward to talking to the French judge,” their lawyers said on October 27 during a press conference in Paris, asserting they had no opportunity to defend themselves in the Dominican Republic. There, they were free on condition they did not leave the country until the conclusion of the appeals trial. —T.D.

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Training firm developing flight sim with sea legs

by Rick Adams

How do you “back up” in a flight simulator? Visual system engineers at Textron’s TRU Simulation + Training in Montreal are working on that dilemma in the development of the world’s first level-D seaplane flight simulator. When docking a float-equipped Twin Otter, pilots often reverse the aircraft, something like parallel parking your automobile, except on water and with 1,200 shp and a 65-foot wingspan. Once alongside the dock, the aircraft nose is pointed toward the lake or sea, ready for the next takeoff.

Before the aircraft reaches that berth, there’s another simulator challenge. The Twin Otter pilot, when alighting on water, typically opens the side window of the cockpit and looks straight down when preparing to land on a water surface. “You have to look underneath the airplane to see what the water’s doing. Part of every approach is a landing site inspection at about 500 feet. It isn’t possible with a typical level-D display to see any of that,” explained David Reid, senior production pilot for Viking Air and Pacific Sky Aviation.

“Viking is the Canadian aircraft manufacturer that resurrected the DHC-6 Twin Otter in 2010 after a more than 20-year hiatus. The Viking Series 400 incorporates Honeywell Primus Apex integrated avionics, more powerful Pratt & Whitney Canada PT6A-34 turboprops and some composite structure. When the Twin Otter Series 400 simulator is ready for acceptance early next year, extra visual display screens will allow pilots to lower the window, as in the aircraft, literally stick their head out, and look straight down or toward the rear of the aircraft. “The pilot needs to understand and learn from every angle. There can’t be any blind spots,” Reid said.

Sea Testing

Reid and Pacific Sky corporate pilot Rob McIntyre flew the maneuvers for the flight-test program. They were guided by Anthony Brown of the National Research Council (NRC) Canada Flight Research Laboratory, which was contracted to collect the data necessary for TRU to develop the flight simulation models.

Testing for the wheeled version of the Series 400 was not unlike that for other fixed-wing aircraft and took place around Ottawa last spring. Water-based landing, taxi and takeoff tests in a variety of weather conditions—from glassy smooth to wave heights up to about one to 1.5 meters (Sea State 4) in 15-knot winds—were conducted near Viking’s modification facility on Vancouver Island, British Columbia. “When landing on water, you can have waves and water currents, which are completely different from the air—currents and which are not necessarily viewable from the air; this requires a fair bit of sea-based testing to characterize,” said Sion Jennings, NRC Canada flight mechanics and avionics group leader.

The test aircraft was fitted with sensor equipment to capture data about engine performance, atmospherics, control surfaces and “everything the pilot touches,” about 200 metric meters high. To highlight the look-down and look-back perspectives, Reid said they used a GoPro video camera positioned near the pilot’s eyepoint during the water landing inspection and docking.

“There are some differences between aircraft certification testing and simulator testing,” Jennings noted. “In simulator testing, we’re really interested in getting, not rough notions of controllability, but a very fine and precise understanding of the exact control response of the aircraft. That requires a higher data rate and maybe some different maneuvers.”

The matrix of nearly 800 test maneuvers did not include snow and ice, which are not required by Transport Canada. Nor did they stress the Twin Otter for beyond-stall or unusual-attitude conditions. Indeed, Transport Canada does not have any seaplane-specific simulation qualification test guide, so TRU engineers are working with the agency to write the template. “The physics are well known, though: fluid dynamic calculations, buoyancy, the density differences between fresh water and salt water,” said George Karam, vice president and general manager of TRU’s Air Transport division.

TRU will also provide a new low-speed aerodynamic model for the high-lift, low-wing-loaded aircraft, which will simulate the wobble from wind gusts striking the fuselage when the aircraft is on the surface.

One of the unusual aspects of landing a seaplane involves side-loading on touchdown. A wheeled aircraft might skid a little. But, Reid said, “If you touch down a little bit crooked on the floatplane, you’re not putting a small rubber tire with a small footprint onto the water. You’re putting a keel onto the water, and keels are designed to go in a straight line. If you touch down with a little bit of a side-load on the Twin Otter, you’re going to feel a sideways dig. For folks who are inexperienced and in weather that is approaching the limits of the aircraft’s capability, that sideways load can start a chain reaction, which might end up with the wingtip digging the water (which has happened quite a bit in training using the airplane) and you might end up cartwheeling the airplane.” Reid said they were able to sample the dig effect during the flight data tests and will reproduce it in the simulator “so folks can feel what it’s like and be able to work recovery techniques for it as well.”

Michael Coughlin, chief executive of Viking sister company Pacific Sky, said the success of the Series 400 in opening new markets such as China, Vietnam and Russia is driving the business case for the level-D simulator. Most Twin Otter pilots receive their training in the aircraft, “which is not very effective” because there is limited exposure to critical failures. It can take three to four years to build sufficient experience to transition to the left seat. Pacific Sky hopes the highly capable simulator will significantly compress the time required to develop Twin Otter captains so that shortage of crews does not limit the aircraft’s success.

Pacific Sky will offer training and type ratings, from ab initio to commercial and air transport pilot certificates for both wheeled and float-equipped DHC-6-400s. They expect to train about 200 pilots a year in Vancouver.

Gulfstream invests in customer support

Gulfstream announced a variety of improvements designed to enhance its customer support. They include more maintenance hangars in Brunswick, Ga., and Long Beach, Calif.; a new product distribution center in Savannah; a new product support paint facility in Savannah; the addition of MRO services at Jet Aviation in Teterboro; the addition of rapid response support vehicles in Seattle, Chicago and Washington, D.C.; and raising worldwide parts inventory to $1.6 billion.

Gulfstream’s field and airborne support teams (Fast) will be supported by avionics and mechanical specialists and are aimed at customers who need line service repairs, minor inspections, minor cabin interior repairs and compliance with service bulletins.

Three new Fast trucks will be based at Boeing Field in Seattle, Waukegan National Airport in Illinois and Washington Dulles. They join an existing fleet based at Savannah, Los Angeles, San Francisco, Houston and New York. The airborne Fast unit comprises two G150s and 40 technicians and pilots. Fast also has 12 dedicated technicians based in Europe, Asia and the Middle East.

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Development continues on Bombardier Global 7000

by Kerry Lynch

Amid intense scrutiny of its cash shortage, Bombardier displayed the first two Global 7000 flight-test vehicles to the press on November 3, and executives emphasized that the “right resources” are in place to develop the company’s new flagship business jet. “The 7000 is the number-one priority for Bombardier Business Aircraft and for me personally,” said David Coleal, who took over as president of the division in May.

Speaking to reporters at Bombardier’s facility in Downsview, Ontario, Coleal emphasized that Bombardier is focused on a timeline that will put the 7,400-nm Global 7000 in service in the second half of 2018. But executives declined to provide a timeline for the 7,900-nm Global 8000, saying only that they are focused first on the 7000. Nor were they ready to discuss the timeline for flying the 7000.

During a tour of the assembly facility for the 7000/8000, executives displayed the first two 7000 flight-test vehicles and the production line, designed specifically for the 7000/8000 program and the company’s most advanced yet. Flight-test vehicle (FTV) 1 was assembled, complete with its GE Passport engines and wiring harnesses. Julien Boudreault, general manager of operations for the Global 7000/8000 lines, said the harnesses on FTV 1 are “in the final stages of inspection so we can do power on.”

The body and wings of FTV 2, one production stage behind FTV 1, have been mated and component installation continues. Components for FTVs 3 and 4 are also in production.

The company has tested 35 systems and commissioned 29 different test rigs, said Michel Ouellette, senior v-p of the Global 7000/8000 program. Bombardier has conducted a series of integrated aircraft ground tests for these programs.

The first 10 GE Passport engines are also in Bombardier’s hands. Kathy Mackenzie, general manager of regional engines and services at GE Aviation, provided an update of the progress on the engines, saying they have completed 25 of 27 certification tests, with the 26th to be finished shortly. Additionally, the engines have accrued 1,850 hours and 2,150 cycles as the company works through a certification program that it anticipates will encompass 4,000 hours and 8,000 cycles. The engine entered flight-test late last year aboard GE Aviation’s 747-100 flying testbed.

Ouellette said Bombardier is drawing on its previous experience of working with Rockwell Collins for the Vision flight deck, which is based on the Pro Line Fusion avionics suite and is already flying on Global 5000s and 6000s. The airframer is building on experience gained through its use of fly-by-wire (FBW) on the CSeries, he said. The Global 7000 FBW uses “the same technology…the same supply base,” Ouellette added.

New Production Process

Bombardier is testing and building components at various locations, including Querétaro, Mexico; Montreal and the Downsview facility in Canada. But like the Global 5000/6000, the Global 7000 will be assembled in Downsview. Bombardier has transformed Hangar 10, which has housed production or assembly of numerous designs, into a five-position assembly line that employs an Atlas system to move aircraft down the line and laser-guided technology to ensure precision manufacturing.

Boudreault said the process integrates every phase, beginning with the design of the aircraft. “Everything works together,” he said. The process starts on the floor, where specially designed mirrors help guide lasers to ensure precision and repeatability. The laser guides articulated robotic drilling accurate to better than one thousandth of an inch.

Ouellette said that the precision and quality in assembly of the first two FTVs “further validates that Bombardier made the right choice in the technology.”

Unlike typical manufacturing processes, the one used for the Global 7000 begins with wire preparation in the first position on the line, which is then moved via the Atlas system to the second position for attachment to the fuselage. The system largely eliminates the use of cranes to lift the aircraft and components between production stations. It also dramatically speeds the process of shifting the aircraft between stations, to mere seconds from hours.

The Global 7000/8000 program has also gone paperless, using Windows-based tablets to provide work orders. These tablets are tied into the production process. If some part of assembly does not appear calibrated, the tablets require employees to take certain actions before work can continue. Bombardier did not share how much it has invested in redesigning the production process, but Boudreault expressed confidence that the automated approach will provide a return.

As development moves ahead, Bombardier continues to hold focus groups on the Global 7000. Coleal noted that the aircraft will be the only purpose-built business jet with four cabin zones. The aircraft will have a 111-foot-long fuselage, almost exactly half of which is cabin length (54 feet 7 inches), and its windows are 80 percent larger than those on the Global 5000 and 6000. The 7000 is designed to provide 7,400 nm range at Mach 0.85, and a top speed that will rival that of Gulfstream’s G650 at Mach 0.925 under certain operating conditions.

Coleal added he is encouraged that the “backlog is strong” for the Global 7000, but Bombardier does not reveal order details. The 2018 timeline was set this summer, some two years later than the OEM had hoped. The aircraft, unveiled in 2010, was originally targeted to enter service next year.

ALOFT AND BOEING INK FUEL TANK DEAL

Aloft AeroArchitects, formerly Pats Aircraft Systems, announced the award of a five-year contract with Boeing Commercial Airplanes to be the exclusive supplier of auxiliary fuel systems (AFS) for the forthcoming BBJ Max, scheduled for its inaugural flight next year. The two companies have also extended the term of Aloft’s existing contract as exclusive AFS provider for Next-Generation Boeing 737s.

AFSs can extend the range of the aircraft by up to 50 percent, according to Delaware-based Aloft, Boeing’s and BBJ’s exclusive AFS provider since 1998. “Both parties have toiled long and hard to ensure that this is a partnership that truly works,” said Aloft president and CEO John Martin.

P&W UNVEILS PT6A-140A TURBOPROP

Pratt & Whitney Canada introduced a new version of the venerable PT6A turboprop at the NBAA Convention last month. The -140A, tailored to the needs of utility aircraft operating in hot/high conditions, produces 1,100-shp (thermodynamic) and is flat-rated to the 867 shp for which its gearbox is designed.

Airframes suitable for the PT6A-140A upgrade are the Caravan, King Air, Twin Otter and some agricultural aircraft currently using the PT6A-27 and -34.

“It has been developed to meet the needs of customers who currently own PT6A-powered aircraft but want an extra boost in performance,” said Nicholas Kanelias, general manager of general aviation programs. The new engine will be able to deliver 867 shp to 106 degrees F at sea level.

“That’s 15 percent more power at five percent lower specific fuel consumption relative to existing engines in this space,” he said. “It’s designed to bring greater performance into the smaller PT6A space, especially where people need hot and high capabilities. For example, the Dash 34, which is used in many utility aircraft, has a gearbox certified at 750 shp for takeoff,” he said. “We’re boosting power by easily 15 to 20 percent and not losing any of it on a hot day.”

In addition to its performance increases, Kanelias highlighted the PT6A-140A’s dual-port exhaust system. The twin-port design permits a different orientation of the exhaust, allowing for alternative aerodynamic and design improvements on the aircraft. In particular, OEMs get more flexibility in the engine installation and overall design. –D.S.
Sale of vintage bizliner offers buyers ‘a piece of history’

by James Wynbrandt

The array of amazing aircraft on static display at NBAA conventions always highlights the cutting edge of business aviation technology, but one of the stars of the ramp on the market last month at Henderson Municipal Airport (HND) is more than 50 years old: N500LN, a meticulously restored HA Howard 500, sporting a recently completed interior refurbishment.

Its radial engines aside, this is no nostalgic act. The Howard 500 can go head to head with any turboprop twin flying today, cruising at 350 mph and offering a range of more than 2,200 miles. With those performance figures it can compete with any turboprop twin flying today. 

Turbines are a lot less work. It takes a lot of skill to maintain the R-2800s,” said Toby Batchelder, CBJ sales manager and association leader on a volunteer basis after stepping into a challenging position three years ago,” said Dan Schwick, chairman of the EAA board’s Human Resources and Governance Committee. “As his inaugural three-year term as chairman was ending and we were searching for a CEO for the organization, we realized that the qualities we were seeking in a CEO were exactly the qualities and background that Jack possesses.”

At some point, Phillippi will also put his other Howard, N500HP, on the block. He owns two “project” Howards as well, though he has no plans to undertake the restorations. “Two is enough,” he said.

Though the Howard 500 wasn’t a success, Howard and the Dee Howard Company went on to create innovations like thrust reversers for business jets, and pioneer executive airliner conversions, handling, for example, the modification of a Boeing 747-300 complete with a hospital operating room and an elevator for King Fahd of Saudi Arabia.

The Howard 500 is the last radial-engine transport built in the U.S. It cruises at 350 mph and offers a range of more than 2,200 miles. With those performance figures it can compete with any turboprop twin flying today.

For Sale

Built in 1962, N500LN was owned in the 1970s by aviator and inventor Forrest Bird (who died this year), and later based in the UK until Phillippi bought it in 2009. Following a complete restoration, the engines were replaced at the Red Bull Hangar-8 maintenance and restoration facility in Salzburg, Austria. Phillippi feels an extra obligation toward guardianship, having become friends with the designer. “I went to see Dee Howard in San Antonio,” he said. “He was obviously on the backside of life, but still sharp, and he stood there with tears in his eyes and thanked me for keeping his airplane in the air.”

