DAY 1 DECEMBER 6, 2022 AINONLINE.COM

MEBAA chairman urges bizav to give back

by Peter Shaw-Smith

The Middle East Business Aviation Association (MEBAA) has voiced deep concern over the unprecedented campaign being waged by the environmental lobby on the industry's viability.

"Business aviation is under attack," Ali Alnaqbi, MEBAA's founding and executive chairman, told AIN. Alnaqbi—who is also chair of the governing board of the International Business Aviation Council—cited a growing chorus of disapproval regarding the inequalities inherent in the industry, including a declaration this summer by the French transport minister that restrictions should be placed on business aviation. Further, he said increased efforts to track aircraft and passenger identity were ominous developments.

"In the U.S., there are many who are unhappy about business aviation," Alnaqbi said. "We need as an association and as an industry to work closely together. We need to start giving back. We cannot only take. We do not exist just to do business and make money, leaving communities or countries without any support. We need to start thinking in humanitarian or charitable terms. We need to think about other elements that will help us pay something back to the countries where we are operating."

Alnaqbi's comments are compelling given the Middle East's reliance on oil exports. However, the region is also alive to the need for renewables, as major plans for multiple green-hydrogen and solar energy projects make clear.

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ULR G700 makes its **Dubai debut**

by James Wynbrandt

Gulfstream Aerospace (Static A12) is showcasing the five-cabin-zone G700, the U.S. company's forthcoming ultra-long-range flagship, this week at MEBAA 2022 in the model's debut appearance in Dubai. Boasting what Gulfstream says would be its tallest (6 feet 3 inches; 1.90 meters) and widest (8 feet 2 inches; 2.49 meters) cabin, the 7,500-nm G700 is expected to enter service in mid-2023.

The G700 on display features a corporate-configured cabin along with what Gulfstream terms an "ultra-galley" with more than 10 feet of counter space; a grand suite with fixed bed and bright, spacious lavatory with shower; circadian lighting system; and new seat design. "It really shows the flexibility of the design that our team has created," said Gulfstream president Mark Burns.

The twinjet arrived in Dubai during a world tour aimed at demonstrating the precocious maturity of the aircraft model, which has been in flight testing since early 2020. Gulfstream's G700 tour began following the aircraft's NBAA-BACE debut in Orlando, Florida, in October and includes some 20 cities on six continents, with visits to Riyadh, Saudia Arabia, for the Future Investment Initiative and Bahrain for the Bahrain International Airshow already in the logbook.

With a Mach 0.85 long-range cruise speed and Mach 0.90 high-speed cruise, the G700 set eight international city-pair speed records during flight tests and established another on this tour for a flight from Istanbul to Van Don, Vietnam, where the model had its Asia-Pacific debut last month at an event hosted by the Gulfstream sales representative Sun Air.

"Vietnam and Southeast Asia are strong developing markets for Gulfstream," said Burns, adding that the company is "bolstering resources to support customers there, including field service coverage from Gulfstream customer support and the Gulfstream FAST field and airborne support teams."



The ultra-long-range (7,500-nm) G700 gives buyers the option of outfitting the cabin with up to five distinct zones, including the bedroom- and shower-configured layout in the G700 here at MEBAA.

Gulfstream is also enhancing support for customers in Africa, recently announcing plans for an authorized warranty facility in partnership with ExecuJet Aviation Nigeria in Lagos to provide spare parts and warranty and maintenance service for the G450, G550, and G650/650ER. The 275,000-sq-ft (25,548sq-m) facility will include an international departure/arrival terminal, FBO, and maintenance operations.

Following MEBAA, the G700 world tour will resume on a route that will cross Europe, Africa, Australia, and South America.

The G700 inherits the flagship mantle from Gulfstream's best-selling G650/650ER, but with a longer fuselage. Next up is its longer-range (8,000 nm) sibling, the G800 with the same fuselage as the G650, and this will follow the G700 into service within six months. But certification of both was delayed due to new FAA software validation requirements for the digital flight control system.

Phebe Novakovic, chairman and CEO of Gulfstream parent General Dynamics, said in late October the company believes that "we will certify [the G700] this upcoming summer, but much depends on available FAA resources.

"When we give you sort of our best guess on when the certification is, that's a result of a lot of things that we control and that we can talk about with certainty," she said, "but ultimately, this is an FAA issue, and it's the availability of their resources, and they are the regulator and they're going to control it."

The FAA started the type inspection authorization process for the validation in early

October. Novakovic noted the company and regulators have "cooperated very well," that the software system makes this "the most mature aircraft to enter the FAA certification process," and internal testing preceding the FAA review revealed no issues that would delay approval.

Meanwhile, Gulfstream is also developing the G400, introduced last October as "the first new entrant to the large-cabin class in more than a decade," according to the company. Expected to enter service in 2025, performance specs call for a range of 4,200 nm at Mach 0.85 or 3,950 nm at high-speed cruise of Mach 0.88. First flight is scheduled for early next year.

A member of the previously introduced G500/G600 family, the G400 shares its larger siblings' high-speed wing and winglets, Pratt & Whitney Canada 800GA-series engines, Symmetry flight deck with fly-by-wire controls and BAE active sidesticks, and fuselage cross sections (6 feet 2 inches high by 7 feet 7 inches wide).

While the G500 and G600 are follow-ons, respectively, to the G450 and G550, the G400 fills a slot in the Gulfstream lineup as a slightly larger, more advanced alternative to the super-midsize G280, "conceived and designed with direct customer input," according to the company. It offers what Gulfstream calls "long-range, high-speed performance; cabin comfort; and environmental efficiency unrivaled in its class," along with a 30 percent gain in fuel efficiency over the G450.

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Stellar Blu signs up Satcom Direct

by Matt Thurber

When the OneWeb satellite communication (satcom) network goes live later next year, Stellar Blu's Sidewinder system will be available to connect a variety of VIP bizliners to OneWeb's high-speed service. The company selected Satcom Direct (Stand 230) to be the preferred service provider for customers who install the Sidewinder satcom system.

Under the agreement, Satcom Direct will sell and activate satcom airtime and provide customer service, cybersecurity monitoring, and other value-added services to Sidewinder customers. Supplemental type certificates (STCs) are under development for installation of the Stellar Blu fuselage-mounted electronically steered array (ESA) antenna and satcom terminal system on Airbus, Boeing, and Embraer aircraft.

With no moving parts, the ESA technology,

developed by Ball Aerospace, allows for a streamlined antenna installation that requires less maintenance than traditional mechanically steered satcom antennas. The Stellar Blu equipment allows owners and operators to access multiple Ku-band satcom networks, including OneWeb's low-earth orbit (LEO) constellation.

Stellar Blu plans to start in-service evaluation of Sidewinder in the second quarter of 2023. An advantage of the OneWeb LEO network is that full high-speed service will be possible on polar routes, something that is currently unavailable with geostationary satellite systems.

Sidewinder will enable bandwidth- and capacity-intensive services such as videoconferencing, remote command and control, and other applications that require low latency, according to Satcom Direct. This includes software tools for insights into end-to-end connectivity performance and the ability to

share aircraft performance, satcom usage, and management information "to improve service quality, streamline operational efficiencies, and augment the customer experience," according to Satcom Direct chief commercial officer Michael Skou Christensen.

Satcom Direct also offers its SD Plane Simple terminals and antennas for high-speed connectivity on midsize and large-cabin business jets. "Adding the Stellar Blu Sidewinder solution to the portfolio complements the series and gives even more choices for our executive airliner customers," said Christensen.

"The Sidewinder terminal is redefining the performance and total cost of ownership for satcom systems for this class of aircraft," said Stellar Blue CEO Tracy Trent. "We are excited to team with a company that appreciates the importance of delivering these tangible and commercial benefits to VVIP and government customers."



While larger business jets such as the ultra-long-range Gulfstream G650ER in the background are popular Middle East chariots, the Embraer Phenom 300E enjoys a following of those who appreciate high performance in a smaller, more efficient package.



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Comlux sees Middle East and Africa as key drivers of demand

by Peter Shaw-Smith

Strong air charter demand has continued from mid-2021 through 2022 across the Middle East and Africa, a Dubai-based Comlux official said. "Our charter fleet composition is mainly VIP airliners, BBJs and ACJs, and most of our charterers are royal families, heads of state, governments, and groups requiring luxury travel experiences," Oliver Hewson, Comlux's sales director for the Middle East and Africa region, told AIN.

"The current fourth quarter has been excellent for charter with huge global events scheduled—COP27, the G20 summit, and the FIFA World Cup—not to mention the Maldives season starting," he said.

East Asia is also opening up, in terms of Covid restrictions being lifted, and the company received a surge in inquiries for destinations such as Thailand and Indonesia. "In the coming months, we are adding more

charter aircraft—the world's first Airbus ACJ TwoTwenty and a new Embraer Praetor 600-and we will be focused on completing our new maintenance hangar at Al Maktoum International Airport in Dubai," he said. "Our Middle East outlook for 2023 is extremely positive, so we continue to invest here, and expect this to be a primary market for the new ACJ TwoTwenty we have developed with Airbus." Comlux expects to deliver the aircraft to Dubai's Five Hotel and Resorts next month.

The post-Covid period, which took off from June 2021 onwards, has resulted in record charter demand. The company had to hire more crew and bolster resources in operations, customer service, and sales to cope with demand, Hewson said.

"Covid was tough for the VIP market due to the worldwide restrictions on passenger flights," he said. "However, we were able to perform some specialist charter thanks



Oliver Hewson, Comlux sales director for the Middle East and Africa.

to the long-range and payload capacities of our Boeing BBJ and Airbus ACJ fleet. It was a perfect time to refresh and upgrade some of our fleet at Comlux Completions, from which we are now reaping the benefits because clients are so impressed by the quality of our cabins."

Comlux has not experienced any major slot availability issues at Dubai International Airport (OMDB), aside from the usual peak hours for morning departures and late-night arrivals. Hewson confirmed anecdotal evidence that points to an around 70/30 split in business jet movements between Al Maktoum (OMDW) and OMDB.

"Both airports offer excellent FBO facilities, but most charter demand is for OMDW, mainly due to more cost-effective aircraft parking," he said. "The market knows that charter aircraft tend to be parked in OMDW, and it now has state-of-the-art infrastructure, so OMDW has taken the lion's share of charter movements."

Completion of construction on Comlux's OMDW hangar is expected to take place next year. Hewson said the hangar would enable the company to perform line maintenance and VIP cabin repairs for customers in the region, increase efficiencies, and enhance service offerings to the niche VIP airliner operator sector.

"We have deep expertise in VIP cabin completions, thanks to our completions center in Indianapolis, Indiana, and it makes complete sense to have a satellite base in the Middle East, especially somewhere as active and business-conducive as Dubai," he concluded.