Nonetheless, N500LN was on static display at last month’s NBAA Convention as the first step in finding a new owner. Said Jay Duckson, Phillippi’s friend and president and founder of aircraft brokerage Central Business Jets (CBJ) in Burnsville, Minn., “He has been thinking almost with dread that it may be time to pass the Howard legacy torch onto somebody who feels as passionate about these aircraft as he does.”

CBJ, which usually deals in large-cabin jets, is representing the Howard. “It’s like a Mercedes-Benz dealer having the opportunity to sell a 1947 Gullwing Benz,” Duckson said. “It’s a true flying collector’s piece.”

No firm price has been put on N500LN. “It’s about finding the right people, so it can end up with the right family for the next 25 years,” said Phillippi. “It’s not just a piece of iron, it’s a piece of history.”

Duckson estimates it will sell in “the mid-millions.” Toby Batchelder, CBJ sales and marketing agent, added, “We fully expect the buyer to be part of the one-percent club who wants something no one else can own.”

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NetJets Challenger 650 nearly ready for service entry
by Mark Huber

NetJets’ first Signature Series Challenger 650 made its debut at the NBAA Convention last month. Bombardier announced the 650 last year along with a firm order for 25 from NetJets and options for 30 more. NetJets plans to take eight of the aircraft by year-end.

The $33.25 million Challenger 650 is a refreshed version of the 605 with new avionics and engines. It has the Bombardier Vision flight deck based on the Rockwell Collins Pro Line 21 Advanced avionics system, originally designed for the Global 6000. Vision features 15-inch displays, head-up guidance, synthetic vision, enhanced vision, MultiScan weather radar and the Integrated Flight Information System. The 650’s 9,220-pound-thrust GE CF34-3BMT0 engines have 5 percent more takeoff thrust than those on the Challenger 605. The additional thrust is pilot selectable via a new performance thrust setting. The 650’s passenger cabin borrows design elements from the cabins of the recently canceled Learjet 85 and recently refreshed Challenger 350.

Among the improvements are wider seats, a galley with a convection oven, more personal storage in and around the seats and audio/video-on-demand.

The NetJets aircraft have a “Signature Series” interior proprietary to the fractional provider. Among the enhancements are improved seat comfort, a wider lavatory, a proprietary in-flight entertainment system, and custom-designed finishes and fabrics.

NetJets’ Signature Series cabins use special leathers, carpeting, veneers and trim with Scott Group custom hand tufted carpet, Townsend leathers with ostrich pattern accents, satin nickel plating, West African Makore wood veneer with a flame pattern and Corian counter tops. The customized galleys have an added four-compartment chiller, a first for the Challenger, large convection oven, espresso machine and coffee maker. The forward wardrobe now has veneered doors instead of the typical curtain, and the drawers and inserts have more space for personal items. NetJets designed its own seat foam density to provide more cushion in the seat bottom. The extended lavatory is 1.7 feet wider than standard, providing enough room for the lav to become a full-size changing room. It also has enhanced personal item storage for passengers and (not available with the standard lavatory configuration) a window.

Working with Gogo, NetJets developed an in-flight entertainment audio video on demand (AVOD) system for the 650. An onboard media server streams movies, TV shows, flight information, news and weather wirelessly to passenger devices. NetJets has worked with Gogo to transform the baseline app from in-flight entertainment to a NetJets “Signature Series cabin experience.”

NetJets says several of the systems’ features exclusive to NetJets are in development but upon completion will “provide an enhanced, personalized experience for our owners.” The system will have a talk and text component that allows passengers to make and receive calls and text messages from their own smartphones as if they were on the ground. The text and talk app has already been customized for NetJets and the system is being further refined, NetJets says.
**Honeywell Forecast**

**Expect slight decline in deliveries through 2024**

by Curt Epstein

Business jet manufacturers should expect to deliver approximately 9,200 new aircraft over the next decade, according to the results of Honeywell’s 24th annual Global Business Aviation Outlook, released in Las Vegas on the eve of last month’s NBAA Convention. Worth $270 billion, those deliveries represent a 3-to-5 percent decline in value from last year’s forecast, which called for deliveries of up to 9,450 business jets through 2024. According to Honeywell, that decrease in value can be attributed to the fact that operator buying plans have slid somewhat, while delays to some large-cabin aircraft programs have moved their entry into service closer to the end of the forecast window.

Each year the company surveys hundreds of operators to gain insight into their buying plans over the next five years, and their outlook provides the basis for the forecast. The survey uses this data but it also takes into account other factors such as Honeywell’s relationship with the aircraft manufacturers as a key supplier, noted Charles Park, Honeywell Aerospace’s director of strategic marketing. He added that the 10-year forecast uses a number of statistical models to aid prediction beyond the five-year survey window.

Honeywell does not include airliner-derived models such as the BBJ, ACJ and Lineage 1000 in its calculations. “We talk to traditional corporate flight departments that use business jets as productivity tools and focus on purpose-used aircraft,” said Park. “The high prices of bizliners would distort the overall market data.” Likewise, the engine and avionics maker excludes any jet smaller than the Citation Mustang or Phenom 100 as it assumes jets such as the Eclipse 550 are more in the realm of owner-flown aircraft and therefore outside the scope of the survey’s reach.

For 2015, the Phoenix-based OEM anticipates deliveries of between 675 and 725 new jets, a slight increase over the previous year’s delivery tally. Analysts attribute that improvement in large part to new model introductions and an uptick in fractional-use deliveries. For next year, Honeywell projects a decline in aircraft handed over by the OEMs. The industry has reported rising delivery totals for each of the last three years. It bases that notion on continued weak demand from emerging markets, partially offset by deliveries to fractional operators. Overall, though, the pipeline of new aircraft coming into the market suggests “we are in for a period of relatively stable expansion once we get past the 2016-2017 period,” Park told AIN.

According to this year’s survey, which received north of 1,500 completed responses, while overall purchase plans are down by one percent compared with last year’s survey, operators worldwide over the next five years intend to make new jet purchases equivalent to approximately 22 percent of their fleets, either as replacements or additions to their current fleet. Of those, nearly 20 percent expect to purchase a new jet by the end of 2016, and another 37 percent said they will buy by the end of 2018. “We continue to see the larger-cabin aircraft drive the majority of future demand,” said Brian Sill, president of Honeywell’s business and general aviation segment, who added that the super-midsize through bizliner categories will account for 81 percent of the dollar value of the for 61 percent of all new jet sales, up two points from last year’s survey. Plans call for purchases of just under 22 percent of the current fleet over the next five years, a number that is lower than the averages of the 2008-2012 period.

Nonetheless, Honeywell notes that expansion of the North American fleet and operator base has supported demand levels in the face of slightly reduced purchase plans. “It’s hard for that region not to be predomi- nant just because of the size of the installed base of aircraft,” said Park. “Even though purchase plans might be flattish, that region is still generating the majority by several per- centage points of the projected demand that we are getting out of the survey.”

Survey highlights

- of new purchase plans will be large cabin jets: 52%
- of survey fleet replaced or added to new jets within the next 5 years: 22%
- <3-5%> decrease from 2014 in value of forecasted deliveries: 17%
- of planned purchases to be completed by close of 2016: 61%
- of worldwide sales originate in North America: 61%

Regional demand

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<td>North America</td>
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Source: Honeywell

In Europe, weak growth, depreciating currencies and political tensions have conspired to dampen purchase plans (now down to 24 percent of the existing fleet), and the region’s share of five-year demand is below historical norms at 14 percent, down four percent from last year.

While the BRIC countries (Brazil, Russia, India and China) have long been coveted for their market potential, Honeywell noted that industry growth has lost momentum, with purchase plans there reaching just over 21 percent of their existing fleets in this year’s survey. However, the company encountered several surprises in this year’s survey.

“We saw relatively strong plans in Latin America, above the world average, and that’s despite the fact that Brazil is in a recession,” noted Park. In fact, Brazil recorded the strongest new aircraft purchase plans in the survey, with operators there expecting to replace a third of the country’s business jet fleet over the five-year survey window. Latin America, including Mexico, is predicted to account for 18 percent of worldwide demand over the next five years, up one percent from last year’s survey. Operators there reported plans to replace 29 percent of their fleets with new jets within the next five years, with nearly half of those purchases expected to take place in the next two years.

The Chinese business jet market has cooled noticeably in response to internal pressure from government anti-extra- gance policies, and Russia is facing external pressures related to its involvement in Ukraine. However, both those areas noted slight improvements in their new jet purchase plans over last year’s results. “I was a little surprised to see the Chinese and Russian buying plans go up, given the current political and economic environment,” Park told AIN.

“Though they’re well below his- torical levels that we’ve captured in this survey, it’s encouraging to see that they’re starting to creep back up a little bit.” He added that the BRIC countries have typically been large-cabin markets. The survey noted the combined BRIC countries retain a strong near-term demand profile, with 47 percent of their intended new jet purchases slated to happen in the next two years. Even con- sidering these improvements over the previous year’s survey, the company noted they are not enough to support an improved overall BRIC outlook.

The survey results suggest that the Middle East and Asia-Pacific will each account for approximately 3 percent of new business jet demand over the survey period. Distress in the Mid- dle East and Africa continues to weigh on operators, the company noted, with potential buy- ers scheduling their purchases later in the next five-year window than they did last year. Less than a quarter of those purchases are planned before 2018.

**Good News on Pre-owned Front**

Inventory of pre-owned business jets has gradually declined from a high in 2009, when 16 percent of the fleet was available to more normal 9 to 10 percent now. “Used inventory is at a relatively healthy place from a historical perspective,” said Park. “The one issue that remains is that used aircraft prices have not firmed up, so we are still seeing some decline period over period.”

Yet Honeywell notes improved interest in the used market. Purchase plans are up in every region of the world except the Middle East and Africa, “and it was down [there] only one point of a pretty robust number, year on year,” said Park, adding that inter- est levels for new and used jets often move in opposite direc- tions, “so good. We were fortunate in the last couple of years: when new buying plans were up, used buying plans also increased.”

*Figures add up to more than 100% due to rounding. ( ) - percentage change from 2014
GE engine to power new Textron turboprop

by Mark Huber

The details of Textron Aviation’s new single-engine turboprop program remain closely held. At last month’s NBAA Convention the company offered no more than it had provided before the show—in sharp contrast to GE, which was veritably bubbling with the significance of its ousting Pratt & Whitney Canada from the airplane’s nose with a new 1,350-shp engine (see page 1).

Textron had this to say before the convention: “We intend to outperform the competition with the introduction of this product—from cabin size and acquisition cost to performance capability. By leveraging the newest technologies, we expect this aircraft to have a range of more than 1,500 nautical miles and speeds in excess of 280 knots, while offering best-in-class operating costs. This is an entirely new, clean-sheet design and not a derivative of or variant of any existing product. The company plans to have a single-engine turboprop article in 2016.” What that “article” means (design frozen or mockup or prototype built or prototype flying) was left unspecified.

At a pre-NBAA briefing, Textron Aviation president and CEO Scott Ernest said, “We’re working hard on this already. It’s full speed ahead now.” He added that the company expects to bring a mockup to next year’s EAA AirVenture show in Oshkosh.

Texton has selected not only the GE engine but also the avionics. However, it has not yet revealed the avionics maker. At AirVenture 2012, before Textron acquired Beechcraft last year, Cessna unveiled a concept for a new turboprop single. The “research cabin mockup” was for a design slightly larger than the Piper Meridian.

The concept aircraft design proposal had all-composite construction with retractable landing gear, a wingspan of 42 feet, sidestick controls and seating for seven in a cabin measuring 53 inches tall, 54 inches wide and 17 feet, 8 inches long. Baggage compartment volume was 26 cubic feet.

Target range for that mockup was 1,500 nm and the goal for maximum cruise speed was 280 knots. Cessna also had begun flying a “research vehicle” that essentially was a Citation Mustang very light jet denued of its fanjets; in their stead, a turboprop engine had been installed in the nose.

At about that same time, there was chatter from Beechcraft about a project designated PD434 that allegedly included the filament- wound composite fuselage of a Premier light jet with a nose-mounted turboprop engine. That design was said to be aimed squarely at the Pilatus PC-12 market.

Possible Missions

In the absence of more detail from Textron, here’s AIN’s take on the form the airplane might take.

What will be unveiled next year will likely be sized to fit a market niche between the two dominant pressurized turbine singles: the 330-knot TBM 900 and the 300-knot Pilatus PC-12 NG (see article on page 38). Textron is expected to try to take market share away from both of those popular programs by offering an aircraft that combines attributes of both without biting into sales of its own twin-engine King Air line.

Properly executed, a new single-engine turboprop could also deprive Piper of some market share. That company announced its own M600 turboprop single earlier this year, featuring touchscreen-controlled Garmin GI275 avionics and a more inviting interior for a fly away price of $2.82 million.

The new offering from Textron likely will cost more than that, but less than the $3.8 million a new TBM 900 commands. Expect Textron to go after the G600 or some other permutation of touchscreen avionics and sidesticks, but to eschew composite airframe construction in favor of mostly aluminum and metal skin bonding, reducing development risk and keying on manufacturability in line with its current techniques in Wichita and Independence, Kan.

Some sort of fuselage cargo door and combi cabin layout is also likely to be in the cards, as this will be a lifestyle aircraft aimed mostly at the owner-pilot market.

With new t-prop, GE takes on PT6

Continued from page 1

50,000 engines produced. Mottier said the launch is part of GE Aviation’s strategy to expand its business and general aviation (BGA) portfolio from what consisted of essentially one engine seven years ago (the CF34, good for about $75 million in annual revenue) to at least a handful of turboprops and jets generating about $1 billion by 2020.

In 2008, when Mottier was tasked with establishing GE Aviation in the BGA market, GE had a strong presence in the military and commercial markets but only the CF34 turbofan in BGA.

“BGA is a large market and we were a small player.” To develop “domain expertise,” GE Aviation first acquired Czech-based Walter Engines and its M601, an engine similar to the PT6 that GE Aviation used to confirm the application of technologies from its commercial engines. “We infused those technologies, and the old M601s became the more advanced H Series,” said Mottier.

Building on Existing Competencies

The new line of engines sits between the H Series, which can produce up to 850 shp, and the CT7, designed to power larger regional aircraft and rotorcraft.

“We wanted a new engine that could be different in the 1,300- to 1,650-shp range,” Mottier said. The company took its concepts to airframers, and Textron indicated plans to issue a request for proposal; it was issued about a year ago.

While clean-sheet design, the new turboprop engine is lower risk than other clean-sheet designs because it incorporates technologies proved by GE’s existing engines, said Mottier. “That’s really been our strategy: take proven technology that’s developed and used by our commercial engine business and then selectively apply that technology into small engines in this market.”

The new engine has some traits of the smaller H80, such as the propeller gearbox style. “It’s a reverse-flow engine: the air enters near the back of the engine and flows forward and out through exhaust stacks on the side. In that respect, it’s similar to the H Series,” he said. From the T700/ CT7 turboprop/turboshift, the new engine will inherit cooled turbine blades that permit higher thrust and fuel efficiency. The compressor is derived from that of the T700/CT7, he added. “It has 3-D aerodynamics just like we have on the CT7.” The engine will employ additive manufactur- ing developed originally for the CFM Leap turbofan.

New to this turboprop will be what GE calls “a system than has ever been done before.” The engine’s target market, integrated electronic propulsion control with single-lever engine and propeller control. But that, too, is a benefit derived from collaboration from within GE Aviation. Mottier noted joint research conducted with its Doughty Propellers division. “Because the propeller and engines have never been really controlled as an integrated system, we started a study called Impacta where we developed sophisticated computer models of the propeller as it interacts with the engine, engine inlet, the wing and the fuselage,” he said, noting that the studies were initially funded for GE’s regional turboprop application for the CPX38. “We were able to take what we learned and apply that knowledge and technology to this advanced turboprop with Textron, so the airframe-engine-propeller will be more integrated as a system than has ever been done before.”

The propulsion control will optimize propeller speed, propeller pitch and the engine. Rather than using a propeller control lever and a throttle, he said, “In this application there’s one lever, and the computer handles the propeller and the engine and optimizes that combination.”

The technologies will culminate in an engine series that has a 16:1 overall pressure ratio, which Mottier noted compares with the 9:1 to 10:1 range of competitor offerings. Also, GE Aviation is targeting the general aviation market in a big way with a new line of turboprops in the 850- to 1,650-shp range.

At last month’s NBAA Convention, Textron announced that it has selected not only the GE engine to power its new Textron turboprop, but it also will use GE’s G3000 avionics. AIN’s take on the form the airplane might take.

GE Aviation is targeting the general aviation market in a big way with a new line of turboprops in the 850- to 1,650-shp range.

Aviation expects the engine to burn up to 20 percent less fuel than products that deliver more cruise power than other entries in this market. GE Aviation plans to offer the engine with a mean TBO of between 4,000 and 6,000 hours.

Plans call for detailed design review for the turboprop to be conducted in 2017, leading to the first full engine test in 2018. The engine will be developed, tested and produced at the company’s new turboprop development facility in Europe. GE Aviation expects that facility will represent an investment of more than $400 million and employ between 500 and 1,000 people.

The Textron win is particularly important, Mottier said, because “Textron Aviation is the biggest customer in this market segment.”

To launch a clean-sheet program and make the investment—which he estimated in the $400 million to $500 million range in addition to the cost of the facilities—a certain amount of volume must be guaranteed, he said. “In BGA, there are many airframe manufacturers. The beauty of Textron is that they are the largest user of these types of engine. If you win Textron, you can justify a new program investment.”

The engine can also serve as the springboard for other applications, Mottier said. “Pratt has produced more than 50,000 engines. This is a turboprop engine. It can be used as a turboshift in helicopters, and it can be used for auxiliary power unit generators in airliners.”

Mottier sees the projected revenue of $1 billion by 2020 growing as more engines enter the market and additional support, spares and parts comes into play.

The new engine line, which GE Aviation is referring to as “the advanced turboprop” for now, will join not only the company’s growing turboprop lineup but a wider suite of turbine products that includes the latest iterations of the CF34 (the -3 on the Challenger 605 and the -3B MTO on the Challenger 650), the Passport for the Bombardier Global 7000/8000 and the GE Honda Aero HF120, jointly produced with Honda.
There has never been a shortage of innovators in aviation, champing at the bit to come up with new aircraft. The urge to fly higher, faster and farther lives on. Here are some of the new designs in development—from those still on computer screens to those deep into their flight-test programs.

**Textron Aviation Citation Longitude Citation Hemisphere**

At last month’s NBAA Convention, Textron Aviation provided an update on the Longitude program and unveiled its newest jet, the large-cabin Hemisphere. (For more on the Hemisphere, see article on page 4.)

With the debut of the Hemisphere, Textron Aviation has made some changes to the Longitude. Range is now 3,400 nm, and it will be powered by Honeywell HTF7000-series engines instead of the originally planned Snecma Silvercrest. The Longitude will be equipped with Garmin G5000. With a takeoff field length of 4,900 feet, the Longitude will have a high-speed cruise of 476 kts and full-fuel payload of 1,500 pounds. The Longitude is scheduled to fly in the middle of next year and enter service in the second half of 2017.

**Cirrus Aircraft Vision SF50**

In a recent customer update, Cirrus revealed more details about the soon-to-be-certified Vision jet single. The company hasn’t released final performance specifications because the jet is in final certification flight-testing. Certification and entry into service are expected by year-end.

The current specifications show a 6,040-pound maximum ramp weight and 3,752-pound basic empty weight. When carrying maximum fuel of 2,000 pounds, the Vision will be able to carry 288 pounds of payload. The jet is powered by a Williams International F33A-5A delivering “approximately 1,800 pounds” of thrust, according to Cirrus. Takeoff distance over a 50-foot obstacle is 2,298 feet and landing ground roll 1,245 feet. Neither the climb rate nor the time to climb to the maximum altitude of FL280 has been announced. Stall speed with flaps is given as “mid 60s” and maximum cruise speed is 300 kts.

Photos included in the customer update show a clean and uncluttered cockpit. The Gar- min-based Cirrus Perspective Touch avionics suite is the first application for Garmin’s new GTC 580 touchscreen controller. The Cirrus has three of these controllers, mounted in landscape orientation under the instrument panel. The GTC 580 is not only the primary interface for the avionics, but also doubles as a standby display.

The Garmin displays are devoid of all the buttons found on a G1000 system, which makes the cockpit look even cleaner. A series of electrical switches is mounted under the PFD, and these include dual button and generator switches. The cockpit design is all part of Cirrus’s efforts to simplify the process of transitioning from its SR piston singles to the Vision jet.

**Bombardier Challenger 650**

Bombardier Business Aircraft’s large-cabin Challenger 650 received Transport Canada certification early last month. Customer deliveries are expected to start by year-end, about six months later than originally planned when the latest version of the 606-series Challenger was launched at the NBAA Convention last year. The aircraft made its North American debut at NBAA 2015 in Las Vegas, following its world debut at EBACE in May.

In the front end, the 93,250-pound Challenger 650 features the Bombardier Vision flight deck, based on the Rockwell Collins Pro Line 21 Advanced avionics system, with 15-inch displays. It also has head-up guidance, synthetic vision, enhanced vision, MultiScan weather radar and an Integrated Flight Information System. The 650’s passenger cabin has wider seats, a galley with a convection oven, more storage in and around the seats and audio/video on demand.

The new jet’s 9,220-pound thrust CF34-3BMT0 engines have five percent more takeoff thrust than those on the Challenger 605. The additional thrust is pilot selectable via a new performance thrust setting.
Aviation Partners (API), long known for its fuel-saving winglets, announced last month at the NBAA Convention that it has launched a joint venture with FlexSys to market a proprietary wing-morphing technology known as FlexFoil, which offers the potential to improve fuel economy further.

Since its formation in 2000, Ann Arbor, Mich.-based FlexSys has been working on variable-geometry control-surface mechanisms, which have been validated in NASA tests on a Gulfstream III, on which the flaps were replaced with seamless continuous surface units that can morph from -9 degrees to 40 degrees. The lightweight technology capitalizes on the inherent elasticity of materials by distributing over a wide area the stresses encountered in shape changing, allowing not only a change in camber but also enabling the surface to twist spanwise rapidly, according to FlexSys founder and CEO Sridhar Kota.

"It is not only flexible but...strong enough to withstand air-loads and to last a lifetime of cycles," he told reporters in Las Vegas.

The resulting continuous surfaces could mean a revolution in aircraft control design. "Replacing conventional multi-jointed flaps and other control surfaces with smooth, seamless surfaces has been an elusive goal for the aerospace industry for decades," said Kota. "After 15 years of R&D and successful flight-testing, the FlexFoil variable-geometry control surface mechanism ushers in a new frontier in aircraft design."

Noise Reduction

In addition to fuel savings from reduced drag, the new technology could also make aircraft quieter by closing the gaps in wing control surfaces. "According to NASA, about 40 percent of airframe noise comes from those sections," said Kota. The surfaces could eventually be used for mission-adaptive profiling, where operators can adapt the shape of control surfaces to suit the phase of flight.

Aviation Partners sees potential for applying the technology to active winglets, which could change their dynamic loading. "By morphing the winglet we can get the same effect as toeing it in or changing the camber," said API chairman and CEO Joe Clark.

Another area of opportunity for Aviation Partners FlexSys could come from the replacement of some boot and bleed-air de-icing systems. API COO Hank Thompson-expects a product using FlexFoil technology to be certified and flying within the next 18 to 24 months.
Honeywell Aerospace is now offering a phased upgrade program for customers with its analog C Series (CS) cabin management system to convert to a digital cabin system. Dubbed Ovation Select CS, the upgrade path applies to the more than 1,600 operators with C Series-equipped aircraft and integrates new, digital Ovation Select components in a “planned, scheduled and phased implementation.”

The revamp can be installed incrementally in three phases and includes various cabin upgrades at an affordable cost, said William Rowell, Honeywell senior manager for business and general aviation cabin systems technical sales. It also allows those with C Series systems to mitigate obsolescence issues associated with the failure-prone MHT galley touchscreen user interface.

The first phase of the upgrade replaces this MHT with an 8.9-inch Ovation Select Touchscreen (OST) and updates two C Series analog control boxes with Ovation Select’s digital backbone—the digital utility interface (DUI) and cabin interface unit (CIU). The DUI facilitates user control functions while the cabin interface unit forms “the heart of the system,” said Rowell, since it is an Ethernet switch that acts as the audio/video distribution and command and control box, interconnecting all of the cabin equipment across the digital network.

Fly-away-cost of the Phase 1 implementation ranges from $150,000 to $250,000, depending on engineering and labor, Honeywell said. The upgrade also lets users control audio/video and lighting with Apple iOS and Android devices running Ovation Select cabin control apps.

Phase 2 of the upgrade is more extensive, replacing analog cabin video and audio systems with HD 1080p monitors, Blu-ray disc players and Surround Sound systems, in addition to Ethernet-based cabling and digital audio/video ports. It also updates the moving map display to JetMap HD, which has a database with 15-meter satellite imagery and provides much more terrain detail than the C Series’ older JetMap I/II with 50-meter images. Because this phase is customized to both the airplane and customer, Honeywell is unable to quote a fits-all price.

The third step completes the transformation to the full Ovation Select system, adding the PCU100 and/or PCU200 at-seat touchscreen passenger control units. Again, price depends on the airplane and seating configuration.

According to Honeywell, the conversion from C Series to Ovation Select also reduces weight and wiring. A Global Express that upgraded to the newer digital cabin system shed 100 pounds, Rowell told AIN.

The full Ovation Select system lets business jet passengers control in-flight entertainment, connectivity and cabin environmental conditions such as lighting, seats, temperature, galley and window shades via the at-seat touchscreen interface or from a mobile electronic device. (See box below.)

Ovation Select is “4K/Ultra HD ready,” though Rowell said that the electronics industry has yet to coalesce around a media content standard for this next-generation video format, which provides four times the resolution of 1080p.

“Right now they’re going through what amounts to the VHS-Betamax fight again,” he noted. “Because of this, we don’t expect 4K to be ready for the aerospace market until sometime in 2017.”

More than 100 Ovation Select systems are now in service, and this number is expected to increase rapidly over the coming years since the cabin manager is standard equipment aboard the new Embraer Legacy 450 and 500. The all-digital cabin system can also be retrofitted to any business aircraft, Honeywell said.
Information consolidation drives Rockwell Collins change

by Kerry Lynch

Rockwell Collins is rolling out several new products, such as its Stage content service, as the company focuses on becoming a “one-stop” source of information for aircraft owners and operators. The new products, which include flight tracking for non-ADS-B-equipped aircraft, expanded offerings for its Corporate Aircraft Service Program (CASP) and new weather alert tools for flight planning, come as the company continues to adopt a more holistic approach to information, said Craig Olson, vice president and general manager for business and regional systems.

The company has honed its focus on providing information on the airplane, downloading information from the airplane and enabling use of that information in the “back office,” Olson said. “These efforts have been evident in the company’s recent acquisitions, including of Arinc and ICG. The Arinc deal, completed in late 2013, was the largest acquisition in the company’s history, expanding its role in flight planning, trip support, information in the flight deck and other cabin services. ICG, acquired in August, builds on the company’s connectivity efforts. In the cockpit, Olson said the company is “heavily involved in information-rich” systems, whether through weather radar, touchscreens or situational awareness systems. “Our dedication is to providing pilots with as much information as possible,” he said, adding the company is entrenched in forward-looking systems, enhanced vision, synthetic vision.

Rockwell Collins has been researching technologies that would bring a VFR display environment in IFR conditions. While the company has spent considerable time on a synthetic vision overlay of enhanced vision, it is researching an approach that relies on all sensor inputs to produce a single vision that provides a VFR depiction. Olson believes such an approach could produce results within a couple of years. The question remains whether regulators will permit lower landing minimums with the use of such technologies, but Olson believes business aviation operators would be interested in having access to technologies that improve their situational awareness regardless of the “credit” provided by regulators. The FAA, he added, is interested in such research.

Also with an eye toward developing services on board the aircraft, Rockwell Collins rolled out “Stage” at the NBAA Convention in Las Vegas last month. Stage is a new cloud-based content service that enables operators to pre-load entertainment and information onto an onboard server. The server, which will hold up to two terabytes of information, will allow up to 70 passengers to stream movies or other information from their individual devices through the use of a Stage app. The information can be loaded either physically or wirelessly. The service is expected to be available by the middle of next year.

“Stage makes prepping an aircraft’s cabin environment for a trip much easier—especially when last-minute changes are necessary—to give passengers access to exactly the entertainment and information they want,” said Greg Irmen, vice president and general manager of information systems for Rockwell Collins.

**Flight-tracking Business**

Rockwell Collins also is expanding its flight-tracking options for the aircraft operator and on the ground. The company is working with FlightAware to provide real-time tracking for operators of aircraft not equipped with ADS-B. The service uses FlightAware’s mode-S multilateration (MLAT) technologies, which rely on a network of ground station receivers to locate business aircraft not equipped with ADS-B. 

Tom Poltrotk, vice president of business aviation for Rockwell Collins, noted that more than 80 percent of business aircraft are not ADS-B equipped and many of those aircraft fly in Europe and abroad, making the service especially beneficial for international travel.

Along with flight tracking, ArinDirect has agreed to resell FlightAware TV, a map-based fleet and airport flight tracking display that can run on any HD TV for monitoring on the ground.