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AMAC expands services as capabilities grow

by James Wynbrandt

After establishing its reputation as a VIP airliner completion specialist, AMAC Aerospace (Static A24) has diversified both its aircraft services and portfolio of subsidiaries—growth the Swiss company is showcasing this week at MEBAA 2022. Meanwhile, the world's first VIP Airbus ACJ350 is undergoing completion at its Basel headquarters, as are a trio of ACJ and Boeing BBJ narrowbodies, with more green aircraft inductions scheduled for next year.

AMAC's growth in the aircraft services arena includes "diversifying our outlook regarding special requests," to facilitate more customized engineering solutions in its completions and refurbishments, said COO Bernd Schramm. He cited satcom and self-defense-AMAC is a channel lead partner for OEMs in both product categories—as two such installations, the latter represented by laser-based directed infrared systems to counter portable surface-to-air missiles.

Its expanding completion and modification offerings dovetail with the continued growth of AMAC's VIP airliner MRO business. "When there's a fairly long maintenance downtime, we are able to offer turnkey solutions for minor modification refurbishments inside the cabins as well," Schramm said.

AMAC has become a maintenance center

for widebody aircraft. The company has seen rising demand for work on ACJ330s and BBJ 777s, Schramm said. But he resisted the notion that widebody MRO represented a specialty of the house.

"I see it as something that happened because customers are satisfied with what we do," he said. Regardless of aircraft category, he added, "Every customer gets the same focus, the same attention."

Schramm pointed to Hangar Five, its largecabin business jet MRO facility in Basel, as evidence of this customer-centric approach. Since its opening in March 2021, more than 300 maintenance inputs have gone through Hangar Five.

Activity at AMAC's MRO facility in Bodrum, Turkey, has also been "very strong" this year, propelled by a combination of VIP and airliner maintenance.

Meanwhile, the outfitting of the first ACJ350 for a U.S. client is proceeding in Basel, with redelivery scheduled for the first quarter of 2024. An ACJ320neo and BBJ Max 8 and Max 9 are also in completion, and a BBJ Max 7 is slated for induction pending the mod-

Additional completion projects for the new year include a BBJ Max 8 and ACJ320 for autumn inductions. The projects all require earlier design specification definition and component orders, as lead times for items such as seats, in-flight entertainment equipment, some electrical parts, and soundproofing "are getting longer and longer," Schramm said.

AMAC also refurbishes VIP aircraft, and aftermarket demand for executive airliners has been high—transactions that often presage refurbishment activity as new owners remake the cabins to their own taste. "We're receiving more inquiries now for refurbishments after secondhand purchase," said Schramm, but a spike in orders "has not hit us yet."

And while AMAC expects to see increased completion activity in 2023, primarily on the narrowbody side, it doesn't anticipate a big bump in orders industry-wide.

"When we talk to Boeing and Airbus, we don't hear or feel an expectation that there will be an expected increase in VIP aircraft sales," Schramm said. "We are still staying around in the six to eight [orders annually] per OEM."

Some of AMAC's forthcoming cabins could be outfitted for low-earth-orbit broadband connectivity via StarLink's constellation. "We are ready to install the system, but there are delays in product readiness," said Schramm.

Expansion and diversification underlies AMAC's subsidiary portfolio as well. JCB Aero, its French composite aerostructures manufacturer, saw a drop in commercial aircraft work in the aftermath of Covid, but responded by branching into marine work—building interior structures for yachts—and now that end of the business is growing as commercial aerospace work rebounds.

This year AMAC acquired UK-based Gamit, whose digital data and technical records management software it has long used. AMAC believes this software can have much wider application in the Part 121 commercial sector, in addition to supporting its own increased Continuing Airworthiness Management Organization maintenance activity.

Expanding its own footprint in the Middle East, AMAC will open an office in Riyadh in

This week at the MEBAA Show, the company has a score of team members on hand meeting attendees, including Schramm; Waleed Muhiddin, director of business development and marketing; and top representatives from JCB Aero, Gamit, and AMAC's Bodrum MRO facility.

"We definitely like to meet our local customers," said Schramm. "Whether from Bahrain, Saudi Arabia, Oman, the UAE, or Jordan, our focus will be on this customer."



Bombardier offers option for three-zone Globals

by Hanneke Weitering

Bombardier (Static A19) recently revealed a spacious new executive cabin for its Global 7500 and 8000 ultra-long-range jets. The cabin, which features three 12-foot-long workspaces, is designed to facilitate collaboration, productivity, and networking among passengers. Bombardier originally designed the Global 7500 to have four zones, but the company has re-engineered the aircraft's bulkheads to offer three larger sections as an available option.

"We're going to give all the workspace for executives to be able to have meetings and be able to run—like if they were in their boardroom or at the office—their company from the air," Bombardier president and CEO Éric Martel said of the new three-zone option.

Bombardier has also revealed a cabin furnishing called the "Nuage cube," which can function as a seat, stool, or small table. The Nuage cube is lightweight and is designed for passengers to easily pick up and move around the cabin.



One of the workspace designs for the Bombardier executive cabin (left), and (above) the Nuage cube and credenza in its executive cabin hub.

Bombardier's new executive cabin includes an office suite, conference suite, and C-suite. Martel explained that the office suite, which contains four Nuage seats, has the most legroom of any business jet available today. Each seat is also designed to be a highly efficient workspace.

The conference suite has a table with four seats and an integrated flip-up monitor. Martel said this room "is perfect if you want to do a videoconference or presentation or anything that you would do in a normal office environment."

At the back of the airplane, the C-suite provides "an ideal space to focus, relax, or [have] confidential conversations," Martel said. "So it provides an added degree of privacy and calm."

Bombardier unveiled the Global 8000 in May of 2022, claiming it would be the fastest and longest-range purpose-built business jet. It will fly at a speed of Mach 0.94 and have a range of 8,000 nm. The company said the Global 8000 is on track to enter service by 2025. The Global 7500 has been in service since late 2018.

Bombardier tapping market for 'certified' preowned aircraft

A little more than a year after unveiling its "like-new" Certified Pre-Owned (CPO) aircraft program, Bombardier is encouraged by the positive results, finding that participating jets are selling some 50 percent faster than others not in the program.

Bombardier announced the Certified Pre-Owned aircraft program in July 2021 under which the Montreal-headquartered business jet maker would acquire select Learjet, Challenger, or Global jets from trade-in or the market and inspect, update, and renovate them inside and out before reselling them. CPO aircraft come with a oneyear manufacturer's warranty and operational support.

Chris Milligan, v-p of preowned aircraft and flight operations,

explained that the company's services network had been conducting 120 to 140 pre-buy inspections a year and over the course of time watched a process that was "a little bit difficult and cumbersome" between buyers, sellers, and brokers. The network also saw what happened after the buyer acquired the aircraft, sometimes having to wait months for updates to be accomplished, Milligan said.

"We thought that we could create a totally new experience for a buyer." With CPO, he added, "Our focus is whenever you buy it, you're flying away and putting it in service. It's a turnkey solution for the owner backed by the OEM and knowing that it's been completely reviewed." K.L.

MagniX adding hydrogen fuel cells to its powerplant menu

by Hanneke Weitering

After successfully powering the historic first flights of Eviation's Alice electric commuter airplane and an electric-conversion Robinson R44 helicopter this year, U.S. electric motor manufacturer MagniX (Stand 1175) has doubled down on its efforts to make aviation more sustainable by entering the hydrogen fuel cell market.

Based in Everett, Washington, MagniX has been developing electric motors—or electric propulsion units (EPUs)—since 2009. According to the company, its propulsion systems for aircraft are power source-agnostic, meaning they can work with any type of power input. That includes hydrogen fuel cells, which the company plans to offer in addition to its electric and hybrid-electric propulsion systems.

"We ultimately want to provide our customers with a full solution, not just the EPU that we are building today...but also the energy storage system that feeds that, so that we can offer battery, hybrid, and hydrogen fuel cell solutions to our customers," Simon Roads, MagniX's head of marketing, told AIN.

MagniX is working to certify its two EPUs—the 350-kW Magni350 and 650-kW Magni650. The latter powered Eviation's nine-seat, all-electric Alice commuter airplane during its first flight over the desert of Washington state in September.

In June, Tier 1 Engineering used a Magni350 EPU to conduct the first fully electric flight of a Robinson R44 helicopter. That converted helicopter then made its first airport-to-airport flight in October, traveling 21 nm from Jacqueline Cochran Regional Airport in Thermal, California, to Palm Springs International Airport. Tier 1 is collaborating with United Therapeutics on the electric R44 project, with the ultimate goal of using electric helicopters to transport human organs bound for transplant surgeries.

An earlier version of MagniX's electric motor, the 500-kilowatt Magni500, was also used to power the first fully electric flights of a converted De Havilland Beaver seaplane in 2019 and a modified Cessna 208B Grand Caravan in 2020.

In 2021, NASA selected MagniX to participate in the

MagniX displayed this electric propulsion unit at NBAA-BACE in October, about a month after the MagniX-powered Eviation Alice made its first flight.

agency's Electrified Powertrain Flight Demonstration project, which aims to demonstrate electric propulsion technology on a hybrid-electric De Havilland Canada Dash 7 aircraft. That first

flight is scheduled for 2025.

The next big milestone for MagniX will be the first-ever test flight of a hydrogen-powered regional airliner, a De Havilland Dash 8-300 turboprop that was converted by California-based Universal Hydrogen. Scheduled to take place before the end of this month, that flight will use MagniX's electric motors in combination with hydrogen fuel cells made by Plug Power.



Mena Technics, Aviance Global launch MRO in Bahrain

Mena Technics, in partnership with U.S.-based Aviance Global, established an MRO in Bahrain for both commercial and private jets, the services provider announced in November. The center is a collaboration with Aviance subsidiary NextGen Aviation Services (formerly known as Pulsar Aviation Services) and will offer EASA Part 145 maintenance in the region. Plans call to expand these services to Saudi Arabia in the near future.

Mena Technics and Aviance Global/NextGen Aviation will work together to develop a pipeline of Bahraini personnel, estimating that they will train 10 aircraft engineers and 20 technicians over the next three years with the support of the Tamkeen "Train and Place" program.

"As part of Mena Aerospace's long-term growth strategy, the opening of our own full-service MRO facility in collaboration with Aviance Global/NextGen Aviation in Bahrain supports the kingdom's efforts in strengthening its position as a key aviation and logistics hub both regionally and globally," said Mohammed Juman, founder and managing director of Mena Technics parent Mena Aerospace.

The plan is to provide one-stop services, added Mena Technics accountable manager Khalid Hamza. "With our own MRO center, we are positioned to offer full turnkey solutions to thirdparty Airbus, Boeing, and Gulfstream aircraft for both private and commercial operators."



Comlux building hangar for MRO and cabin work in Dubai

by Peter Shaw-Smith

Switzerland-based aircraft management, charter, and completions specialist Comlux Aviation (Static Display) has broken ground on a hangar in Dubai that is expected to open late next year. The company signed an agreement for the land with the government entity Dubai South during the 2021 Dubai Airshow. The building will be more than 7,000 sq m, including 5,000 sq m of hangar space, 750 sq m in back shops, and 1,500 sq m for office space and showrooms.

"This will give us another location to provide light maintenance services, light cabin works, and aircraft management," executive chairman Richard Gaona told AIN. "It's another brick in the Comlux wall."

The Middle East has become an important part of Comlux's development, putting it close to many charter clients in the region and in Africa. Saudi Arabia, Kuwait, Bahrain, and the UAE are all seen as important countries for business aviation, from where Gaona expects new opportunities to emanate.

Comlux operates from diverse locations—Zurich, the U.S., Dubai, Kazakhstan, and Hong Kong. "We have to be flexible. It's the advantage of being a small company," Gaona said. "Our vision at Comlux is to exist in two or three different global locations where business is good. If a problem comes up in one place, we can still continue to exist and grow elsewhere. That's been the strategy from day one. It's all about diversification of products and services and of geographical locations."

Dubai Al Maktoum International (OMDW) is more than an airport, Gaona said. "Today, it is a business center where you can find every kind of nationality. Serving our private jet clients based in the region is important.

"We have a commercial office at OMDW's VIP terminal to welcome our clients when they arrive, but we don't do FBOs. We offer mainly aircraft sales and char-

But looking at the larger Middle East region, Gaona is unclear about the current state of the Saudi Arabian market. "There and completions."

From its commercial office at the VIP Terminal at OMDW,

are several development initiatives in Saudi Arabia," he said. "I hope the kingdom becomes a location for doing more business; transactions, maintenance,

Comlux's Boeing 767-200ER "SkyLady" is making its public debut at 16855

ter sales; in the future, once we have the hangar, it's clear that our development and presence in Dubai is going to increase."

He believes the focus on OMDW, as the main airport for Dubai, is increasing. "Business leaders at Dubai South are doing everything they can to create a maintenance hub there," he said. "I don't want to promote my competitors, but everyone is trying to open their own facility. Comlux will be a service provider there."

Comlux is well positioned to do business in Dubai, but also Qatar, Saudi Arabia, Abu Dhabi, Kuwait, and even Israel, he believes. "Over the last two years, I've seen more people from Israel conducting business in Dubai. Who would have thought that this would've happened? Sometimes, a small political decision in a country can open business up."

Meanwhile, Gaona expects the first ACJ TwoTwenty the company is completing at its Indianapolis, Indiana facility to be delivered on schedule to client Five Hotels & Resorts next month. With plans to complete up to 16 of the Airbus bizliners, he is bullish on the ACJ TwoTwenty's prospects.

"Once the ACJ TwoTwenty enters service and we show it to clients, I'm convinced the program will get a big boost," he said. "It is much cheaper than the ACJ319 or BBJ Max, and about the same price as a [Bombardier] Global or Gulfstream. Those who can afford Boeing and Airbus will continue to take the big [aircraft], but those who are flying top-end business jet products may decide to take one, as it's the same budget with a wider cabin."

That could make the ACJ TwoTwenty very successful. "We will not win market share against the top-end products but grow it from the bottom. Every time I hear a traditional business jet OEM is developing a bigger plane, I'm extremely happy because it means they are starting to compete with us on cabin size. We are a solid and loyal partner of Airbus on the ACJ TwoTwenty, and we look forward to continuing our cooperation."

However, Gaona said Comlux could not continue to exist with work from only one aircraft manufacturer. "We work with several to ensure customer satisfaction. In the end, it is the client who chooses the aircraft," he said. "That's why we operate Airbus, Boeing, Bombardier, and Embraer aircraft; we are a completion center and service center for Airbus Corporate Jets and Boeing Business Jets, and we sell various aircraft types when a request comes in."

This week at MEBAA 2022, Comlux is displaying its BBJ767-200ER SkyLady. "We refurbished the cabin during Covid in Indianapolis, but up until now we have not yet had the chance to put it on display," he said.

Embraer to test bizjets on 100% sustainable fuel

by Curt Epstein

"It's not enough to think about sustainability like it had been in the past as a desire or some kind of noble cause—it's a demand necessity and we have the responsibility and [incentive] to proceed on that path," Embraer Executive Jets (EEJ) president and CEO Michael Amalfitano said at October's NBAA-BACE 2022. He noted the company's recent demonstration test flights on 100 percent sustainable aviation fuel (SAF) using one of its E195-E2 regional jets, which flew with one engine burning neat (pure) SAF while the other used a 50 percent SAF blend.

Amalfitano said similar tests will be performed using a Phenom light jet and a Praetor midsize jet in the first quarter of next year. Earlier this year, the company signed a letter

of intent with renewable fuel provider Raizen to stimulate the development of the SAF pro-

duction ecosystem. "We're very much embedded in the source part of the process so that we can learn," said Amalfitano. As part of that effort, Embraer has been fueling aircraft that it places on static display with SAF.

Meanwhile, business has been & strong. Amalfitano noted that customers who are getting into private aviation are about 20 years younger than previously. With the airframer's backlog extending Michael Amalfitano, out to the fourth quarter of 2024 across all four of its models, he

said supply-chain issues now extend to the raw materials level.



EEJ president and CEO.

"If I ordered something today in those categories, it used to take 180 days, now it takes 540 days to get the same product from the [supplier] to your shelves where you need it to build something or take care of a customer." As a result, the OEM is working with its suppliers to tackle this paradigm and embracing more lean manufacturing methods.

> When asked about the prospects of a global recession, Amalifitano replied, "It's already happening" and noted that the inflationary increases in all aspects of production will eventually need to be passed along through the value chain. He said the company hasn't seen the results of this impact on its customers yet.

On October 17, Embraer (Static A26) announced it had closed on a \$650 million revolving credit facility, the company's first since

2010, which will reinforce its liquidity for the coming years.

FlightSafety selected to train Falcon 10X crews

FlightSafety International (Stand 777, 779) has been selected by Dassault Aviation as the exclusive training provider for the new Falcon 10X, the training organization announced. Simulators that it will build will be equipped with FSI's latest technology, including the Vital 1100 visual system, electric motion control and cueing, and an advanced instructor operating station.

Columbus, Ohio-based FlightSafety will initially design and build



two FS2500 full-flight simulators for the forthcoming Falcon flagship —one for the U.S. market and the other for Europe. However, the specific learning center locations have not yet been determined.

"FlightSafety will work closely with Dassault to provide simulator testing for aircraft development and certification and will supply the highest-quality training for 10X pilots, maintenance technicians, and flight attendants around the world," said Nate Speiser, FlightSafety executive v-p of sales and marketing.

Training will commence with the aircraft's entry into service, expected in late 2025. The program will incorporate FlightSafety's Matrix, which features desktop simulators for classroom instruction, flight training devices for self-paced learning, and SimVu for reviewing flight simulator sessions.

"Our partnership with FlightSafety will complement industryleading aircraft design with the most innovative training solutions and ensure the highest level of readiness and efficiency in the operation of the Falcon 10X," said Jean Kayanakis, Dassault senior v-p of worldwide customer service and MRO network.

FlightSafety offers more than 220 Falcon pilot courses and 100 maintenance courses and operates more than two dozen full-flight simulators and other training devices across the U.S., as well as at Paris Le Bourget Airport in Europe. J.W.



maintenance facility offers line and base maintenance and FBO services to a growing customer base

Jet Aviation's Middle East focus aims for expansion

by Peter Shaw-Smith

Jet Aviation's priority has always been to support customers seamlessly and this year that has meant expanding its on-site capabilities, a top regional official told AIN. Established in 2005, Jet Aviation's maintenance and FBO facilities at Dubai International Airport (OMDB) are a focal point of its Middle East operations, while in 2017 it extended FBO and line maintenance services on a range of national civil aviation authority approvals to Dubai's second airport, Al Maktoum International (OMDW).

"This focus on growth and development of our customer offering in the region is something we will continue into 2023 and beyond, in our capabilities, the skillsets of our employees, and in the range of aircraft we support," said Hardy Bütschi, Jet Aviation v-p regional operations Middle East and Dubai general manager.

He added, "For example, this year we saw demand from our customers for larger refurbishment, structural repair projects, avionics modifications, and upgrades at our fixed-wing maintenance site in Dubai. In response to this,

we extended our capabilities to offer full cabin refurbishment and heavy structural repairs."

Jet Aviation's FBO business in the region has also seen growth this year. "We saw an increase in ground handling volumes at all our FBOs in Saudi Arabia and are in the process of launching a line maintenance service in Riyadh with priority on Gulfstream types to further support customers in and visiting the region."

This year has also been strong for rotary-wing business in the region. "We offer rotary-wing maintenance in Fujairah," he said, "as well as personalized on-site line maintenance support for entire rotary fleets of customers and rotary-blade repair at RBI Hawker in Dubai, both of which are Bell customer service facilities. [The year] 2022 saw us extending our capability for major inspections, full paint, and upgrades, and modifications."

RBI Hawker is a joint venture of Hawker Pacific Airservices and Bell. It commenced operations in 2005 with a team of specialized rotor-blade repair professionals.

Jet Aviation provides fixedand rotary-wing maintenance out of its Dubai hub, as well as line maintenance in Saudi Arabia,

on-site fleet support throughout the Middle East and Africa, and a globally mobile AOG team. It operates FBOs at OMDB, OMDW, Riyadh, Medina, and Jeddah.

"We offer base and line maintenance at Dubai OMDB, and line maintenance at Dubai OMDW, and have recently launched line maintenance services in Saudi Arabia, including battery and wheel shops," he said.

Data indicates that FBO business in the region is on an upswing, and Bütschi said the company will continue to support existing and new customers throughout the network in the Middle East and beyond. Jet Aviation has been in the Middle East for over 40 years and will continue to invest and grow in the region as a key strategic hub in its network.

"We have a large number of long-term customers in the region across all lines of business, and our local and customer on-site presence allows us to foster and prioritize personal and long-lasting relationships—sometimes over generations," he said. "We are committed to investing in the region to support growing customer needs, and continue to actively look to develop new locations and add new capabilities to support these

customers now and in the future."

In addition to continuing to develop its customer services, the company is also committed to partnering with the authorities to continue supporting the growth of business aviation across the region. Bütschi sees the Middle East as a fast-growing global player that aspires to be at the forefront of many key initiatives.

"One growing interest from both customers and local governments is sustainability, and it is imperative that business aviation service providers support this," he said. "We continue to explore more sustainable options for our customers, such as providing sustainable aviation fuel (SAF) in the region via book-and-claim, and more sustainable ways of operating our sites, such as reduced energy consumption."