Rockwell Collins has partnered with Schneider Electric to provide ArinDirect customers with real-time, flight-route-specific weather alerts both before departure and en route. Through the Flight Route Alerting function, ArinDirect can calculate precise flight plans up to 36 hours in advance and continuously monitor potential routes for weather issues. These efforts continue to gain traction in the marketplace. Polsotok said that for its cabin services offerings is “growing fast.” He pointed to the company’s recent deal with VistaJet to become its launch customer for Jet Connex, the Immarsat Ka-band service that Rockwell Collins is re-selling.

**Information for the Back Office**

For the “back office,” Rockwell Collins is expanding the Corporate Aircraft Service Program (CASP) to reach both operators seeking a scaled-down program and those that prefer a more encompassing program. Rockwell Collins has developed a CASP Elite program that includes more maintenance services, FMS updates and discounts on international trip support. The company also is offering a CASP Essential program, aimed at entry-level jet or turboprop operators and requires fewer minimum flight hours per aircraft. CASP, which works with the company’s rental and exchange service, is designed to boost aircraft availability and provide 24/7 AOG support with avionics removal and retrofit coverage, RVSM recertification and reliability upgrades.

“CASP is really focused on those operators who want to have some assurance that once their products are out of warranty they have access to a program that can help them service their products when they have an issue,” Olson said.

He noted the company has identified two categories of operator who need differing services. At the upper end, operators want a more comprehensive service. “We offer a plan, another plan focused on those customers that have a higher and broader expectation of the [available] products.”

CASP Elite is offered with one- or three-year contracts and a minimum flight-hour requirement of 200 or 250 hours per year. The program provides unlimited exchanges; rentals and repairs; shipment of parts within four hours of order; labor; troubleshooting time; unlimited no-fault-found failures; U.S. overnight and international shipping; FMS navigation database updates; $5,000 product upgrade and 10-percent service bulletin discount; and $2,500 annual discount on ArinDirect international trip support.

At the lower end of the market are many operators that either don’t have the budget for that service or do not fly as many hours. Olson said, CASP Essential, offered with a minimum 100-hour purchase and a one- or three-year plan, provides for up to five exchanges, rentals and repairs per year, parts shipped within 24 hours, and overnight shipping.

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**GARMIN AOA EASY TO INSTALL, PRICED REASONABLY**

The FAA has made it much easier for aircraft owners to install angle-of-attack (AOA) indicating systems in light aircraft, and avionics manufacturers have responded with relatively low-cost products that could help prevent loss-of-control accidents. AIN recently flew in Garmin’s AOA-equipped Bonanza A36 to see how the company’s AOA system works.

AOA systems measure the acute angle between the chord line of the wing and the relative wind then display the airplane’s AOA condition on a cockpit instrument or on the primary flight display.

Starting at $1,499, Garmin’s AOA system consists of three components: the GI 260 AOA indicator, GAP 26 probe and GSU 25 air-data computer.

On the Garmin A36, the GI 260 is installed on the left side of the compass on top of the glasherd, so it could easily be seen by the pilot in the left seat, although it was not oriented toward the right-seat-er’s view. The A36 is equipped with Garmin’s G1000 avionics suite, but Garmin doesn’t offer an AOA indicator with the G1000 with this AOA package. For the experimental amateur-built market, Garmin does offer the option of displaying AOA on its G3X avionics primary flight display.

What makes the Garmin AOA easy to install is the GAP 26 probe, which is fitted to an inspection plate positioned under the Bonanza’s right wing. The GSU 25 is hooked up to the probe and to static pressure ports, so a single instrument can be mounted in the airplane and matching the approach AOA indication to the typical 1.3 Vso approach speed. “Once the AOA angles have been calibrated, they will be accurate in the calibrated flaps configuration, at any gross weight or attitude, every time,” according to the Garmin AOA system owner’s manual.

The system automatically indicates AOA after the airplane reaches at least 50 knots. The pilot can view the symbols on the GI 260 indicator, which also provides aural warnings through the audio system.

In normal flight there is usually no indication showing on the GI 260. As we slowed the Bonanza, green bar annunciators appeared on the bottom of the instrument. At 1.3 Vso, the instrument shows the approach AOA reference dot flanked by two green bars. From here, the next bar is yellow, then it transitions to yellow then red chevrons. The aural warnings start as slow beep-beeps with the first yellow chevron. These warnings gain speed as the red chevrons illuminate.

Just before the airplane stalled, the entire indicator lit up while it beeped rapidly.

The proper way to handle this situation is to lower the nose, which matches the stall downward angle to the red and yellow chevrons, and doing so quickly returned the AOA indicator to the safe green bars and AOA reference dot.

The Garmin AOA system is uncomplicated and priced to encourage aircraft owners to install the device and realize the benefits of AOA indicators. And as more aircraft are equipped with AOA indicators, flight instructors will spend more time not teaching the art of flying but also teaching the importance of AOA and how relying on airspeed can leave little margin for error.

—M.T.
Avionics

Sandel Avionics enters King Air retrofit market

by Matt Thurber

Sandel Avionics is joining the ranks of integrated avionics suite manufacturers with the introduction of a retrofit flight deck for Beechcraft King Air 200s. The new Sandel Avilion flight deck carries the same airframe price tag of $175,000 installed and paves the way for a new way of flying: clearly depicted path-based guidance in both the vertical and lateral axes.

“We started work on this many years ago,” said Sandel president and CEO Gerry Block. Some litigation issues kept the project on the back burner for a while, but that might have been a blessing in disguise, because technology has advanced to the point that Sandel was able to skip older-generation avionics technology and develop a third-generation system “architected for NextGen,” he explained, taking full advantage of performance-based navigation that is inherent in NextGen. “We spent a lot of time understanding safety implications,” he added. “We’ve made advances that will have an impact on safety.”

Avilion combines touch-screens with a minimal number of knobs and switches. Visual displays clearly depict the state of the airplane on “tiles” that add up to a richly informative “cockpit display” in front of each pilot. Each main primary is split into four of these tiles, essentially mini-displays adding up to a larger 12-inch display.

The top left tile looks much like a primary flight display (PFD) with 3-D synthetic vision, but with no altimeter tape on the tile’s right side, just a VSI. Underneath is a 2-D HSI overlaying a terrain depiction. To the right of the PFD tile is a vertical path tile showing a terrain profile on the bottom and vertical path information on top, with the altimeter tape on that tile’s left side. A magenta line starts at the current altitude and draws to the right to show the target altitude, in a uniquely intuitive fashion, also matching the profile view on the bottom.

The tile on the bottom right is for setting radios and is touch-activated. A line on top of the radio tile, next to information identifying which radio is active and which facility is tuned, shows the airplane’s N-number. It’s hard to imagine that avionics developers haven’t thought of this before. It’s a simple concept and one that pilots who fly multiple airplanes will instantly appreciate.

Path Guidance for Tactical Information

The center of the panel is dominated by two portrait-oriented 8.4-inch engine instrument and systems displays. This can also be the location for crew alerting information or even a large moving-map display.

At the top center of the panel sits the Path Guidance panel, consisting of two high-resolution mini-displays each about the size of a smartphone, one for lateral path and one for vertical path information. On each side are flight director and autopilot switches, and above those is a clearly labeled “undo” button.

Enhancements planned for Epic flight decks

Aircraft with modern Honeywell flight decks will soon be eligible for some upgrades that promise to make flying safer, including a new DynaCharts feature that aims to remove charts from cockpit displays. The company is also developing enhanced hazard detection for its IntuVue weather radar and Teas coupled to the autopilot for automated resolution of potential collision courses.

The DynaCharts and Teas enhancements will be available later next year or in 2017 as software upgrades to business jets equipped with Honeywell Primus Epic avionics, including the Gulfstream G450 and later models, Falcons with EASy cockpits and other aircraft fitted with Apex suites.

Availability of the new lateral enhancements is for aircraft fitted with Honeywell’s RDR-4000 3-D weather radar system. The upgrades’ availability depends on when the airframe manufacturer makes them available to customers, according to Tom Lawler, Honeywell product line director for Primus Epic.

The development of these features is a reflection of the software-based nature of modern avionics. With capable processors and high-resolution displays already in cockpits, adding new features is often just a matter of a software upgrade.

DynaCharts uses information from charts to populate cockpit displays, instead of just placing the chart itself onto the display. “Lateral information from the chart goes on the lateral display,” he said, and [vertical] information goes on the vertical situation display of the MFD. You’ll see the charted altitude limits on the vertical situation display.” Instead of the pilot having to look at a chart then mentally cross-reference that information with what is showing on the displays, he added, “It gives the most relevant information to one display, and the pilot is no longer cross-referencing.” The information also responds precisely as range is zoomed in or out.

Coupling Teas to the autopilot is new for business aviation. “The intent is simple,” Lawler said. “Just do what the pilot would be trained to do, only allow the automation to assist, to help the pilot with the flying task, not add more work.”

The autopilot can react much more quickly than the pilot in cases where there is a Teas conflict. And sometimes pilots hesitate when Teas sends a message to the flight director instructing the pilot to climb, descend and so on. “What we’ve seen in studies,” he explained, “is that any hesitation from the pilot to do the maneuver manually often leads to a more aggressive command. So sometimes they hesitate and wonder, ‘Is this a false alarm?’ and then hit it hard. Sometimes they go in the wrong direction for some reason. There’s data that says that’s the case more frequently than we’d like to think.”

The Teas coupling allows the autopilot to perform the evasive maneuver quickly and smoothly. “It should be such that passangers in their seats won’t be bounced around,” he said.

Honeywell is working with OEMs on what happens next, whether the airplane returns to its previous state, and how the pilot is made aware of exactly what transpired.

Honeywell has been flight-testing this feature, Lawler said, “and it’s available to be certified when the OEMs can work it into their certification programs.” Some OEMs have committed to adding Teas coupling in upcoming new aircraft programs, he said.

Sandel engineers spent years discussing and designing Avilion’s path-based system. Pilots can get confused with avionics that don’t tell them what is happening. Block explained, or when the airplane does a maneuver that doesn’t seem to match what the automation is doing. “It’s a real safety issue. We wanted to do something about it. The Path Guidance panel is developed so the pilot can understand what the airplane is doing.”

Block further explained that flight path has vertical and lateral components, but while the lateral path is easily displayed by existing avionics, “vertical path is in their head. There’s no decent display of vertical path in the airplanes they’re used to flying.” With Avilion, he said, “The vertical display on the main primary shows the vertical path, and it even has flight information, and the pilot can follow the vertical path in a better way than centering a needle or following a flight director. It’s a time-based display, and it shows what the system is going to do in the next few minutes, so the pilot always has a greater picture.”

Avilion includes a high-performance flight director/autopilot and flight management computer. NextGen features include performance-based navigation capability as accurate as RNP 0.3 and ADS-B-compliant transponder.

For the King Air flight deck upgrade, Avilion comes as a single preassembled unit that plugs into the airplane’s existing electrical connectors. The King Air’s crew-alerting system panel stays in place. Everything else is replaced. The radar and radar altimeter are retained. Weight savings should be between 100 and 150 pounds.

The first STC for the King Air 200 series is scheduled for approval in June next year. Sandel will eventually offer Avilion for all King Air models and the Beech 1900.

The IntuVue enhancements include new symbology for hail and lightning detection and sensing of severe turbulence extended 20 nm farther out, to 60 from the existing 40 nm for RDR-4000 radars. The hail is shown by a symbol that looks like a push pin, Lawler said, “with some colorization around it to show airspace that might have hail.”

—M.T.
Crashed AW609 was high-speed testing

by Mark Huber

AgustaWestland reaffirmed its commitment to the AW609 civil tiltrotor program in the wake of the October 30 fatal crash of Prototype #2 in Italy outside Santhia in Vercelli province that killed company test pilots Pietro Venanzi and Herb Moran. The company also revealed that the aircraft was scheduled to perform high-speed testing at the time of the crash.

The company told AIN, “We can confirm that during the standard tests before flight, completed shortly ahead of takeoff and performed in full compliance with the inspection plan authorized by the relevant aviation and certification authorities (ENAC and FAA), the aircraft proved fully serviceable. The flight plan included tests at high speed to demonstrate certain capabilities as agreed with the certification authority (FAA) and which had already been successfully performed in previous flights also on aircraft numbered #1 and #3. No flight-test is approved by the Italian flight regulations for testing prototypes and production aircraft.”

The crashed aircraft had accumulated 367 flight hours since its first flight in November 2006 and was scheduled to begin high-speed testing at the end of next year. The first prototype first flew in 2003. Two more test aircraft are under construction and the bulk of the flight-test work is being moved to AgustaWestland’s Philadelphia campus. Before the accident, AgustaWestland had hoped to have the AW609 certified by late 2017 and begin customer deliveries in 2018. The company has not released a revised program schedule.

In a statement released November 8, AgustaWestland parent company Finmeccanica reaffirmed its support of the AW609 program and minimized the potential for any program delay. “Finmeccanica-AgustaWestland is fully committed to mitigating any delay this tragic accident, and the subsequent investigation, might have on the program itself,” said the company.

The investigation into the accident could prove lengthy and complex. Various bodies will be party to the investigation: the Italian National Agency for the Safety of Flight (ANSV), the FAA and the NTSB (the aircraft was registered in the U.S. and operating under U.S. flight rules), the Prosecutor’s Office of Vercelli (Italy), the Italian Civil Aviation Authority (ENAC) and the European Aviation Safety Agency (EASA).

Venanzi had been a test pilot with AgustaWestland since 1999 after a career as a test pilot flying both fixed- and rotary-wing aircraft with the Italian Air Force. He was one of three AgustaWestland test pilots awarded the Society of Experimental Test Pilots Iven C. Kinchloe award last year for his work in conducting autorotations on the AW609.

Moran joined AgustaWestland after working at Bell Helicopter on the BA609, as the AW609 program was called before AW took full ownership from Bell. He also worked on the military UH-1Y and AH-1Z programs and had been a pilot in the U.S. Marine Corps.

Latotype Prototype 2 had been used to test new installations, such as validation of a new pitot-static system, and had been making marketing flights for the company throughout Europe. Prototype 2 had also set an October speed record in 2018.

L.A. Noise Inveighers Enlist FAA

The Los Angeles Area Helicopter Noise Coalition recently announced that it is walking away from voluntary negotiations with industry designed to reduce helicopter noise in the L.A. Basin and will petition the FAA to establish mandatory routes and altitudes as a method to control rotorcraft noise. The coalition is advocating sweeping regulation that includes minimum altitudes, a prohibition on hovering by electronic news gathering helicopters, mandated pooling for newscopters, and mandatory offshore routes for helicopters flying along the coastline.

Honeywell To Drive Marenco SKYEye

Honeywell Aerospace has signed a contract to supply the HTS900 turboshaft to Marenco Swisshelicopter for the SH09 SKYEye single. It is the first production aircraft agreement for the HTS900. Honeywell has already delivered three of the engines to support the prototype flight-test program.