Jet Aviation has a team of around 400 employees in the region. Bütschi said that in addition to expanding capabilities in the region for customers, the company is also committed to supporting the growth and development of local talent.

"Our people and their passion are what make us the company we are and what sets us apart," he said. "As we expand our capabilities, we are also committed to building the skillset of our employees by providing training and development opportunities for those already with us, as well as supporting local talent and helping young people find their careers in aviation."

Hadid sees Middle East boom

by Peter Shaw-Smith

Despite gathering pessimism over the global economic outlook, UAE-based Hadid International Services believes Middle East economies are well placed to power forward post-Covid. "The economy in the region is booming," commercial director Issa Zuriqi told AIN. "I am doubtful there will be a recession in the UAE, and if there is it will bounce back as strongly as it always has in the past."

Regional investments in the food industry, technology, and real estate were gathering pace. "The Gulfood Expo [in February] saw 120,000 visitors that's major," he said. "The food industry, not just in Dubai and Abu Dhabi, but in other emirates, is booming. These are the three sectors I see doing well besides aviation."

Zuriqi doesn't view the specter of rising inflation and interest rates as dangerous. "There are some strong economic tailwinds, at least in the short to mid-term, with additional business expected from the Qatar World Cup and new visa reforms being introduced. Even U.S. rate hikes can be viewed in a positive light as they benefit lenders in the region. We are optimistic in general because we see lots of business-and more than before Covid."

Hadid measures progress by aircraft movements and the number of trip requests compared to before Covid or to previous months. "I'm not talking about just in Dubai, but globally they have increased," he said. "Businessmen are getting back to normal again or doing even better. If we are talking about general aviation or commercial, it's crazy. Airlines are reactivating their routes."

The company (Stand 350)

employs around 200 people and has a global footprint. "We have operations offices here in Dubai. We have operations in Pakistan, India, and Turkey. In the U.S., we have offices in Fort Lauderdale and Houston," Zurigi noted.

It also has offices in Malay-



sia and England; a presence in Algeria, Mali, Chad, and Niger; FBOs in Riviera, Italy, and Karachi, Pakistan; and supervisors in Djibouti, Ethiopia, Saudi Arabia, and—for the World Cup Finals— Qatar. Due to the Ukraine conflict, its Moscow office is closed for the time being.

"All over the world, we have offices and we have our own staff in airports," he said.

"We have been in the market for the last 40 years, as the parent or grandparent of flight support companies in the region—I don't want to say in the world; we have Universal, and other big companies in the U.S. and in Europe-and we are responsible to operators for what we do," Zuriqi said. "We promise that we will maintain our stability and creditworthiness with our clients and suppliers."

According to Zuriqi, there is no business aviation lull taking place in Saudi Arabia. "I don't see it as slow," he said. "In my view, business there is going really well.

"In general, the Saudis are marketing the country internationally and they want people to come in. They want to compete with Dubai in a positive way. They claim that what Dubai has done over the last 10 years, they will be able to do over the next two."

is not easy. It is the heart of Dubai. I would love to see it become a business aviation-only airport one day," he said.

In Oman, Zuriqi said the Muscat FBO tender has been postponed, despite reports by other FBO operators that it was canceled "We didn't receive any formal reply from them," he said. "They said it's been postponed, I think until after the FIFA World Cup. Muscat is a busy airport during the World Cup. We didn't receive any official word on whether or not the tender is canceled. For us, it's still on."

"In general, the Saudis are marketing the country internationally and they want people to come in."

Commercial director Issa Zuriqi

He said Crown Prince Mohammed bin Salman's reforms as prime minister had played well at home. "Politically, he has power. As [King Salman's heir], his actions are welcomed by all Saudis. He's bringing in more business. The country is open to visitors of all types. Even women can fly in, whereas before it was difficult. Today, the openness at restaurants in Riyadh or Jeddah makes you think you are in Dubai."

In Dubai, Zuriqi explained that general aviation movements are split 70/30 between Al Maktoum International (OMDW) and Dubai International (OMDB). Hadid uses three main FBOs in Dubai: ExecuJet, Jet Aviation, and DC Aviation-Al Futtaim. "Those are our main suppliers," he said.

"OMDB is busy with commercial, and there is no place for business aircraft. The ExecuJet MRO hangar is packed. Businessmen still want to come to OMDB and will remain here. The Jet Aviation and ExecuJet FBOs at OMDB are still running. Giving up on OMDB

Meanwhile, he believes that progress is being made, albeit slowly, on business aircraft operations in Africa. "Some civil aviation authorities (CAAs) do not really cooperate on general aviation," Zuriqi said. "If you are operating a private jet, they treat you as a commercial operation. I'm not a commercial operation; I'm a private jet. I want to decide to come tomorrow. There needs to be better mechanisms in place to do so."

Hadid wants to be part of this change in Africa and has been advising CAAs there. "We tell them about the differences between commercial and general aviation. We have been in Africa for a long time, and we speak to CAAs constantlysometimes unofficially," he said. "We sit down with them and lend assistance, especially on the operations side, with things like permits and navigation fees. We offer our expertise, and it has brought results in many countries."

Seller's market complicates Global Jet Capital financing

Simon Davies, Global Jet

Capital sales director

by Peter Shaw-Smith

The business aircraft market is today a seller's market, and demand has meant that the time needed to close with financing has not always been granted by sellers during the past 12 months, according to Simon Davies, Global Jet Capital's sales director for the UK, Middle East, Africa, Turkey, India, and Eastern Canada.

"Cash deals became prevalent during 2021

and early 2022, with some buyers even foregoing a pre-purchase inspection," he said. "However, there are signs that the market is starting to return to a more traditional cadence for acquisitions and that aircraft sellers are starting to be more accommodating of the time needed to conclude the financing for the purchase."

The Middle East and North Africa (MENA) region was relatively active during 2021, especially in the latter half, with more than

50 new and used business aircraft transactions being concluded. "As was the case in all regions, the biggest challenge for the region during the past 12 months was trying to find a suitable aircraft at a reasonable price," Davies said.

"As we move towards the end of 2022, the region is mirroring many of the other areas around the world in that we are seeing strong usage of the existing aircraft, but fewer new and used transactions than in 2021 due to limited availability," he noted. "Nevertheless, our data suggest that the region should continue to grow in 2023."

Financing sources for the MENA region have remained relatively constant over the past two years. Large private banks continue to cater to high-net-worth clients with their loan products, while financiers such as Global Jet Capital continue to offer loans and alternative products for the consideration of buyers seeking financing.

"The bigger challenge faced by financiers in the region during Covid was the build-up of cash reserves on balance sheets," Davies remarked. "Upon realizing that Covid was not going to generate the same liquidity issues as we saw during the financial crash, buyers

used their cash reserves to acquire aircraft. It is only now that we are starting to see those buyers returning to the market, seeking to refinance their acquisitions so that they can deploy their embedded capital into more lucrative opportunities."

Airshows had traditionally been used as either sales or marketing opportunities by exhibiting participants, but with the impact of Covid on supply chains and increasing demand

> for aviation products, many of these aviation companies developed order backlogs that would last well into the future and were therefore less driven to firm up orders at airshows and conventions this year.

> "Further, exhibitors such as aircraft brokers may not have any aircraft available to resell at events like the MEBAA show, so they may not book space," Davies said. "However, I still expect total attendance at the MEBAA show

this week will be strong as many people seek to network for future opportunities, even if the exhibitor attendance may be down."

Overall, Davies believes Covid-19 has had a positive effect on business aviation. Health concerns when traveling and lack of alternative commercial travel options drove more people to try business aviation in some form during Covid than in any other prior period.

"This increased demand has led to reduced inventory levels for sale in most models of preowned aircraft," he said. "We continue to see an ever-increasing utilization of the business aircraft globally. MENA has been no exception to this phenomenon. With fewer aircraft being made available for charter sales use, charter rates have increased, which has been a benefit to operators, but one that has also come with increased complexity in arranging the flights for those in the charter sales business."

The size of the current Middle East bizav fleet depends on how to define what should be counted in the fleet. "What I can say is that in 2022 we expect there to be a slight dip in the total aircraft transactions in the region compared to 2021," he said. "Starting in 2023, we

predict a steady growth in the total number of aircraft in the region. However, there are many factors that could alter the trajectory such as the price of fuel, any change in geopolitical conditions, and/or a resurgence of Covid."

Davies concluded, "One note of interest to us is that we are seeing more preowned purchases now being made in the region, whereas new aircraft transactions had traditionally dominated this market. This situation may be due to the long lead-time in the OEM backlogs for new aircraft and buyers' desires to have an aircraft of their own, for health or other reasons, without too much of a delay."

FAA approves 1st retrofit Aspire 400 in Global Express

Honeywell (Stand 951) has received its first supplemental type certificate (STC) for installation of its Aspire 400 Inmarsat L-band SwiftBroadband satcom, in this case in a Bombardier Global Express.

Aspire 400 provides SwiftBroadband safety-service communications for secure satellite communication between pilots and air traffic controllers. The system is more compact and draws less power than high-speed broadband satcoms without safety service capability. Segregated channels are available for secure communications, leaving bandwidth available for non-safety voice and data.

With a high-gain antenna, the Aspire 400 provides speeds up to 432 Kbps, but Honeywell's high-data-rate software boosts that up to 650 Kbps. Products that can be used for communications with the Aspire 400 include electronic flight bags, telemedicine, and standard IT applications. It can also facilitate offloading of aircraft health and performance information.

"Aspire 400 provides pilots with a highly reliable and secure link to support enhanced cockpit applications to drive operational efficiency," said Mark Goodman, Honeywell senior director of cockpit communications. M.T.



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DC Aviation reports high hangar usage at Dubai Al Maktoum

by Peter Shaw-Smith

Dubai-based management, FBO, and MRO specialist DC Aviation Al-Futtaim (DCAF) reported high hangar occupancy levels at its Al Maktoum International Airport (OMDW) facility and expects operating conditions to further improve in 2023.

"There is a careful consensus that any likely repercussions of inflation would not hit the region or the UAE or, at least, at a lesser rate than may be the case in Europe and in other parts of the Western world," DCAF managing director Holger Ostheimer told AIN. "People seem to be quite upbeat looking into 2023. We've outperformed our forecast for FBO movement numbers for 2022 throughout the year, month-on-month."

Established in 2013, DCAF is one of five FBO players at OMDW and, to date, remains the only one to offer a standalone facility. The three other FBO providers at the airport-Jetex, Jet Aviation, and Falcon Aviation—share the VIP terminal, while ExecuJet's separate FBO/MRO building is not expected to replace an interim facility until early next year.

In 2007, Stuttgart-based DC Aviation emerged from Daimler-Chrysler Aviation, a subsidiary of DaimlerChrysler established in 1998. It also offers services in Munich and Malta and claims to be the largest operator of business jets in Germany and one of the largest in Europe. Earlier this year, it opened a new hangar at Munich Oberpfaffenhofen Airport.

DCAF's two hangars at OMDW are an attractive MRO option for the market. "They are utilized at very high levels. That has always

been the case for Hangar 1. Since adding Hangar 2, for a long time, we stood at about two-thirds utilization," Ostheimer said.

"This year, we can report that we've been almost full for most of the year, at capacity use in excess of 90 to 95 percent. We accommodate managed aircraft. We maintain third-party and managed aircraft, and we have aircraft from outside that are parking-only."

In terms of MRO accredita-

another Global and an aircraft that I cannot identify. The core fleet remains Bombardier Challengers and Globals and Dassault Falcons. We've also added a Falcon 900 to the operation."

Ostheimer was quizzical about the claims of FBO competitor Jetex to handle three-quarters of the movements at OMDW. "DC Aviation Al-Futtaim, with its standalone facility at the entrance of MBR (Mohammed bin Rashid) Aerospace Hub, clos-

DC Aviation Al-Futtaim's two hangars at OMDW have been full with maintenance and storage customers in recent months.

tions, DCAF plans to add the Bombardier Global 7500 to its operation. "We will definitely be providing maintenance capabilities for that aircraft," he said. "In recent years, we have incorporated a new complement of management staff on the maintenance side, with Stephen McAteer, our director of maintenance, and Chris Rosewarne, as head of the Part 145 operation. We continue to extend our capabilities, from tire shops to battery shops, in terms of increasing aircraft types."

Meanwhile, DCAF's managed fleet has increased to nine aircraft. "We've added an ACJ318, which has been with us for some time," Ostheimer said. "We've added

est to the runway system, is not part of the airport's VIP terminal. And without officially published numbers, it is hard to say" which FBO provider has the highest market share, he said.

On a wider issue, market participants have voiced criticism of the lack of official transparency regarding business aviation operations at Dubai's airports.

AIN asked Ostheimer if in future years OMDW (Dubai World Central-Dubai South) would ever start publishing private and business jet movement data. "I would very much welcome it," he said. "We've asked for that for many years. We've asked the General Authority for

Civil Aviation [GCAA], MEBAA, and Dubai South-those numbers are not publicly available."

Outside of the Middle East region, DC Aviation has won a ground handling license for France's Nice Airport. "Obviously, we are very happy at the fact that our application has been considered a strong bid," he said. "We are constantly being approached about activities outside the region. That does not necessarily restrict us to our domain here in the GCC, which is responsible for the joint venture here. DC Aviation Group is going to increase its activities to Nice, in cooperation with G-OPS, with whom we have entered into a joint venture."

Before the award, there were three handling agents at Nice: Aviapartner, Signature, and Swissport. DC Aviation, in a bid submitted with G-OPS, won the Nice tender in September. "Swissport has been replaced by DC Aviation/G-OPS," he said. "Now, the FBO operators at Nice will be Aviapartner, Signature, and DC Aviation/G-OPS."

For the FIFA World Cup in Qatar, DCAF has made aircraft capacity available for the inquiries it is receiving. "However, the operation of flights in and out of Doha is quite cumbersome, and the cost element is a little unclear," he said. "To be able to cover all the regulatory and operational requirements, we have to have a clearer picture of what the actual cost is going to be. We are careful in accepting requests until we know the extent of operations we will face to carry out these double rotations."

Ostheimer said he was "carefully optimistic" about next year. "The influx of wealth seems to be stabilizing our level of activity; a lot hinges on the global economic climate," he said. "Market and infrastructure development needs to be carefully studied so that we don't once again end up with an oversupply of service providers in hangar and other capacities."



Wealth moving to Middle East driving EAG growth

by Peter Shaw-Smith

Celebrating its 15th year of operation this week at MEBAA 2022, management specialist Empire Aviation Group (EAG, Static S4) has seen its charter business triple since 2019, it said on the eve of the biennial Middle East business aviation show.

"Our movements as a company today are up 200 percent over 2019," EAG founder and managing director Paras Dhamecha told AIN. "If you look at the number of airplanes coming in and out of the region, I would think that, overall, movements have increased strongly."

The VIP Terminal at Al Maktoum International Airport (OMDW) has been the focus of business aviation activity. "If you visualize where earlier aircraft were parked—basically two rows along the length of the ramp of the VIP Terminal area—today, we've got aircraft stacked about five rows deep on the sides. Obviously, there are substantial movements, but I'm not aware of the actual numbers."

He said the company tracked the type and number of movements of aircraft under its management, but not the overall market. Several industry participants have said that the lack of clarity from the authorities on business aviation movements at Dubai's airports hampers business planning.

Relocation specialists South Africa's Henley & Partners have identified the UAE as the leading global destination for ultra-high-networth individuals and expected 4,000 millionaires to move there this year alone. "The UAE still has this huge concentration on becoming

a global hub for business aviation," Dhamecha said. "It's going really well. Dubai looked like it was number two or three in terms of overall growth and movements during the pandemic.

"Obviously, the borders were open, so there was a lot more movement. The growth trajectory has been exponential. Support from the government continues to grow. The UAE remains a focus area for us. As wealth keeps coming into this region, opportunities continue to grow."

EAG is also facing capacity issues. "We don't have enough aircraft for the charter demand currently in the market," he said. "Even with the number of people who are coming into Dubai now—operators that are transient and park here for business—there's enough business going around so that people like us with a fleet of multiple airplanes are still struggling with availability."

He admitted the firm turned away business. "When I have a charter request from a direct client and we do not have availability within our fleet, we would then connect with our industry associates who operate aircraft for commercial charters, for alternatives," he said. "Failing that, unfortunately, it's a case of refusing business."

Throughout the pandemic, many people started using private jets as a safe haven for travel, Dhamecha said. "This has continued; Dubai has been a fantastic hub for us," he said. "The authorities have really managed the situation very well. Many people from all over the world have come to Dubai as a safe place to operate from. Given the wealth that

comes with that, many people are here who are either users, owners, or potential clients for business."

Turning to the fleet, he said EAG had a couple of aircraft in the pipeline and had added a private Boeing BBJ under management. Its fleet is around 20-strong.

"Sales have been fairly good and we've been involved with three or four transactions already this year; a few more are coming through," he said. "This is about average for us. The challenge on the sales side has been that there have not been enough good airplanes for sale and prices are very high. Buyers are waiting. Sellers are only thinking about selling because they can get good value from their airplanes."

There have been several preowned transactions in the region. "New aircraft deliveries have been pushed out for anybody who wants an aircraft and has use for it now because they are in a situation where they feel comfortable in the current environment flying around," he said. "These buyers want their aircraft now and don't want to wait around for two, three, or four years for new aircraft.

ExecuJet's new FBO/MRO facility at Al Maktoum is expected to boost hangar supply when it opens early next year, with DC Aviation-Al Futtaim (DCAF) and Falcon Aviation the only outfits in a position to provide MRO space at the airport today. "That facility coming online will move services to the next level for the entire region, and the investment there is significant and will certainly work," he said.

He sees plenty of FBO choices in Dubai with Jetex, Jet Aviation, DCAF, and Falcon all involved. "The infrastructure is coming up and I'm very impressed with what they have done so far. The number of airplanes parked on the ramp and the movements that Dubai has been able to attract in general are unbelievable. It's good for all of us here."

The trend for management under thirdparty air operator certificates (AOC) in the UAE suits EAG's business model. "In general, unless you're with a professional AOC, there's no private operations infrastructure here at all," he said.

EAG is participating in its first MEBAA Show in several years. Over the past decade, it would exhibit at the Dubai Airshow for increased exposure. "We didn't exhibit at Dubai Airshow last year," he said. "It works well for us because of the type of people who visit. Still, MEBAA is the perfect opportunity to meet all our customers, as well as industry friends, and see our associates."





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World cup knockout phase busy for ad hoc flights

by Peter Shaw-Smith

With the knockout phase of FIFA World Cup having started on Saturday, Middle Eastbased flight support companies are warning tournament-goers about an extra layer of unpredictability through the final match on December 18.

"We knew which national teams were playing in the group stages, but we didn't know who will make it to the knockout phase," said Henry LeDuc, head of strategy development at UAS International Trip Support. "This means there were a lot of pre-planned flights already for the group stage. Ad hoc flights will rapidly build from countries whose teams advance to the next round."

Some 48 matches took place in the group phase, which ran from November 20 to December 2, with qualifiers playing only 16 more. Tom Murphy, head of FBOs and aircraft management specialist at Gama Aviation Sharjah, told AIN that demand ramp-up starting with the knockout will only soar higher with the quarter-final, semi-final, and final games.

"Charters are going to be very challenging for ad hoc at the last minute," he said. "Given the restrictions for gaining access to Qatar, you need a minimum of 72 hours' notice for a flight. You also need a hire car, as proof that you've got a match ticket. Last-minute charter is going to be very difficult."

To meet expected spikes in demand, several aircraft charter companies in the region including Qatar Executive, Empire Aviation Group, Jet Aviation, and ExecuJet—are making extra aircraft available to tournamentgoers on charters and shuttles.

UAE-based Royal Jet and Jetex signed a partnership early last month to operate on-demand 30-seat private jet flights between Dubai and Doha for the duration of the competition. Royal Jet operates the world's largest fleet of Boeing Business Jets and announced the acquisition of its 13th aircraft at the Abu Dhabi Air Expo at the beginning of November.

"The partnership with Jetex enables Royal Jet to fulfill tourism demand during this exciting period in the Gulf Cooperation Council's history," said RoyalJet CEO Mohammed

Husain Ahmed. The Abu Dhabi-Doha return itinerary costs \$7,900 per seat.

Hadid International Trip Support's September 2022 "Airport Operational Overview" said that only two airports—Hamad International Airport (OTHH) and Doha International Airport (OTBD)—would be available to serve fans wishing to attend matches. "Matchday shuttle flights will be operating from Dubai, Jeddah, Kuwait City, Muscat, and Riyadh," it said.

According to official FIFA World Cup 2022 rules, flights operating to Doha are to be distributed according to priority: all scheduled services and additional scheduled services



The World Cup Trophy awaits the winners of the final match, who receive a gold-plated replica.

will be accommodated at OTHH; charter services at either OTHH or OTBD subject to slot availability; general and business aviation (GA/BA) services primarily at OTBD; and state and VVIP services will take place at either OTHH or OTBD, on the basis of local authorities' requirements.

Hadid said business jet users need to apply for a slot booking deposit number to obtain a ground-handling confirmation number before obtaining slot clearance. "Apply for landing clearance 72 hours before the intended flight takes place," it said.

Slot cancellations received on the day of operation and no-shows will be subject to a \$20,000 penalty per flight for GA/BA flights and loss of slot booking deposit. Hadid

recommends Dubai Al Maktoum International Airport or Abu Dhabi Al Bateen Executive Airport for parking during the tournament.