Airbus To Build H135s in China

Airbus Helicopters and Sino-German Ecopark, a firm located in Qingdao, in the Shandong province of China, have signed a letter of intent to build an H135 final assembly line. Sino-German Ecopark has committed to build at least 100 of the light twins over the next 10 years. The H135s produced in China will be distributed domestically.

Erickson’s Bucketful of Contracts

Erickson, best known for its Air Cranes, recently announced $46 million in contracts, extensions, renewals and other services for work with the U.S. Department of Defense, international governments and global organizations. Erickson’s Commercial Services secured $7.5 million in work for oil and gas, firefighting, timber harvesting, and powerline and HVAC construction projects. The company’s manufacturing and MRO operations secured $5.9 million in aircraft refurbishment and component overhaul work for a variety of aircraft and new partners.

Russian Flies Mi-171A2 Prototype

Russian Helicopters started flight-testing a second prototype of the Mi-171A2 medium twin at the Mil Moscow Helicopter Plant last month. The first prototype began flying more than a year ago. Among the improvements in the latest variant of the Mi-8/M-17 series are changes to the main rotor system, where upgrades to the swashplate and bushing have reduced weight by 1,500 pounds and raised final power output. Mow for Category A takeoff goes up by 2,200 pounds. The Safir auxiliary power unit enables starting at 20,000 feet. Additional automation reduces the crew requirement to two from three.

New Helicopter Charter in Windy City

The Chicago Helicopter Experience (CHE) air-tour company is launching a charter service, CHE Premier. The 24/7 service will use a diverse fleet that includes Airbus EC130s and EC135s. The helicopters will be based at CHE’s own heliport in Chicago’s South Loop, which operates this past summer. The charter flights are available daily or hourly and include service to all Chicago-area airports and more than 50 local and regional golf courses. —T.D., M.H.
**Rotorcraft**

**Airbus demonstrates diesel-powered H120**

by Thierry Dubois

Airbus Helicopters is flying an H120 powered by a diesel engine in place of its usual Turbomeca Arrius 2F turboshaft. The main benefit of the effort, part of Europe’s Clean Sky joint technology initiative, is expected to be significantly lower fuel consumption.

The 30-minute first flight on November 6 started with a hover and various low-speed maneuvers, before the helicopter transitioned to 60 knots. The engine is a 4.6-liter V8, featuring high-pressure (1,800 bar) common-rail direct injection and one turbocharger per cylinder bank. The cylinders have a 90-degree V. To reduce weight, designers looked to racecar design for inspiration, evident in the construction of the cylinder heads (aluminum) and connecting rods (titanium). The high-compression engine, as Airbus Helicopters prefers to call it, runs on kerosene/jet-A.

The Fadec’s performance has been particularly satisfactory, according to Tomasz Krysinski, Airbus Helicopters’ head of research and innovation. When the pilot increases the collective pitch, the Fadec injects more fuel into the combuster for more power. “As a result, the rotor’s speed changes by a maximum of three rpm, less than one percent of the nominal 406 rpm,” Krysinski told AIN.

**Lower Fuel Consumption**

Fuel burn has already proved to be much lower than with the Arrius 2F’s 143 pph versus 220 pph in hot temperature. In the mountains, this can be felt from around 3,500 feet, according to project manager Alexandre Gierczynski.

The engine produces 442 hp compared with the Arrius 2F’s 504 shp. However, “we use the same power for takeoff and the high-compression piston engine will be better in hot-and-high conditions,” Gierczynski said.

Other objectives include a 30-percent improvement in direct operating cost and a 2,000-hour TBO. Asked about emissions other than CO2, Krysinski said there is no standard for comparing turboshafts and piston engines. “Burning less fuel cuts pollutants emissions,” Krysinski noted. There is no plan on the diesel engine for a NOx-reduction device or a particulate filter, like those now mandatory on cars.

One reason is weight: after further development, the flight-tested piston engine will tip the scales at 350 pounds—twice the weight of a turboshaft of equivalent power. In addition to Airbus Helicopters, the project involves Teos Powertrain Engineering and Austro Engine. The former company, which has experience in car racing, designed and manufactured the prototype engine. The latter firm, a specialist in diesel engines for fixed-wing aircraft, has been in charge of the Fadec, the fuel system and obtaining a permit to fly.

Iron-bird tests started in February 2014 and the first ground runs took place one year later. The project dates back to 2009, when a first attempt failed for lack of funding. The companies aim to bring the engine to technology readiness level six, suitable for program launch.

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**AIR METHODS BUYING TRI-STATE**

Air Methods announced its intention on November 5 to acquire air medical provider Tri-State Care Flight for $222.5 million. Tri-State was founded in 2002 and operates a mixed fleet of 27 aircraft. Among those are 19 EMS helicopters (AW119s, AW139s and AS350s) and airplanes (King Air B200s) flown from bases in Arizona, Colorado, Nevada and New Mexico.

Tri-State employs 350 people and generated net revenue of $81.5 million last year. Upon the deal’s closing, Tri-State will become a wholly owned subsidiary of Air Methods. Air Methods expects to finance the acquisition through its credit facility, which was amended in August 2014 to provide an additional $400 million in borrowing capacity. The acquisition, subject to customary closing and regulatory conditions, is expected to close in 30 to 60 days.

The acquisition comes just weeks after Air Methods acquired San Antonio AirLife in a transaction that included two owned and one leased Bell 430. In a conference call with analysts following announcement of the acquisition, Aaron Todd, CEO of Air Methods, said discussions to acquire Tri-State had been under way for approximately six months. The acquisition “enhances our significant presence in the southwestern United States and further demonstrates our ability to use our strong capital position to create substantial value for shareholders,” he said. Todd defended the purchase price, saying, “The multiple we are paying for this business is on par for what other businesses have been bought and sold for in recent years in the air medical sector.”

Todd did not expect any difficulty integrating Tri-State’s predominantly AgustaWestland fleet into Air Methods, and noted, “We are familiar with the aircraft. The [Tri-State] fleet is slightly older than Air Methods’, but it is still a fairly young fleet. Air Methods’ average fleet age is around ten years and Tri-State’s is in the 12- to 13-year range.”

The Tri-State acquisition should not be interpreted as phasing in a turbine fleet, Todd said. “That was true in August and it is still true today. It is a fruitful time right now and there are lots of opportunities yet to come.”

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**Fuel starvation blamed in Glasgow EC135 crash**

The crew of the Airbus Helicopters EC135T2+ that crashed into a bar and killed 10 people in Glasgow in November 2013 failed to react to low fuel warnings, according to the final report issued by the UK’s AAIB. Two critical fuel pumps were inexplicably switched off, causing each engine’s supply tank to be depleted and two warning messages to illuminate.

The pilot acknowledged them but kept flying as if nothing had happened, according to the final report. Bond Air Services was operating the light twin for Police Scotland.

More than 160 pounds of usable fuel (the equivalent of 22 minutes of endurance, AIN estimates) in the main tank became unusable as a result of the fuel transfer pumps being switched off. Each engine has its own supply tank. The two pumps that transfer fuel from the main tank to the two supply tanks were deactivated during the flight, for an undetermined reason. These transfer pumps can be switched off in flight to avoid prolonged dry running (see box), which can happen in certain conditions. In flight, as the depth of the fuel in the main tank reduces and the pitch attitude of the helicopter changes, one or other of the transfer pump inlets can become uncovered, causing the associated pump to run dry.

In this instance, the AAIB could not find any circumstance during the flight that could have prompted the run dry caution message. A police task performed before the accident called for orbiting at between 30 and 50 knots. The investigators studied whether the forward fuel transfer pump in the main tank could have run dry for more than three minutes. This would have triggered a caution and prompted the pilot to switch off the forward transfer pump, in accordance with the procedures. However, flight trials and modeling of the fuel levels suggested it was unlikely the forward pump would have been exposed long enough to illuminate this caution message.

The fact that the aircraft flew for so long indicated that the fuel transfer pumps had been on during much of the flight and that the crew had not checked fuel levels.

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**Fuels System Improvement Ahead**

Next year, Airbus will introduce changes to the fuel transfer pump management logic. They will be switched on for takeoff and switched off only after landing. The run dry indication will be omitted in the future avionics logic as a result of the improved capability of more modern pumps. The change applies to the H145 and will be included in the next update to the H135, for which Airbus expects to receive certification next year.

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they were then switched off. Could the pilot have confused the transfer pump switches with other, neighboring switches? Some evidence hints at such a mistake, the report suggests.

Each engine has a prime pump, which feeds the engine fuel from the supply tank during starting. Prime pumps are normally off during flight, but both the No. 1 and No. 2 prime pump switches were found in the on position. (Some uncertainty remains, however, as photographs taken by the first responders show at least one of the prime pump switches in the off position.)

The transfer pump switches are near the prime pump switches. “So unintentional selection of the inappropriate switches was possible,” the report states. The procedure after a low-fuel warning calls for checking that the transfer pumps are on. Both the transfer and prime switches were unguarded.

**Warnings Ignored**

Two low-fuel warnings (one per supply tank) did illuminate. When the audio attention-getters (“gong”) sounded, the pilot acknowledged them by pressing a reset switch on the cyclic control. He did so five times. Without proper flight recorders, the investigators cannot understand why the crew undertook a police task in the latter part of the flight, with such warnings active for eight minutes. The report says investigators calculated that, for unknown reasons, the helicopter did not land within the 10-minute period specified in the Pilot’s Checklist Emergency and Malfunction Procedures after continuous activation of the low fuel warnings.

Fuel starvation caused both engines to flame out over a period of 32 seconds. The helicopter was at an altitude of between 700 feet and 500 feet. Investigators found evidence that the pilot attempted to perform an autorotation, trying to maintain rotor rpm and later carrying out a flare maneuver. But the helicopter descended at a high rate and with no forward speed onto the roof of the Clutha Vaults Bar. A factor in the unsuccessful autorotation was the failure of the radio altimeter and landing light at between 650 feet and 500 feet (shut down by the avionics’ electric power control logic), which deprived the pilot of accurate height information.

On impact, the building’s roof collapsed. All three people in the helicopter and seven more in the bar lost their lives. Eleven others in the bar were seriously injured.
Air Transport

NEWS UPDATE

Comac’s C919 Rolls Out

After seven years of development marked by extensive delays, China’s new C919 airliner is ready to start ground testing of its avionics, flight controls and hydraulics. Developed by state-run Commercial Aircraft of China (Comac), the narrowbody rolled off the assembly line in the manufacturer’s Shanghai factory before a crowd of some 4,000 government officials and representatives of foreign program partners on November 2. The new twinjet promises a range of just over 3,000 nm and capacity for between 158 and 174 passengers.

At the rollout, Comac chairman Jin Zhunaglong said that schedules call for the aircraft to fly next year, but he declined to offer more specifics. Foreign program partners have told AIN that their contracts prevent them from commenting on the shifting timeline for the program.

Despite the uncertainties, Comac said it has amassed orders and commitments for 517 C919s from seven Chinese airlines, two foreign carriers and 12 leasing firms.

CSeries Certification Imminent

Bombardier announced last month that it has completed the flight-testing needed for certification of the CSeries CS100. Function and reliability (F&R) testing on the first production-configured aircraft began on November 7. CSeries FTV5, displayed at the Dubai Airshow in the colors of launch customer Swiss, had finished all its flight-testing in time for the show, allowing it to start demonstration flights for prospective customers.

Separately, the company confirmed that Riga, Latvia-based Air Baltic has agreed to become the first operator of the larger CS300, planning to launch service in next year’s second half. Air Baltic holds a firm order for 13 CS300s and retains options on another seven.

CS100 F&R flights began with a four-leg mission beginning and ending in Mirabel, Quebec, and including stops in Moncton, New Brunswick; Halifax, Nova Scotia; and St. John’s, Newfoundland. F&R flights will take the CS100 to some 15 city pairs in Canada and 20 in the U.S., then to Europe for more testing.

Iran Studying Indigenous 70-Seat Jet

Iran is studying the feasibility of producing a regional jet using technologies, and even airframe parts, acquired and mastered during the Iran-140 program using national resources and in-house capabilities. The study began in 2013, shortly after the establishment of the Iranian Aviation Technology and Knowledge-based Industries Development Headquarters (IATDH).

Nominal seating capacity would range from 68 to 72 passengers, achieved with the insertion of plugs into the Antonov An-140’s fuselage. An IATDH representative said the concept accounts for only one of the options under study. Iran may choose to give up on the An-140 stretch “in the case Russia or other manufacturing nation offers a better solution,” he said. At the same time, Iran wants to develop in-house capabilities rather than build airplanes under license, he noted.

In fact, another design under study centers on a “turbine engine” airplane that would carry 12 to 19 seats and feature high wings and fixed tricycle landing gear.

Mitsubishi Regional Jet takes to sky for first time

The Mitsubishi Regional Jet (MRJ) made its long-awaited first flight on November 11, taking off from the Japanese manufacturer’s Nagoya Airport base. According to a statement from Mitsubishi Aircraft and parent company Mitsubishi Heavy Industries, the new single-aisle jetliner safely conducted a 90-minute flight off Japan’s Pacific Coast during which it “confirmed its basic characteristics and functionality in ascent, descent and turning.”

Mitsubishi Aircraft president Hiromichi Morimoto commented, “The MRJ successfully took to the sky today thanks to ongoing cooperation and support from all members involved. We will make our utmost efforts toward type certification acquisition, committing all our resources to develop and produce the finest regional jet aircraft to enter commercial service in 2017.”

According to Yoshiyuki Yasumura, who commanded the flight, “Operational performance of the MRJ was far better than expected.”

Embraer E2 takes shape as first GTFs arrive

Brazil’s Embraer expected to receive the first pair of Pratt & Whitney PW1900G turbofans for the new E190-E2 by the end of last month, as the company nears full assembly of the first prototype, scheduled for completion by year-end. Speaking to reporters at last month’s Dubai Airshow, Embraer Commercial Airlines CEO Paulo Cesar de Souza e Silva noted that the program remains “on track” for first flight in the second half of next year, possibly as early as July.

Now operating its “iron bird” in São José dos Campos, Brazil, Embraer plans to use four flight-test airplanes in the program, three of which it expects to fly next year and the fourth—equipped with a full interior—in early 2017. Embraer plans to deliver the first E190-E2 in the first half of 2018.

Addressing the Dubai Airshow audience, Silva emphasized the importance of Middle East operations by the current line of E-Jets to “learnings” incorporated into the new line. Nine operators in the Middle East operate 58 E-Jets.

“Markets like here, the Middle East market, with a hot and harsh environment, are very demanding, especially for aircraft such as ours with a lot of cycles,” noted Silva. “It’s not like a larger aircraft that flies longer and fewer cycles…So we have taken into account our experience here to improve the product.”