UAS warned operators to bear in mind that to get into Qatar, they needed to overfly Iraq, Iran, or Saudi Arabia. "It can be a dynamic and fluid situation in some of the airspace around Qatar," said Matt Borie, head of intelligence at Osprey Flight Solutions.

"It's one of the safest countries in the Middle East and there will be widespread deployment of security forces," Borie noted. "There are regulations in the country you will want your crew and passengers to be aware of, especially around alcohol, dress and attire, plus specific things you're going to have to have in place for clients to enter the country. And if those aren't met, there could be security issues. The unpredictable nature of the region is something you don't have control over."

UAS said that despite the multi-billion dollar investment the long-awaited tournament has commanded, there will be a major strain on resources. Some 1.5 million people were expected to come into the region, with 1,300 flights daily planned at Qatar's two airports alone—either scheduled, shuttle, or charter.

"Look further airfield and park at other locations, like Abu Dhabi, Sharjah, or Dubai, in the UAE, or Muscat, in Oman, a little further to the east, with similar accommodation and facilities," Borie said. "Further to the west, there's Jordan's Aqaba Airport, too, with less demand on ground transport, hotels, medical services, and restaurants."

"More than ever, the focus for operators is going to be running on time," said Gama's Murphy. "Sharjah, given it's not as congested as our competitors in Dubai-taxi times are around six minutes, and it's zero slotrestricted—is a good option to assist operators in running on time and avoiding fines."

Gama is running a campaign for anybody operating into Qatar, giving every aircraft seven days of free parking at Sharjah, though this requires pre-approval. "Operators will need to provide registration and schedule," Murphy said.

"Obviously, we're going to have limited capacity because the general consensus is that there are going to be a lot of aircraft on the ground in the UAE, so we are not going to be able to give this deal to everybody. It's on a first-come, first-served basis; the efficient airport, lack of congestion, the incentive for free parking and line maintenance hangarage, and airside transportation add up to a good solution."

UAS sees rebound in Middle East, North **Africa bizav sector**

by Peter Shaw-Smith

Business jet OEMs have identified the Middle East as a target market, and several wealthy individuals have moved to the region to take advantage of air charter opportunities, according to Dubai-based UAS International Trip Support.

"As we officially emerge from the pandemic, the private aviation sector is rebounding incredibly fast in the Middle East and North Africa [MENA] region," UAS co-owner, founder, and executive president Mohammed Al Husary said. "This is largely due to high demand. A large number of high-net-worth and ultra-highnet-worth individuals have positioned themselves in this region to take advantage of the current set of business jets that provide range and luxury to access the globe."

Pre-pandemic, such travelers might have used first class as their means of transport but they have since discovered private aviation as a safer, faster, and more efficient alternative, he said. "Now that they have switched to it, they are unlikely to transition back to commercial travel," Al Husary added.

"Additionally, business jet manufacturers have identified this region as a growth market and turned their focus here to satisfy expected demand. We expect this to continue to flourish in 2023," he said.

Growing the Fleet

As demand for business aviation rises in the region, the size of the fleet, in general, will have to grow to match it. In September 2021, Bombardier announced that it received an order for 20 Challenger 3500 business jets worth \$534 million. Al Husary also noted that "Gulfstream unveiled the G800 last October, which boasts an incredible 8,000-nautical mile range and will begin deliveries in 2023.

"Refinement and efficiency are the cornerstones of this new airplane, reflecting what the market wants and needs. This investment only points one way—that development, production,

and innovation of business jets will surely see demand in the region increase," he said.

While Al Husary said business aviation is incredibly sensitive to changes in economic and social conditions, it is also extremely resilient. "Adaptability is the name of the game," he remarked. "There is strong demand for travel now that restrictions are being lifted. Economic recovery might take a bit longer than expected. However, despite oil concerns and the conflict in Ukraine, the demand for

operations team in Dubai," said Al Husary. "It was another great illustration of how our global network, and power to put our people on the ground, are key to our operational excellence. We see our role as alleviating the stress and workloads of our clients, optimizing their resources and efficiency, and delivering superior travel experiences."

Growth Leads To Expansion

UAS recently made great strides in solidifying its global network in the Americas and the Balkans, ensuring the delivery of white-glove service on the ground across five continents.

"Our recent investment and expansion across North and into South America can now rival our extensive ground presence in the Middle East, Africa, and China," Al Husary said. "Our on-site supervisors across airports in the U.S., Mexico, Brazil, and Colombia—with the power to relocate to any airport—alleviate time-consuming planning



"As we officially emerge from the pandemic, the private aviation sector is rebounding incredibly fast in the Middle East and North Africa region."

UAS co-owner, founder, and executive president Mohammed Al Husary

business travel is extremely strong.

"Particularly within UAS, we've noticed that our business aviation clients have never been more active," he reported. "The reduction in country restrictions across the globe means that previous difficulties are dissolving, and more people are taking to the skies, not just in the MENA region but globally."

Lately, UAS has been supporting clients' operations to the FIFA World Cup in Qatar, as well as head-of-state operations to the APEC summit in Bangkok, and COP27 in Sharm El Sheikh, Egypt, in November. UAS was also busy supporting international flights to the funeral of Queen Elizabeth II in September, a challenging feat due to tight restrictions on slots and airport parking availability at major London airports.

"This endeavor required multiple supervisors on the ground at one time supporting different missions whilst being led by the

and supervision responsibilities, and act as a local liaison, allowing our clients to leave trip planning to us so they can focus on their core business."

Al Husary said feedback from early adopters of the UAS Global Trip Manager (GTM) technology had been overwhelmingly positive. UAS launched GTM in May with selected partners among the first to put the trip-management tool through its paces. "It was specifically designed to overcome the major and minor pain points that operators experience," he said.

"GTM delivers comprehensive and immediate control of all trip-planning activities in a user-friendly, straightforward web and mobile-based trip-planning application," he noted. "It's certainly the most powerful tripmanagement system available on the market, with some unique features. And it meets operators' needs for greater control of their trip-planning activities.



New generation of bizav operators step forward in Saudi Arabia

by Peter Shaw-Smith

Despite five years of official disfavor for the business aviation sector, operators are moving forward in Saudi Arabia.

"It's just very exciting times in Saudi Arabia because we're seeing a big push in expansion for general aviation, for private business aviation in the kingdom," Yosef Hafiz, vice president of commercial sales and marketing at Riyadh-based NasJet, told AIN, in a nod to the role of the country's General Authority for Civil Aviation (GACA).

"GACA is listening. GACA actually hosted general aviation operators at their headquarters and said, 'Hey guys, what do you need us to do to make your life easier? What do you need us to improve upon?' They're listening. You can see that changes are happening within, and we can feel it. We're excited about it, and we're hoping that these changes take place quickly because to meet Vision 2030, you have to have those changes take place. You have to have them engage. So let's see."

However, he conceded that pressure on business aircraft operators to keep their heads down after the Ritz Carlton detentions in November 2017 had yet to fully ease. "This is a very fluid market, and it almost feels like there's a very big push for people to own and purchase aircraft," he said. "However, what we're seeing is that people still don't want to be on the radar screen. They don't want to be visible. They're just a little, I don't want to say fearsome, but more cautious in purchasing a product that suits them."

NasJet's fleet remains at around the 18-aircraft mark. "There are newcomers into the market," he said. "We're not seeing the industry as Boeing Business Jets would love to see it. In the past, Boeing used to have 30 or 35 aircraft based here in Saudi Arabia, and they still feel like there's a big demand for BBJs. Airbus ACJs would be the same."

As evidence of a trend to smaller aircraft, NasJet is in the process of adding a Pilatus PC-24 to its fleet. "We're the very first aircraft management company in the kingdom to add the PC-24 under an operator specification," he said. "It's going to go under private category. It's owned by a private individual, and it's the very first Aruba-registered aircraft to be added under a private category office in Saudi Arabia.

"It's a light, small business jet, and it's perfect for his needs. He flies domestically, and he takes it all the way to London and back; he doesn't mind stopping one or two times on his way over. We're seeing the new generation come forward now and new people interested in chartering. Charter demand has increased exponentially. There are not enough aircraft in the market to meet that demand."

In explaining the progress of the Saudi market, Hafiz returned to a theme he has explored before: aircraft operations licensing in the kingdom. In 2018, two options for

Saudi owners were introduced: either to join a company that has an operator certificate (OC) under private category for personal use but not for hire under GACA Part 125, or adding an aircraft onto an air operator certificate (AOC), a commercial certificate under GACA Part 121 special unscheduled operations.

"Those are the two choices," he said. "It's either A or B. There's no C or D; there's nothing else. That's it. We have both. We have the OC and the AOC. If you want to really sugar things up, it's good to have a GACA Part 145 as well, an MRO repair station approval. Then you can piggyback off of that and serve your clients by working on the aircraft and generating additional revenue."

He said operators were happy about the move, with GACA controlling the environment better and adopting new regulations eliminating or at least reducing grey-meaning illegal—charter.

"Obviously, operational control falls on the operator rather than the owner of the aircraft," he said. "It's very interesting to see that the changes are bearing fruit. They're forcing new aircraft to be based in Saudi Arabia. How do they consider it to be so based? It's in and out maybe more than seven times a year. It's sitting here for more than three days at a time. That's considered based in Saudi Arabia."

Hafiz said one area where business aviation is progressing is in the provision of new dedicated airports. A new commercial airport is to be built at Neom Bay, freeing up the existing facility for business aviation. Also, a special-purpose business aviation airport will be built at Amaala, another major Red Sea coast project.

"They have another one, a military airport, in Mecca, which is used primarily for highend royal family members to land in-not for the general public. [GACA are] thinking about converting that over to a business or general aviation airport," he said. "There may be another one in Riyadh somewhere."

With just Saudia Private Aviation and Jet Aviation designated as FBO operators in Saudi Arabia today, Hafiz said GACA's Vision 2030 calls for the addition of new blood. "They're looking for private investors to come into the kingdom—people and FBOs with experience and know-how. It will be a joint venture, probably with private investors, the Public Investment Fund (PIF), and airport operator Matarat Holding. Matarat would give the FBO the land; GACA would award the license to operate," he said.



VistaJet continues strong growth with unified fleet

by James Wynbrandt

Charter fleet owner-operator VistaJet International (Stand 1050) recently revealed the results of its global fleet expansion, the fruit of an aggressive acquisition strategy that began with its 2018 purchase of XOJet and continued this year with its roll-ups of charter operators Jet Edge in the U.S. and Germany's Air Hamburg.

"We want the market to understand our acquisition plan and how we are integrating the companies," said Leona Qi, president VistaJet U.S.

VistaJet is now upgrading interiors, training flight and cabin crews, provisioning cabins with luxury amenities, and repainting the aircraft acquired in its acquisitions in the company's signature red-accented silver livery. The goal, said Qi: "To Vista-cize the entire fleet to the VistaJet standard."

This year's acquisitions have added 200 predominantly large-cabin jets to its roster more than doubling the total fleet to some 350 jets-and includes the worldwide infrastructure necessary to support their operations,

To take advantage of the larger lift pool efficiently, the Malta-based company has added access options for its current and prospective customers.

Among the biggest changes for current customers: super midsize jets—the Challenger 300/350s from the former XO fleet—have been added to the VistaJet fleet, which previously included only large-cabin and ultralong-range jets. XO, meanwhile, has been repurposed as an aircraft brokerage to serve members' off-fleet needs, as well as the public at large.

VistaJet's premier product remains its three-year, 50 flight hours per year minimum subscription membership, providing access to its global fleet, including the Bombardier Global 7500.

For these members, VistaJet has added a "hybrid" option that provides regional or zone plans (either east of the Mississippi in the U.S. or within Western Europe) that include access to midsize jets. Service will be on Citation Ultras, Xs, and XLSs that wear VistaJet livery but are not considered part of the core fleet, at lower hourly costs than premier pro-

For potential customers seeking a regional plan with less commitment, VistaJet has introduced the VJ25 plan. It provides 25 to 49 flight hours per year access to fleet aircraft within two service zones: east of the Mississippi in the U.S.; and Europe, the Middle East, and Africa. However, unlike its premier membership, VJ25 has 40 designated high-demand

days annually, during which on-fleet access is subject to availability, and comes with a 15 percent premium charge. If no fleet aircraft are available, XO can find and book a suitable alternative and add a service charge. VJ25 customers can exercise their fleet access in either market, but when out of the home service area, lift is subject to availability.

VistaJet is introducing VJ25 as a limited edition program, restricted to 100 customers; 15 sales had been made as of late September, Qi said. After the first 100 customers are onboard, the company will evaluate the plan's impact on the fleet before expanding availability.

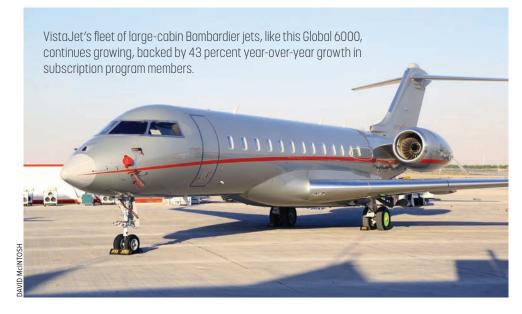
Though executive travel has reportedly been underrepresented amidst the Covid era's spike in charter demand, these travelers remain an important part of VistaJet's clientele, and the company is also considering expanding its corporate travel program options, Qi said. "We're trying to incorporate light and midsize jets into the product, but it hasn't officially launched."

Qi noted that even without acquisitions, the fleet continues to grow organically through deliveries of Global 7500s (13 are now in its fleet) and other new jets. At EBACE this year, VistaJet floated the idea of shifting some of its remaining Global 7500 orders to the newly announced Global 8000, a faster, longer-cabin, and longer-range sibling. When asked for an update on that decision, Qi said, "We are still evaluating our options. Everything is being negotiated."

Financial performance has been strong in the first half of this year, with 43 percent yearover-year growth in subscription program members, and 76 percent growth in program hours sold, the company reported—over 25 percent more hours than sold in the entire pre-pandemic 2019 year.

VistaJet has been aggressively promoting sustainability, setting a carbon neutrality goal of 2025 for itself via carbon offsets and increasing the use of sustainable aviation fuel, 25 years ahead of the industry's 2050 timeline. Pursuant to that, VistaJet offers customers the option of buying carbon offsets for their flights, with VistaJet making up the shortfall between voluntary offsets versus total annual flights. Last year 80 percent signed up for the offset program. "I'm happy to report today, 85 percent of our members have opted in," said Qi.

VistaJet has also released two annual reports documenting its internal sustainability initiatives and their results.





With range of up to 3,340 nm, Embraer's Praetor 500 can carry a full-fuel payload of 1,600 pounds. Top speed is 466 ktas, and it can carry up to nine passengers.

Saudia Private Aviation orders new Praetor 500

by Peter Shaw-Smith

Saudia Private Aviation (SPA, Stand 1125), the Saudi flag carrier's VIP air charter arm, has placed an order for an Embraer Praetor 500, with delivery set for third-quarter 2023. It also has an option on a second of the midsize business jets, SPA CEO Fahad Al Jarboa told AIN.

"We will be receiving a new aircraft in the third quarter of next year and slowly rebuilding our fleet," he said. "We postponed some decisions because of Covid, but we will finally have a new aircraft next year. The Praetor 500 is more for regional range. We have the option to take a second aircraft; we may execute another order in the first quarter of next year, pending approvals from our support directors."

In recent years, SPA has disposed of its legacy fleet of 10 business jets, which included four Dassault Falcons—three 7Xs and a 900 and six Hawker 400XPs, as the aircraft were not well suited to its operations, according to Al Jarboa.

However, he is keen to underscore the company's progress, despite anecdotal evidence of a lull in private and business aviation in Saudi Arabia following a government move against high-level corruption in 2017. He believes

SPA has weathered the storm and emerged stronger from Covid and is well positioned to take advantage of hitherto dormant commercial activities.

"We would like to demonstrate that our company is still as strong as pre-Covid, if not stronger," Al Jarboa said. "We filled the void, at least in Saudi Arabia, when it came to evacuation and last-minute flying, because during Covid, it was all on an urgent basis, trying to evacuate Saudi nationals or even expats who wanted to return to their countries. We did very well in meeting the demand for charter aircraft. We have also been expanding our FBO services in global flight support."

SPA also boasts numerous FBOs. "Jeddah and Riyadh are our main focus, with a presence in Dammam, Medina, Jizan, Yanbu, and Neom," he said.

The company continues to take advantage of ad hoc access to the flag carrier's full fleet, a "sub-chartering" strategy Al Jarboa explained to AIN in 2019. "We continue to do that. We are the private-charter arm of Saudia; for anyone who's looking to charter narrowbody or widebody, we have full access to the Saudia fleet that is on standby. Evacuations were performed largely using the Saudia fleet."

On the narrowbody side, SPA has access to

Saudia's Airbus A320s and A321s. "On widebody, we have access to the Airbus A330 and Boeing 777 and 787," he said.

In fact, SPA was able to provide widebody charter to the Saudi national soccer team for matches in Australia and Japan last year, as well as training in a number of countries earlier this year in preparation for the FIFA World Cup in Qatar. "We are the official national carrier on the Saudia 777, likewise, for some of the big government clients," he said.

As a representative of the flag carrier, SPA is in the best position to take up any new business coming into the market. "We benefit from the economies of scale of Saudia, and because of that, we are able to offer competitive packages to our customers," he said. "No one can compete with us. On the narrowbody, only NasJet can compete with us, but on the widebody they cannot."

Al Jarboa said SPA's management responsibilities extend to civilian aircraft from the Saudi Royal Air Force. "We provide full global flight support. These are aircraft owned by the military, ranging from the Airbus A330 Multi Role Tanker Transport to the C-130, Beechcraft King Airs, Hawkers, Saabs, Gulfstreams, and Boeing BBJs."

SPA also provides ground handling for the Saudi Aramco fleet in Jeddah, Riyadh, Yanbu, and several other stations in Saudi Arabia.

According to Al Jarboa, SPA's main client base is local Saudi corporations, with government agencies and private individuals also having the option to travel with Saudi competitor Alpha Star. The latter company has a fleet of nine aircraft: three Airbus ACJ320-family jets, two Gulfstream G450s, two Hawker 900XPs, and an ATR 42-500 and 72-600.

A major focus of Saudi development is the three mega-projects taking place on its northwest Red Sea coast—at Neom, Amaala, and the Red Sea Development Project.

"The projects are coming along nicely," he said. "Big progress has been made. We are in discussion with the management to be a part of their FBO services. We're confident we will be taking part in the future."

He added that high oil prices had underlined the kingdom's status as a "sleeping giant," as its coffers swelled to the tune of up to an extra \$500 million a day when oil prices peaked due to the Ukraine war. "Now that our crown prince has opened up the country to tourism and business, it's much easier," he said. "Saudi Arabia is more accessible. We are reaping the benefits of that."

Rolls-Royce plans to fly Pearl 10X engine in 2023

by Mark Huber

Rolls-Royce plans to fly its first Pearl 10X engine for the ultra-long-range Dassault Falcon 10X in the second quarter of next year. Philipp Zeller, Rolls-Royce senior v-p for Dassault, said flight tests of the engine will be conducted on Roll-Royce's Boeing 747-200 flying testbed in Tucson, Arizona.

The tests will involve four engines that collectively will fly for approximately 100 hours. After successful flight testing, the engines will be shipped to Dassault.

Dassault unveiled plans for the 115,000-pound-mtow Falcon 10X in May 2021. The French aircraft manufacturer expects the \$75 million, 7,500-nm twinjet to enter service

The Pearl 10X is the most powerful engine in the Pearl family, with more than 18,250 pounds of thrust and 5 percent lower specific fuel consumption compared with similar

previous-generation business jet engines. It features an improved thrust-to-weight ratio while maintaining low noise and emissions performance.

In addition to Dassault, the Pearl family of engines has been selected for Bombardier and Gulfstream ultra-long-range jets. The Pearl 15 currently powers the Bombardier Global 5500 and 6500 large-cabin business jets, with 50 of those aircraft already in service. And the Pearl 700 has been selected for the Gulfstream G700 and G800, both of which are slated to enter service next year.

According to Rolls, the Pearl 15 features the same nacelle envelope as its legacy BR710 powerplant but is more powerful, with a maximum certified thrust of 15,250 pounds, and has up to 7 percent better specific fuel consumption. It is 2 dB cumulative quieter and shows a 20 percent improvement in NOx emissions margin.

Meanwhile, the Pearl 700 features an 8

The most powerful engine in Rolls-Royce's Pearl engine family, the Pearl 10X will deliver 18,250 pounds of thrust. Flight testing of the engine, which is slated for Dassault's Falcon 10X, begins next year.

percent increase in takeoff thrust and is 5 percent more efficient than the Rolls-Royce BR725 engine that powers the ultra-longrange G650/650ER.

"We are really happy with the way the [10X] program is going," Zeller said. "We had our first engine run in January and since then are really satisfied with the test results in terms of performance and emissions. It meets all our expectations."

Rolls-Royce is conducting its final build on the engine and will demonstrate aircraft integration aspects via additional ground testing and engine runs over the next few months.