Now building some 100 E-Jets a year, Embraer plans a two-year transition between production of the E1s and E2s, building E1s until at least 2020, said Silva. Production rates will accelerate slightly over the next two years, he added, and the company plans to maintain rates through the production transition.

Celebrating the 10th anniversary of E-Jet operations in the Middle East, Embraer continues to see strong growth potential in the region for the E2s, said Mathieu Duquesnoy, the company’s vice president for Europe, the Middle East and Africa. “This segment is relevant in this part of the world,” he emphasized. “Of all flights within the region over the past 12 months, 41 percent have carried fewer than 120 passengers.”

Duquesnoy also noted the level of investment Embraer has committed to maintaining reliability in the harsh operating environment of the Middle East. He cited Oman Air as the worldwide leader in dispatch reliability for the E175. In its 2015 global market forecast, Embraer predicts that the Middle East will require 220 jets in the 70- to 130-seat capacity category through 2034.

Flight-testing will now continue toward first deliveries in the second quarter of 2017. From the start of next year’s second quarter, flight-testing will begin in the U.S. at Mitsubishi’s new engineering facility at Grant County International Airport in Moses Lake, Wash.

Various complications have put the MRJ program more than three-and-a-half years behind schedule. The initial MRJ90 version will seat 92 passengers in a single-class configuration. It is powered by Pratt & Whitney PW1200G turbofans.

To date, six airlines (U.S. regionals Trans States and SkyWest among them) have placed firm orders for 223 MRJs, and another 184 are under options. —C.A.
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The Cemco blast facility that we have installed features a contained blasting system with abrasive material recovery and dust collection systems," said Marty Blough, PAC manager of completions and projects. "The system lets us remove multiple layers of paint without the use of chemical stripping options, therefore reducing unnecessary hazardous waste. Along with higher quality cleaning and corrosion removal, this system also provides a much greener alternative for paint removal."

PAC International recently installed a Cemco blast facility to remove paint and corrosion in a more environmentally friendly manner.

**RUAG AVIATION AUTHORIZED FOR HARTZELL PROPELLER SERVICE**

Hartzell Propeller appointed Ruag Aviation in Lodrino, Switzerland, a recommended service facility. The EASA- and FAA-approved repair station covers central Europe and offers MRO capabilities for the Piaggio Avanti and Pilatus airplanes equipped with Hartzell props. Ruag is also a service center for Cirrus, Mooney, Piper and Textron Aviation.

“We have been overhauling Hartzell propellers for years and Ruag Aviation is greatly honored to be awarded the Hartzell recommended service facility status,” said Max Grob, who heads Ruag Aviation’s business development. “The synergies between the aircraft OEMs and Hartzell are obvious and this latest recognition strengthens our market position significantly.” Ruag Aviation is Hartzell Propeller’s 23rd recommended service facility.

**VECTOR AEROSPACE, ANAHEIM PD SIGN MAINTENANCE DEAL**

Richmond, British Columbia-based Vector Aerospace signed a three-year contract with the Anaheim Police Department to provide MRO support for the agency’s Airbus Helicopter AS350B2 components. Vector provides support for the AS350, AS355, EC130, EC135, BK117, EC145, Bo105, EC225/ H225/AS332. With approvals for AS350/355 and EC130 airframe, engines, dynamic components and avionics, Vector is able to offer tip-to-tail MRO support on these models.

Vector Aerospace provides aircraft maintenance, repair and overhaul services through facilities in Canada, the U.S., the UK, France, Australia, South Africa, Kenya and Singapore. The company holds approvals from General Electric, Honeywell, Pratt & Whitney Canada, Rolls-Royce and Turbomeca. In addition to Airbus Helicopters, Vector Aerospace provides support for Bell, Boeing and Sikorsky airframes.

**PAC INTERNATIONAL PROVIDES GREENER PAINT REFURBISHMENTS**

PAC International of Mount Pleasant, Pa., continues to expand its refurbishment capabilities with the installation of a Cemco Industries industrial blast facility that uses soft, yet abrasive, media for removal of paint and corrosion.

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**RUSADA SIGNS FIRST CONTRACT IN MAINLAND CHINA**

Rusada Software and Airbus Helicopters announced that CGAMEC will use Envision MRO software for its business operations. Zhou Jian, CGAMEC general manager, said, “The implementation of Rusada software is a major step for CGAMEC. It will support the fast development of our capabilities in China using software designed for the aerospace industry that takes into account the specificities and the constraints of the business. It will also secure our processes and give us the relevant management tools to improve our performance.”

Created in 2001 in Shenzhen, China, CGAMEC is a joint venture of COHC (CITC Offshore Helicopter), Airbus Helicopters and Samwell Aviation. It is approved by the Civil Aviation Administration of China and has achieved EASA Part 145 approval.

Envision is available from Rusada or as part of the H Care support available to Airbus Helicopters maintainers and operators.

**EXCELLENCE AVIATION TO OFFER BOMBARDIER MX AT OXFORD**

The EASA issued Part 145 approval to Excellence Aviation at its Oxford location on London Oxford Airport. The signoff allows the MRO to offer maintenance for European-registered Challengers and Global Expresses and to respond to AOG events.

Founded 15 years ago, the independent, owned business supports the Challenger 601, 604, 605 and 650 and is in the planning stages of adding Challenger 300 and 350 capability. Additionally, Excellence has been working on the Global Express classic, Global Express XRS and Global Vision since 2000 and has also certified to support the Global Express/XRS and Global 6000/FD at Oxford.

Excellence also covers small scheduled maintenance tasks, including defect rectifications, and can order parts for customers, as well as store and keep up maintenance records and carry out Service Bulletins and Airworthiness Directives. Completion and pre-buy oversights are offered on request. The new facility has a team of two certifying engineers, a mechanic and one administrator.

**STANDARDAERO EXPANDS PT6 FIELD SERVICE**

StandardAero added two field service reps to support PT6 operators. Rick Herrera has been appointed field service representative for the Northwestern U.S., Alaska and Hawaii, and will be stationed in Vancouver, Wash. With more than 18 years’ experience in the aviation industry, Herrera brings extensive mechanical expertise and substantial knowledge of a variety of airframes and engines to his new role.

Henry Young will be based in Singapore and has been appointed field service representative to support customers in the Asia-Pacific region. Young has more than 28 years of experience in the aerospace industry and previously worked in engineering and maintenance, system configuration testing and implementation of advanced aviation maintenance and material management software systems.

StandardAero’s field service includes engine maintenance, repair, overhaul and test, shipping and logistics, leased engine support, on-wing removal and reinstallation, on-site problem solving and troubleshooting, engine reliability monitoring, warranty support and component repair and overhaul.

**FAA APPROVES DUMONT AVIATION AS PART 145 FACILITY**

Dumont Aviation BM1 at Central Illinois Regional Airport in Bloomington, Ill., received FAA Part 145 repair station status. The MRO operates out of a 54,000-sq-ft facility with a 44-foot-high door capable of accepting BBJs and ACJ320s. The facility includes 7,000 sq ft of shop space and a 7,000-sq-ft office and lobby.

Under the terms of its Part 145 repair station certificate, Dumont Aviation BM1 has unlimited airframe and limited engine ratings. The MRO has already completed a B inspection on a Hawker 800 and has in progress a C check on a Falcon 50, 60-month inspection on a Challenger 601 and a 4C inspection on an ERJ-145.

Dumont bought the Illinois facility last June from Platinum Jet Center. It is currently staffed by nine employees, eight of whom are licensed technicians.

**ELLIOTT AVIATION ANNOUNCES BEECHJET UPGRADE PROGRAM**

Moline, Ill.-based Elliott Aviation launched an upgrade program for the Beechjet 400A/Hawker 400XP that includes Garmin G5000 avionics with a Lumatech LED master warning panel, Gogo Wi-Fi with Gogo Vision (on-demand movies), modern exterior paint design and a redesigned, weight-saving interior. The 400E program will feature the first field installation of a Garmin G5000 in a Beechjet 400A or Hawker 400XP, said Elliott.

The redesigned interior has a new shell kit with a recessed headroom, as well as USB charging ports, redesigned cabinetry and variable-color LED upwash and downwash cabin lighting, all controlled through a mobile app. It also features a redesigned arm ledge with LED accent lighting in the drink holders, window reveals, lower sidewalls and electric window shades.

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operators with a clear path to the most relevant information, according to the Nebraska-based company. The uncluttered design is easier to navigate, especially for mobile users, as the site will automatically resize itself to accommodate any screen while maintaining the same functionality. A video on the website introduces users to the new features, including current issues and archives of the company’s publications such as Duncan Debrief magazine and the Duncan Intelligence newsletter.

“Duncan Aviation has always been a leader in telling it like it is while providing industry intelligence in an easy-to-understand format,” said a company spokeswoman. “We make a point to willingly share the most up-to-date information on some of the most pressing subjects such as NextGen.”

**RUSSIAN HELICOPTERS EXPANDING SERVICE**

Russian Helicopters is in the process of planning to provide after-sales service and maintenance for helicopters operating in Latin America and the Caribbean, a fleet that now exceeds 400. The Mi-8/17 is the most popular type, accounting for 320 aircraft. There are also 60 Soviet and Russian-made helicopters in Cuba, including about 50 Mi-8/17s.

In addition to its extensive military helicopter experience, Russian Helicopters offers digital avionics systems and other gear that equips civilian helicopters for search-and-rescue and passenger transport operations. It will also offer a modernization program to expand helicopters’ operational capabilities.

All helicopter modernization work will be performed under the control of Russian Helicopters design bureau specialists. After-sales service will be offered at the Yu. A. Gagarin Aircraft Repair Plant in Cuba. Russian Helicopters is currently negotiating with Cuban counterparts to retool the plant and authorize it to perform after-sales service and maintenance on Soviet- and Russian-made military and civilian helicopters. An opening date has not yet been announced.

**CORRIDOR INTEGRATING ALLTITE DATA**

Continuum Applied Technology and Alltite are developing an integration to provide synchronization of Alltite calibration data through Corridor aviation service software. Alltite offers cloud-based documentation for electronic, pressure, torque, dimensional and force calibrations. Corridor is an enterprise application developed to streamline aviation maintenance and service. Corridor consists of integrated modules, among them the tool crib module, which provides tool crib management and tracks usage and calibration.

“This integration empowers our shared customers to drive consistency for audits, quick retrieval of documentation and internal tool management,” said Tom Smith, CEO of Alltite. “It is exciting to be able to align our calibration program with notable aviation software like Corridor.”

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CONSTRUCTION BEGINS ON TORONTO FBO

Construction has begun on the Aerospace Centre, an FBO at Toronto Pearson International Airport. The location, which will be the fourth service provider at Canada’s busiest airport when it opens next summer, will consist of 50,000 sq ft of passenger terminal and offices. Planned amenities include meeting, recreational, rest and working space for passengers and crew, along with an upper-level restaurant and event space with a deck overlooking the nearby runways. It will also offer a hangar and workshop complex of more than 200,000 sq ft, which can accommodate aircraft up to a BBJ, and will be home to both management companies and corporate flight departments.

The initial operational phase will provide fuel service (by Epic), with completion of the FBO to follow early in 2017. Subsequent development phases will install an atrium with commercial office towers and convention space. Upon opening, the facility will join the UVAir FBO network, a brand of FBOs organized by Epic and Universal Weather & Aviation’s fueling division.

“We identified that joining the UVAir network would help build our business traffic quickly by providing our future customers with a sense that they could ‘land in confidence’ knowing our facilities and operations would be top-notch,” the FBO operator said. 

SIGNATURE GOES LIVE IN SAN JOSE

Signature Flight Support’s newly built 29-acre FBO at Norman Y. Mineta San Jose International Airport (SJC) in California’s Silicon Valley began full operations last month and is now accepting office and hangar tenants. With a price tag of $82 million, the location was developed in cooperation with Blue City Holdings, the private aviation arm of Google’s founders and one of the anchor tenants. Built to Leed environmental specifications, the FBO provides a 10,000-sq-ft terminal and has a 7,500-sq-ft “technology garden” that highlights the advances achieved by companies in the area. Its 240,000 sq ft of hangar space can accommodate the latest ultra-long-range business jets, and the 18.5-acre apron can handle bizliners up to a Boeing 767, with direct passenger ramp-side access.

FBO CHAINS FORM ALLIANCE IN GERMANY

Jet Aviation and Germany’s Kurz Aviation Service, which operate seven FBOs in Germany, have agreed to cooperate to offer their clients a “seamless network” within the European country. As part of the agreement, the companies will exchange nationwide flight data relevant to operations and service. Jet Aviation operates at Berlin Tegel and Schönefeld, Dusseldorf and Munich, while Kurz has facilities at Cologne, Egelsbach, Frankfurt and Stuttgart, all of which will be available to customers through a single point of contact.

“Our decision to share resources will offer significant benefits,” said Frank Kussrow, Jet Aviation’s FBO managing director in Germany. “If, for example, available parking is limited at one airport, the customer can still be accommodated by diverting the aircraft to another airport.” Kurz built the first privately owned and operated FBO in Germany in 1998.

UTAH SKI GATEWAY REOPENS AFTER RUNWAY REBUILD

Utah’s Skypark Airport has reopened after reconstruction of its 4,700-foot-long runway, which began on September 8. The $1.3 million project, funded by the state and the airport, installed a new LED lighting system and precision approach path indicators (PAPI).

“We couldn’t be happier with the result,” said Chris Volzer, manager of the airport-owned FBO. “Our customers will enjoy smooth landings and takeoffs with more advanced lighting systems.”

Located just 10 minutes from Salt Lake City and a half hour from the ski slopes of Park City, the Avfuel-branded FBO specializes in quick turns and offers a two-level terminal with passenger and crew lounges, a 15-seat A/V-equipped conference room, Wi-Fi, pilot shop, crew cars and car rental. Its 9,600-sq-ft heated hangar can accommodate light jets. The facility charges no ramp or landing fees and waives overnight parking charges with fuel purchase. Full-service fueling is available during normal business hours, with self-serve jet-A and avgas on tap 24 hours a day.

ETHIOPIA PREPARES TO BUILD MAJOR HUB AIRPORT FOR AFRICA

Ethiopia’s transport ministry is finalizing plans to start building a new airport for the capital Addis Ababa next year. The facility, expected to take eight years and cost $4 billion, will serve as a major hub for African air transport, according to Ethiopian transport minister Workneh Gebeyehu.

In late September he told the Airport, Infrastructures and MRO conference in Addis Ababa that the airport will have four runways and capacity for more than 100 million passengers per year. The Ethiopian government has narrowed the choice of prospective sites to three, all of which are between 37 and 44 miles from the center of Addis Ababa. French airport engineering specialist ADPI is conducting the planning study for the new facility.

Meanwhile, Ethiopian Airports Enterprise is completing a $350 million expansion of Addis Ababa’s existing Bole International Airport. This project is scheduled for completion in 2018 and will triple the current passenger capacity of 7 million per year.

TALON AIR BECOMES THIRD FBO AT LONG ISLAND REPUBLIC AIRPORT

New York-based business aircraft charter, management and maintenance firm Talon Air has ventured into aircraft handling, opening its first FBO at Long Island (N.Y.) Republic Airport in late October. It is the third service provider on the field. The company has had a presence at the airport for the past 12 years and added a 30,000-gallon fuel farm as it made the transition to full FBO status.

“Our mission has always been to provide our customers with the highest level of convenience and service,” said Talon Air founder Adam Katz. “Becoming an FBO is a goal we have worked toward for many years, because it will lower costs and create greater access to our charter, maintenance and management services, as well as increase the number of air travelers coming to and from Republic Airport.”

The Shell-branded location’s 35,000-sq-ft terminal complex has 15,000 sq ft of passenger and crew lounges; two conference rooms seating 10 and 20 people; four snooze rooms; shower facilities; a flight-planning center; Wi-Fi; and on-site car rental. Talon, which added 20 staff to provide the new services, offers the only Part 145 maintenance at Republic, with 25 technicians who can provide 24/7 service for transient and based aircraft. The company’s 23 aircraft range from a GV to a King Air 300. U.S. Customs and Immigration service is available on site from 8 a.m. until

> The Baltic Air Charter Association (BACA) is offering a free one-year membership to companies that become Argus-certified charter brokers. One of BACA’s efforts is to cut down on “gray market” charters. “BACA has started to see a rise in U.S. membership and, with the support of Argus, the association is certain that the number of American members will increase over the coming months,” said the association.

> Geneva-based Lujatec is the first non-U.S. charter broker to become an Argus-certified broker. The company voluntarily requested the independent certification process.

> Tradewind Aviation began scheduled charter service from Westchester County Airport in New York to St. Louis, Mo., in late November. The service uses PC-12s and prices start at $500 one way (or $250 with a commuter ticket book purchase), with no extra charge for ski.

> Aero Charter of St. Louis, Mo., has joined the Air Charter Safety Foundation and the FAA’s Aviation Safety Action Program. Under the program, pilots, mechanics and other company personnel can make voluntary reports about any safety issue without fear of reprisal. “The process is relatively easy, and there’s really no downside to it,” said director of safety Ryan Sanders. “It creates another avenue for pilots, mechanics and flight attendants to report safety concerns, without FAA repercussions, and it will improve safety in our own operation as well as others.”

> Metropolitan Aviation is operating a GV branded as Sessayl. The jet was recently repainted by Duncan Aviation with a striking Chromalusion paint scheme that changes color with the viewing angle. The GV is based at Metropolitan’s Manassas, Va., headquarters.

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CHAMPIONS OF VERTICAL AVIATION

REGISTER before Jan. 15 to save $$ and join the Champions of Vertical Aviation in Louisville. Head to heliexpo.rotor.org and click Register to secure your ticket to the world’s largest vertical-aviation trade show.

EXHIBIT
Secure your space in a new market of more than 20,000 potential buyers or someone else will. Apply online at rotor.org/exhibit before Dec. 23 to be included in the Program and Exhibit Guide.

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Exhibits Open Mar. 1–3
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Louisville, KY

DON’T FORGET TO BOOK YOUR HOTEL ROOM AT ROTOR.ORG/HOUSING
10:30 p.m. The company also offers helicopter transfer service aboard an S-76B. Along with three acres of ramp parking, the FBO, which is staffed 24/7, has a pair of 30,000-sq-ft heated hangars that can accommodate the latest ultra-long-range business jets.

**RETRACT BUYS FIVE STAR JET, NOW SOLE FBO AT KBGF**

Rectrix Aviation is now the sole FBO provider at Westfield-Barnes (Mass.) Regional Airport (KBGF) after announcing last month that it acquired competitor Five Star Jet Center for an undisclosed amount. The small FBO/MRO chain—which also has facilities in Bedford, Worcester and Hyannis, Mass., as well as in Sarasota, Fla.—established a base at Westfield-Barnes after purchasing AirFlyte in January 2013.

This latest acquisition builds on Rectrix’s current operational presence in Westfield and will allow for the expansion of its maintenance and private aviation terminal services there, the company said. It also plans eventually to hire more maintenance technicians at the new facility.

“This acquisition provides us with a new opportunity to expand our western Massachusetts operations, both in terms of maintenance employees and passenger amenities, to better serve our customers and their aircraft,” said Rectrix CEO Richard Cawley. Rectrix Aviation is also one of the largest private jet charter companies in Massachusetts.

**A GRAND OPENING IN GRAND ISLAND**

Trego-Dugan Aviation, the lone service provider at Central Nebraska Regional Airport (GRI) in Grand Island for the past 12 years, opened a new facility at North Platte Regional Airport for the past 50 years. Held over from the previous facility is Rocket Bob, a 10-foot-tall wooden statue of a figure riding a Learjet, a presence at GRI for nearly 30 years and a reminder of the airport’s role as a transcontinental fuel stop.

**EASTERN AVIATION FUELS BOOSTS ITS RANKS**

Four Landmark Aviation FBOs have joined the Shell-branded dealer network, according to Eastern Aviation Fuels (EAF), the petroleum company’s exclusive distributor. The new locations are Harrisfield-Jackson Atlanta International Airport; Eastern Iowa Airport in Cedar Rapids, Iowa; Houston Ellington Airport; and Frederick (Md.) Municipal Airport. By joining the EAF network, which now numbers more than 500 Shell-branded FBOs in the U.S., these locations can take advantage of the programs offered by the North Carolina-based distributor, including the AeroClass rewards plan, under which users accumulate points through fuelings to redeem for gift cards, and contract fuel.

**NEW RUNWAY COMPLETED AT ORD**

Chicago O’Hare International Airport has completed a $512 million project that saw the construction of its fifth parallel east–west runway and associated taxiways. Work on the 7,500-foot-long, 150-foot-wide Runway 10R-28L, along with a 7,500-foot parallel Taxiway W and 2,000-foot Taxiway AA, began in the spring of 2011. According to the Chicago Department of Aviation, 10R-28L will be used primarily as an arrivals runway, and officials say that during east flow operations it will boost arrival rates in poor weather by 40 percent and by 24 percent in visual conditions.

The new strip is the fourth new runway component to open at O’Hare since 2008 as part of the airport’s $10 billion modernization program, which was funded entirely by passenger facility charges. FAA Airport Improvement Program grants (AIP) and General Airport Revenue Bond proceeds; no state or local taxpayer funds have been required. A $41 million, 218-foot-tall ATC tower was recently built to manage traffic on the southern portion of the airfield and 10R-28L.

**FAMILY-OWNED FACILITY BUILDS ON SIX DECADES IN BUSINESS**

In 1955, the very first McDonalds restaurant opened, the Vietnam War began, and western Nebraska’s Phillips 66-branded location, along with the design of the modern airplane, made its debut. That same year, former U.S. Navy World War II pilot and later Eastern Airlines mechanic Guy Hill Sr. acquired a leasehold at Fulton County Airport-Brown Field (FTY) in Atlanta and established Hill Aircraft and Leasing. Fifty years later, the family-owned business is going strong, as an FBO providing the Georgia airport with a full slate of services, including aircraft sales, maintenance, charter and management.

The company, the oldest FBO in the Atlanta area, occupies its second terminal building, which was built in 1978 and renovated in time for Hill Aircraft’s golden anniversary in 2005. The two-story building, sandwiched between a pair of 20,000-sq-ft hangars, provides 12,000 sq ft of space, and in honor of its anniversary this year the company refurbished the customer service desk area as well as one of those adjoining hangars.

Along with the business offices, the terminal offers a passenger lobby/lounge, pilots’ lounge with widescreen TV and theater seating, flight-planning room; snooze room; shower facilities; concierge service; courtesy cars; business center; onsite car rental; and three conference rooms (seating eight, 10 and 12), the largest of which is AV-equipped. While freshly popped popcorn is not common in FBOs across the country, Hill claims to be one of the first to provide the treat to passengers and crews.

**Growth Potential in Management**

The FBO is open seven days a week from 6 a.m. until 11 p.m., with after-hours callout service available and used quite frequently. “There are only two control towers in the state of Georgia that are 24/7,” company president Larry Westbrook told AIN. “One is Harrisfield [International]; the other is our airport, so that’s a big plus for us.” U.S. Customs and Immigration clearance is also available 24/7 with a day’s notice.

The facility, one of two service providers that split the business at FTY equally, occupies 23 acres at the airport, with enough ramp space to host the static display at NBAA’s annual convention when it visited Atlanta in 2007. It has 200,000 sq ft of hangar space and can shelter aircraft up to a G450. Westbrook told AIN the company has plans to add another 22,500-sq-ft hangar—“to accommodate the latest ultra-long-range bizjets—in the next 24 to 36 months. Hill Aircraft is home to 40 turbine-powered aircraft, from a Challenger 604 to a King Air 90. A Phillips 66-branded dealer and member of the AirElite FBO Network, the location pumps about a million gallons of fuel a year. Its tank farm holds 24,000 gallons of jet-A and half that amount of 100LL. It is served by a trio of refuelers (a pair of 3,000-gallon jet-A tanks and a 1,000-gallon avgas truck) operated by its NATA Safety 1st-trained line service technicians, part of the company’s 34 full-time and 10 part-time staff.

Business this year has been “excellent,” according to Westbrook, certainly its best after the lean years following the economic downturn. “Like a lot of folks we just adjusted our overhead in line with our sales and dug in and made it work,” he said. “We learned a lot through that process.” This year the airport is on track to handle 65,000 operations. Business tends to be busier in the spring and fall, but most of Hill’s traffic is corporate and not seasonal. Among the events that boost traffic to the location are trade shows at the nearby Georgia World Congress Center, vendor conferences at Atlanta-based Home Depot (which maintains its flight department at FTY) and college football’s SEC Championship game, which is played at the Georgia Dome.

The company operates an FAA Part 145 repair station and a parts shop. It works mostly on Citations, Learjets and King Airs and can perform major inspections, but it will handle line maintenance on any business aircraft.

Hill Aircraft also has a Part 135 certificated and added three aircraft to its certificated this year. Westbrook believes the Part 135 business offers the company the most growth potential. “We feel we can build the company the best with managed airplanes because it drives income for line service, maintenance, hangar and charter,” he explained. “You can take only so much of your competitor’s business no matter who they are, and they can take only so much of yours.”

To give back to the aviation industry, the company sponsors an annual scholarship at Auburn University’s flight school in the name of late company founder Guy Hill, Sr. “The recipient of that scholarship is offered a paid internship as a charter copilot after college,” said Westbrook, in describing the two-year program named after his father-in-law. –C.L.
Improper crew response to an off-center nosegear orientation was the primary factor in the July 2012 fatal runway excursion of a Gulfstream IV at Le Castellet Airport on the French Riviera, according to a final report released last month by the French BEA accident investigation agency. The aircraft was operated by Universal Jet Aviation of Boca Raton, Fla. The accident claimed the lives of all three people on board—the two pilots and one cabin attendant.

According to the report, the crew of N823GA flew a visual approach to Runway 13 (5,741 feet by 98 feet) at Le Castellet Airport, with the airport reporting a light crosswind from the right. The aircraft’s main gear first touched down about 1,200 feet from the approach threshold, with the nosewheel first alighting 2,525 feet down the runway. The aircraft’s nose then pitched up and veered slightly right of centerline. The pilots corrected with left rudder input and applied “strong nose-down input” to return the nosewheel to the pavement.

Investigators noted that after the second touchdown sensors on the nosegear recorded “unusually heavy loading” on the assembly for less than a second, followed by a nosewheel orientation to the left that exceeded the seven-degree maximum available through use of the rudder pedals. Investigators could not determine if the left-seat pilot attempted to use the tiller to command greater steering control, although they noted the switch to engage the tiller remained in the off position throughout the accident sequence.

Despite the crew’s efforts to recapture the runway centerline through use of rudder steering and differential braking, the aircraft departed the left side of the runway at high speed, approximately 1,263 feet from the departure end. The aircraft collided with the Runway 31 PAPI assembly, a high-strength metal boundary fence and trees. The three crewmembers asphyxiated in the ensuing fire.

**Inappropriate Pilot Action**

Investigators also determined the accident pilots failed to arm the aircraft’s ground spoiler system while on approach to Le Castellet on a short repositioning flight from Nice-Côte d’Azur Airport. This caused the Eicas (engine indication and crew alerting system) to display the message GND SPOILER UNARM throughout the landing sequence, but it apparently went unnoticed by the crew. Without the spoilers, the Gulfstream also briefly registered a loss of “on-ground” indications from the main-gear weight sensors, causing the thrust reversers to stow.

The BEA’s final report issued several recommendations aimed at improving operational procedures, including better training on how to recover from uncommanded nosewheel steering on the GIV. Investigators concluded that lack of training for the condition contributed to the crew’s improper response.

The BEA report also faulted the pilots for “inadequate preflight preparation” and for failing to use and follow the prelanding checklist to detect the unarmed ground spoiler system. Investigators also noted that a standby emergency response firefighter was not present at the airport at the time of the crash, leaving the initial response to a single firefighter who was unable to douse the flames.

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According to preliminary reports, the pilot of a Bell LongRanger I was not injured when his helicopter experienced a flight-control malfunction while approaching a mobile landing pad in daytime VMC.

The pilot maneuvered away from people on the ground and tried unsuccessfully to land on the platform. The helicopter then struck the platform truck and terrain after its rotor blades contacted the side of the truck.

BUILT in 1979, the helicopter was equipped with a lockout kit designed to prevent interference with the flight controls by a passenger in the left seat. Investigators determined that the kit’s expandable pin assembly had disconnected from the tail-rotor control link pin and left the pilot unable to control the helicopter.

Two aircraft mechanics who witnessed the accident said the aircraft took off in an extreme nose-high attitude, leveled, then pitched up again, leading to a stall and a hard landing about 1,500 feet south of Runway 24. The airport manager, who responded to the accident, told investigators that all the flight controls moved freely, and that the flaps were fully deployed to 35 degrees and the elevator trimmed “half nose up.” The condition lever was found in the feathered position.

FULL FLAPS DEPLOYED IN KODIAK TAKEOFF ACCIDENT

Quest Kodiak 100, Sheridan, Wyo., Oct. 9, 2015—The privately operated single-engine turboprop collided with terrain during takeoff in daytime VMC at Sheridan County Airport (SHR). The sole-occupant pilot sustained minor injuries. According to investigators, the pilot reported that the flight controls “jammed” during takeoff, causing the aircraft to lift off the runway prematurely.

Two aircraft mechanics who witnessed the accident said the aircraft took off in an extreme nose-high attitude, leveled, then pitched up again, leading to a stall and a hard landing about 1,500 feet south of Runway 24. The airport manager, who responded to the accident, told investigators that all the flight controls moved freely, and that the flaps were fully deployed to 35 degrees and the elevator trimmed “half nose up.” The condition lever was found in the feathered position.

CAUSE OF 2012 LEARJET ACCIDENT IN MEXICO STILL UNKNOWN

Learjet 25, near Tumbes, Peru, Dec. 9, 2012—Although a runway trim condition and crew fatigue are suspected to have contributed to a fatal accident that claimed the lives of a Mexican entertainer, her entourage and the two pilots, investigators have made no further progress in determining a definitive cause following the release of their final report one year ago.

Mexican-American singer Jenni Rivera was among the seven passengers and crew on board the 43-year-old Learjet, registered to Las Vegas-based Starwood Management, that struck rough terrain near the town of Tumbes in the Sierra Madre Oriental mountain range shortly after departing from Monterrey at 3:15 a.m. for an overnight flight to Toluca.

Investigators with Mexico’s Dirección General de Aviación Civil (DGAC) determined that the aircraft descended suddenly from FL280 in a steep, high-speed dive. The DGAC released its report in December last year. The aircraft was not equipped with a cockpit voice recorder and search crews were able to recover only part of the casing of the aircraft’s flight data recorder.

According to investigators, the pilot reported the engine lost power after recovery of “about 30 to 40 slings” from the second site, leading to the forced landing attempt. The helicopter’s tail boom and skids struck a hill during the autorotation to landing. The pilot was not injured.

PEDAL PIN DISCONNECTS IN LONGRANGER

Bell 206-L1, Thomaston, Ga., Sept. 20, 2015—The sole-occupant commercial pilot of a Bell LongRanger I was not injured when his helicopter experienced a flight-control malfunction while approaching a mobile landing pad in daytime VMC. The pilot told NTSB investigators he was returning to land on the platform-equipped truck at a job site when a pin connecting the tail-rotor push-pull control tube with the right anti-torque pedal broke, compromising the flight controls.

The pilot maneuvered away from people on the ground and tried unsuccessfully to land on the platform. The helicopter then struck the platform truck and terrain after its rotor blades contacted the side of the truck.

BUILT in 1979, the helicopter was equipped with a lockout kit designed to prevent interference with the flight controls by a passenger in the left seat. Investigators determined that the kit’s expandable pin assembly had disconnected from the tail-rotor control link pin and left the pilot unable to control the helicopter.

Two aircraft mechanics who witnessed the accident said the aircraft took off in an extreme nose-high attitude, leveled, then pitched up again, leading to a stall and a hard landing about 1,500 feet south of Runway 24. The airport manager, who responded to the accident, told investigators that all the flight controls moved freely, and that the flaps were fully deployed to 35 degrees and the elevator trimmed “half nose up.” The condition lever was found in the feathered position.

CAUSE OF C3J NOSEGEAR COLLAPSE UNDER TOW UNDETERMINED

Cessna 525B, Teterboro, N.J., May 3, 2015—An overstress fracture of the JetSettle Citation C3J nose landing gear (NLG) actuator attachment lug during tow operations resulted in a ground handling accident at Teterboro Airport (TEB). Investigators could not determine why the lug broke.

The aircraft’s captain told investigators the parking brake was initially set as part of the shutdown checklist but was later released after the airplane was checked. A ground handler attempted to tow the airplane, and after connecting the tug “lightly gave the tug gas to move the tug,” the pilot told investigators that the nosegear [collapsed].” The noseassembly settled against the tow bar and closed the NLG doors on the fuselage. The flight crew then confirmed that the landing-gear switch was in the correct down position, and that the brakes were not applied.

Later scrutiny of the aircraft and towbar by an FAA airworthiness inspector revealed that the shear pin of the towbar had not sheared, but that a lug of the NLG actuator had fractured near the airframe attach point; close visual inspection showed evidence of elongation. The inspector added that he found the brake pucks were “loose” and consistent with the brakes not being applied, a finding that was subsequently confirmed by a Textron Aviation technician.

According to the operator, the NLG actuator was installed on Dec. 19, 2011, at which time the airplane had logged 5,548 hours and 1,113 cycles. At the time of the fracture, the airplane had accrued another 1,935 hours and 1,264 cycles. A factual report by the NTSB Materials Laboratory determined that the NLG end attachment fitting had fractured on either side of the bearing, consistent with overstress separations at both locations. No evidence of pre-existing cracking or corrosion was found.

PC-12 RUDDER DAMAGED IN TAIL STRIKE DURING CHECK RIDE

Pilatus PC-12, near Belgrade, Mont., July 8, 2015—During a pilot competency check ride at Bozeman Yellowstone International Airport (BZN), the designated examiner asked the pilot to perform a no-flap, power-off, 180-degree approach from downtown to landing. Over the runway threshold, the pilot noted higher-than-normal airspeed, as well as a steeper approach angle, and increased the angle of attack until the stick shaker activated.

The pilot then performed a go-around, at which point the aft fuselage struck the runway.

The pilot completed the go-around without further incident, and later told investigators that he did not recall feeling the tail strike the runway. The rudder sustained damage.
Contract Maintenance Requirements

Certain Part 135 on-demand operators have until March 4, 2016 to comply with new requirements. Under the new rules, Part 135 on-demand operations flying aircraft with 10 or more seats (excluding pilot seats) are required to develop FAA-acceptable policies, procedures, methods and instructions when using contract maintenance. The new rules also require these operators to provide a list to the FAA of all people with whom they contract their maintenance.

Aviation Maintenance Technical Schools Proposal

The regulations governing the curriculum and operations of FAA-certified aviation maintenance technician schools would undergo several major changes, if the agency adopts recent rulemaking. These amendments would “modernize and reorganize the required curriculum subjects in the appendices of the current regulations,” the FAA says. “They would also remove the course content items currently located in the appendices and require that they be placed in each school’s operations specifications so they could more easily be amended when necessary.” Currently, existing curricula are “outdated, do not meet current industry needs and can be changed only through notice and comment rulemak- ing.” Comments are due by December 31.

Deadline to Meet Stage 3 Noise Levels

One month remains to the Dec. 31, 2015 deadline after which jets up to a mtow of 75,000 pounds may no longer operate in the contiguous U.S. unless they meet Stage 3 noise levels. When the rule was published on July 2, 2013, the FAA said the mandate affected 457 U.S.-registered owners of 599 principally Stage 2 business jets, though several models can now be, or will be able to be, hushkitted or re-engined to meet Stage 3 before the deadline. The rule also applies to non-U.S.-registered aircraft.

Position Reporting Proposal From ICAO

Member countries of the International Civil Aviation Organization recommended the adoption of a tracking standard for aircraft crews that requires them to report their positions at 15-minute intervals. Adoption by the 36-state ICAO Council is expected by year-end, some four months later than initially projected. ICAO considers this a first step toward implementation of a more comprehensive three-tiered approach to tracking normal, abnormal and distress conditions.

Helicopter Ambulance Control Centers

New FAR Part 135.619 requires operators with 10 or more helicopter air ambulances to have operations control centers beginning April 22, 2016. Operational control specialists must undergo an FAA-approved initial training program and pass a knowledge and practical test. The operations control center must at a minimum maintain two-way communications with pilots, provide pilots with weather briefings, monitor the progress of the flight and participate in the preflight risk analysis required under recently revised Part 135.617.

Contract Maintenance Requirements

Certain Part 135 on-demand operators have until March 4, 2016 to comply with new requirements. Under the new rules, Part 135 on-demand operations flying aircraft with 10 or more seats (excluding pilot seats) are required to develop FAA-acceptable policies, procedures, methods and instructions when using contract maintenance. The new rules also require these operators to provide a list to the FAA of all people with whom they contract their maintenance.
**People in Aviation**

**Aerospace Technologies Group (ATG)** appointed Bill Goings, vice president of engineering and design, Tim Gwinnett CFO and vice president, and Michelle Stone director of marketing.

Spant Aeroaerics appointed John Williamsson CFO. Williamson has held a num ber of accounting and business development positions, including senior auditor for Deloitte, accounting software/business development for AccuNet/TS and franchise owner of Fryer Management Services.

Air BP appointed Julio Casas North America general aviation director.

Columbia Aeroaerics named Matthew Liu regional vice president of sales for Greater China. Liu joins Gulfstream with more than 24 years of experience in the aerospace industry, most recently as regional sales director in Greater China and Mongolia for Textron Aviation.

Cassandra Bosco joined Women in Aviation International as education and industry relations director. A founding board member of WAI, Bosco has served as interim executive director of the University Association (UAA), owned Tailwinds Communications and was director of business development for NBAA, where she helped initiate the professional development program, NBAAs Avia tion for Kids program, and the original No Plane, No Gain advocacy initiative.

Edward Kohark has joined FlightSafety International as executive director, visual sys tems. Previously serving as the U.S. Transportation Command’s Enterprise Readiness Center, Kohark has also flown in support of combat operations in the Horn of Africa and the Arabian Peninsula, as well as Operations Southern Watch, Joint Guard, Joint Forge, Enduring Freedom and Iraqi Freedom.

McAer Aviation Group named Daren Humphries sales manager for corporate aircraft. Humphries has a 25-year background in helicopters, 15 of them spent in various roles with Corporate Helicopters.

Susan Johnson has joined PlaneTechs as client services manager. Johnson previously has held aircraft scheduling, business development and outside sales roles in aviation.

Ericsson named Jason Johnson senior director of sales for the company’s manuf acturing and MRO business and Scott Cook senior director of business development for the Americas Region. Mark Abbott has joined Veris Aviation Africa as a partner. Abbott has 17 years of business aviation experience, most recently serving as group FBDO director for ExecuJet in Cape Town.

Global Jet Services named Gabe Valez an aviation maintenance instructor.

West Star Aviation promoted Mark Birmingham to paint program manager at its GTJ location. Birmingham, who has served with West Star for eight years, succeeds Gary Edwards. Edwards retired after 37 years in aviation.

The Citation Jet Pilots Owner Pilot Association appointed Jason Talley as an industry representative on the association’s board of directors. Talley, who owns and flies a Citation Mustang, recently founded and develops a cloud-based app that analyzes fuel pricing.

Vector Aercospace named Lewis Ho regional sales manager for Asia and Matjaz Zaccaria regional sales manager for Europe.

**Awards & Honors**

**Barbara Brockett**, vice president of engineer ing test services for Honeywell Aercospace, received the Suzanne Jenniches Upward Mobility Award from the Society of Women Engineers (SWE). The award recognizes a female engineer who influences decision-making processes and creates a nurturing environment for other women engineers. Brockett, a 33-year veteran who leads Honeywell’s global aeroaerics business and previously served with Duncan Aviation and West Star Aercospace, joined Honeywell Aercospace’s Corporate Group Leadership team the previous year.

**Gary Dempsey**, jet senior vice president-v-p for worldwide customer care, was inducted into the Delaware Aviation Hall of Fame. Dempsey, who served with Gulfstream and General Dynamics Aviation, joined the TECO/ATG team in 2006, was among six inductees for the Delaware Aviation Hall of Fame in 2015. Other inductees were: Arthur Gorman, who served as a military, commercial and general aercospace pilot, instructor and aircraft salesman for 50 years; **Rick Dorsey Morgan** (1905-1973), former pilot, president of Air Service and U.S. Army colonel who commanded a base at Bengail, India and flew missions in China; John Reed (1914-1988), a former U.S. Army Air Forces pilot, powerline patrol pilot and manager of Laurel Airport; **Ernest Schwab**, who has worked with FlightSafety International and served as a pilot with the U.S. Marines, Delaware Air National Guard and Pan American Airways; and Brian Woodcock, who recently retired from Boeing and is a survivor of the Luftwaffe Blitz of London during World War II.

The National EMS Pilot Association named Ann Lowell of Air Methods 2015 Pilot of the Year. Lowell is currently serving the Haiti Air Ambulance program in Port-au-Prince, Haiti. A former chief flight instruc tor, Lowell has served with a helicopter air-tour operator and began her career in EMS with OmniFlight Helicopters, which is now part of Air Methods. She has served in the EMS community for 19 years.

The Royal Aeronautical Society (RAeS) is awarding its Fellowship honor to London Biggin Hill Airport managing director Will Curtis. The award recognizes his “contribution to the development of business aviation as a professional pilot and as a senior management aircraft operator.” Curtis, who has more than a 20-year aviation background, was appointed managing director at London Biggin Hill Airport in October 2013 after serving as group CEO of Rizon Group Holdings. He also helped restructure Perfect Aviation.
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UNMANNED AIRCRAFT SYSTEMS (UAS) WORKSHOP...December 8-10, Embry-Riddle Aeronautical University, Daytona Beach, FL. Info: (305) 767-4707; www.aeropodium.com.

FEBRUARY 2016

BUSINESS AIRCRAFT FINANCE, REGISTRATION AND LEGAL CONFERENCE...Feb. 10-12, Boca Raton, FL. Info: (305) 767-9000; www.nbba.org.

MARCH 2016


WORLD ATM CONGRESS...March 8-10, IFEMA, Madrid, Spain. Info: (703) 299-2430; www.worldatmcongress.org.


WOMEN IN AVIATION INTERNATIONAL CONFERENCE...March 10-12, Gaylord Opryland Resort and Conference Center, Nashville, TN. Info: (937) 839-4647; www.wai.org.


APRIL 2016

AIRCRAFT INTERIORS EXPO...April 5-7, Hamburg Messe, Germany. +44 03 840 5686; www.aircraftinteriordexpo.com.

SUN ’N FUN...April 5-10, Lakeland Regional Airport, Lakeland, FL. Info: (863) 644-2431; www.sunnfun.org.

ASIAN BUSINESS AVIATION CONFERENCE & EXHIBITION...April 12-14, Shanghai, China. Info: (202) 783-9000; www.asbace.aero.

AIRCRAFT ELECTRONICS ASSOCIATION ANNUAL CONVENTION...April 27-29, Orlando, FL. Info: (816) 347-8400; www.aea.net.

MAY 2016

AVUSI XPONENTIAL...May 2-5, New Orleans, LA. Info: www.avusixponential.org.

MAINTENANCE MANAGEMENT CONFERENCE...May 3-5, Kansas City, MO. Info: (202) 783-9000; www.nbba.org.

BUSINESS AVIATION SAFETY SUMMIT...May 5-6, Austin, TX. Info: www.flightsafety.org.


REGIONAL AIRLINE ASSOCIATION CONVENTION...May 9-12, Charlotte, NC. Info: www.raa.org.

AHS ANNUAL FORUM AND TECHNOLOGY DISPLAY...May 17-19, Palm Beach County Convention Center, West Palm Beach, FL. Info: vtol.org.


JUNE 2016

FLIGHT ATTENDANTS/TECHNICIANS CONFERENCE...June 21-23, Delray Beach, FL. Info: (202) 783-9000; www.nbba.org.

JULY 2016

FARNBOROUGH AIRSHOW...July 11-16, Farnborough Airport, United Kingdom. Info: +44 (0) 1252 532 8000; www.farnboroughinternational.org.
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