The new Pearl engines feature an engine vibration health monitoring unit that measures 10,000 parameters, delivering "a very comprehensive insight into the engine performance," said Andy Robinson, Rolls-Royce's senior v-p of services for business aviation. "That enables us to be more proactive and possibly find upcoming issues before they even take place...It is something that we've introduced with the Pearl [engine]. It's a groundbreaking piece of technology. We're working closely with the airframers because it's mounted in the airframe and coupled to both engines."

The company boasts a 99 percent dispatch rate for its business aircraft engines and is posting record enrollments in its CorporateCare family of engine-support programs, according to Robinson. He said new service plan enrollments, which had been running at about 150 per year, already stood at between 350 and 400 through August.

"It is the best year we have ever had," he said. To support its growing business aviation engine fleet, the company has added more technicians in Europe and North America. Real-time engine health monitoring for plan enrollees means that Rolls-Royce can dispatch parts and personnel to the aircraft without the customer becoming mired in the purchasing process. "It's a much slicker process, which means greater aircraft availability," Robinson noted.

In addition, Rolls-Royce has made significant investments in digital technology solutions. It recently launched a new customer portal, the Yocova marketplace, where customers can buy services online directly from the company. "This collaboration platform gives customers single sign-on access to all the capabilities and services and features that we provide. That includes engine health monitoring and new technical publications," said Robinson.



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Business jet cabins' heart of green

by James Wynbrandt

The aircraft cabin plays a key role in business aviation's sustainability push for reasons extending beyond bottom-line economic benefits. And it's a part that OEMs and MROs, their vendors, interior designers, and customers are increasingly embracing.

"If we're going to move our industry and society in the direction of sustainability, it's going to involve the sum of small things," said Vadim Feldzer, Dassault Aviation's head of global communications. "That's where improving the sustainability of the cabin comes in."

Now, metrics to quantify cabin sustainability are being developed and a new generation

of bio-based materials are being deployed, signaling growing momentum for green interiors. If less ballyhooed than technological advances, perhaps it's not the more modest footprint reductions that sustainable cabins achieve compared to, say, a new-generation powerplant, but rather because aircraft interiors have been largely sustainable for some time.

"We've been offering sustainable premium textiles, wood, stone, and naturally sustainable fibers for decades," said Christi Tannahill, Textron Aviation's senior v-p of customer experience, citing the wool, cotton, linen, silk, mohair, bamboo, and leather common in Textron's and other OEMs' cabins.

In its Savannah, Georgia production facilities, "Sustainable materials are used throughout Gulfstream interiors," said president Mark Burns, singling out traditional fabrics, along with natural latex and composite veneers, "all of which can be derived from renewable resources." Furthering cabin sustainability are the largely recyclable components.

"Cabinets are mostly aluminum honeycomb, and can be fed directly to a smelter," Burns said. "Natural fibers such as silk or wool can have second lives as jute, rags, or feedstock for paper mills, while synthetics such as nylon and polyester are sought after by carpet mills to use as feedstock to create more carpet."

At Bombardier, Global and Challenger cabins feature "a range of upcycled and engineered soft goods made from reclaimed or natural fibers," said Laurence Casia, manager of industrial design and cabin innovation, many of them showcased on its super-midsize

Challenger 3500. The rapidlyrenewable wood option for cabin surfaces and more locally sourced fiber-based materials "are often more durable and lightweight" than those they replace, he said.

In addition to the fabrics, wood, vegetal-tanned leathers, and other renewable and environmentally friendly materials throughout Dassault Aviation's Falcon cabins, the forthcoming flagship Falcon 10X is designed with modular interior elements to enhance sustainable maintenance. "If there's an issue with a cabinet, for example," said Feldzer, "It's easy to repair or modify without having to replace substantial interior components."

Sustainable materials are entering a "super natural" era, uniting them with technology and opening new frontiers in design and sustainability.

Austria-based F/List, long known for its innovative, bespoke interior components and outfittings for luxury residences and super yachts, as well as high-end jet cabins, is "now diving into a lot of sustainability elements," said innovation head Melanie Prince.

Internally and in partnerships, F/List is creating "a portfolio of stuff that actually works, and that is actually sustainable," Prince said. Some mimic and match the look and feel, while outperforming, less sustainable high-end materials—for example, the hides and skins of undomesticated animals. Meanwhile, the bio-based material underlying its Shapeshifter technology brings to the cabin dynamic movement that can alter interior spaces.

Germany's Lufthansa Technik, which has introduced recent innovations including voice command in cabin management systems and ultra-thin curved OLED screens that save weight and energy, is adding sustainable materials to the list, including its new Aero-Flax. A flax-based replacement



Dassault's largest jet, the forthcoming Falcon 10X, features environmentally friendly materials and modular elements that can easily be repaired or replaced without affecting other components.

fabric for glass or carbon-fiber parts such as sidewalls and ceiling panels, AeroFlax offers a 20 percent weight savings and meets flammability standards.

Concept Cabins

While demonstrator models can serve as state-of-the-art sustainability showcases, "concept cabins" allow OEMs and interiors specialists to introduce novel ideas and applications, and judge market reaction and practicality before offering them to customers.

A concept for the Praetor 500/600 from Brazil's Embraer envisions "a multidimensional sustainable interior," incorporating, in addition to sustainable natural materials, design elements based on the Japanese art of "Mokumegane," a technique for creating mixed-metal laminate from discarded materials—including, in this case, titanium, copper, and plastic—for cabinetry and other cabin surfaces.

"Affinity," a widebody cabin concept created by Boeing completion specialist Greenpoint Technologies, integrates biophilic, or human-nature-centric design and organic materials, with innovative technology. Setting the tone, expansive OLED screens host live feature walls that display nature scenes, illuminated by circadian rhythmaligned lighting.

Basel-based Jet Aviation, already committed "to offering our customers a range of sustainable choices," said v-p of completions sales and marketing Matthew Woollaston, introduced this year a VIP cabin concept—dubbed "Mink"—that includes table marble marquetry made of stone offcuts, complementing the natural fiber fabrics and flooring made from recycled materials. The MRO is concurrently investigating additional materials for use in its ongoing completions and refurbishments,



Aircraft such as the Citation XLS Gen2 are adopting more sustainable materials in their cabins.

including plant-based leather alternatives and water-based paints. These materials "enhance cabin sustainability without sacrificing the look, feel, and quality," said Woollaston.

If Woollaston's comment raises the question of whether luxury and sustainability can co-exist in the business jet cabin, the response from the frontlines is uniform.

"Sustainability, quality, and craftsmanship are without a doubt compatible," said Gulfstream's Burns, adding, "Natural materials at their best are typically also the finest."

Said Casia at Bombardier, "We've demonstrated that sustainability doesn't mean having to make any compromises." The greener elements, he added, "are as comfortable and luxurious as they are sustainable, and as light and beautiful as traditional materials."

Tannahill pointed out that cabin materials are selected first for their natural properties. The sustainability test is the ultimate, not primary criteria.

"Wool is sound-dampening and naturally flame-resistant, and cotton, linen, silk, mohair, and bamboo are also naturally

flame-resistant," as well as durable and luxurious, she noted.

The one outlier among the sustainable natural elements in the cabin is the signature polished hardwood veneers, long standard in high-end interiors and traditionally sourced from slow-growing, exotic, or endangered tropical hardwoods. Today a variety of sustainable veneers and other cabin surface options are available.

Comlux Completions is among those that use reclaimed and repurposed veneers to create new ones. "You cannot tell the difference between these reclaimed products and traditional veneers," said company CEO Daron Dryer, noting that the repurposed product is available as an option on the ACJ TwoTwenty.

Challenger and Global cabins offer hardwood veneer made from fast-growing eucalyptus trees, cutting carbon dioxide byproducts by 43 percent and water consumption by 94 percent over traditional veneer production.

Dassault's multiple alternatives to standard veneer include an in-house process that reduces varnish applications and applies a paint finish over sustainable

wood. At Textron Aviation, the composite veneers in Cessna Citation and Beechcraft cabins are made "by using every scrap of veneer left over from a 'green certified,' responsibly harvested initial veneer," Tannahill said, with the pieces laminated together to "create a new, modern grain pattern."

When natural veneer is used, she added, it's sourced from "high-quality surplus inventory when available to minimize new-production processing efforts."

Customers in the aftermarket can opt out of veneer and choose an entirely different surface look.

MROs Duncan Aviation and Liberty Partners offer hydrodipping, a process that shrink wraps a detailed, 3D image replicating the look of any material-or a scene or artwork—onto almost any complex, solid shape. A hydrodipped cabinet, for example, after the film is applied in a dunk tank, can mimic an exotic veneer or carbon fiber surface indistinguishable from the real McCoy or just as easily showcase artwork or a fanciful tableau, providing more options for demonstrating individuality, as well as sustainability.



Boeing Business Jets emerges energized from Max grounding

by Gregory Polek

Boeing Business Jets (Stand 835/ Static A22/23) appears to have weathered the most damaging effects of the grounding of the 737 Max airliner and the subsequent Covid crisis, and the company reported that it has now met all delivery commitments to date. Collecting four orders for BBJs this year, Boeing's business aviation division has in fact benefited from pent-up demand for business jets during the pandemic and has entered advanced negotiations for further BBJ Max and widebody BBJ contracts, according to its president, Erika Pearson.

The company plans to deliver two more green BBJ Maxs this year, followed by another three in the first half of 2023, noted Pearson, who explained that interest has only increased with the record low inventory of used BBJs. "There are only a few preowned BBJs on the market," she said.

"We are also having conversations with new prospective customers directly." In short, demand has increased well above historic averages, despite a bit of a lull from the peak early this year—a typical pattern in late summer and early fall, she further said.

"In [contrast] to commercial aviation, interest in BBJs and other business jets of all sizes grew during the pandemic, and high-income travelers are chartering private jets now more than ever," said Pearson. "Flying private helps passengers avoid the most congested airports, eliminate high-touch screenings such as TSA checkpoints or luggage drop-off counters, and minimize contact with other travelers in terminals and on planes. VIP travelers are also finding that chartering a private airplane may be more affordable than previously thought."

The ensuing "major spike" in demand for both new and used BBJs has resulted in inflated values, sometimes as much as 50 percent above published current market values.

"We also continue to see significant interest in our widebody, ultra-long-range BBJs: the BBJ 787 and 777-9," commented Pearson, who noted that customers can choose from both sizes of the 777X, the longer-fuselage, carbon-fiber-winged upgrade to the 777-300ER scheduled for introduction in 2025. "BBJ is the gold standard of the ultra-large widebody business jet. Approximately 75 percent of widebody business jets sold in the last 21 years have been Boeing Business Jets, including the BBJ 747, BBJ 787, and BBJ 777."

Inside the main deck of the BBJ 777-9, the first bizjet variant of the 777X to come to market, customers get 3,689 sq ft of cabin space, enough to accommodate many interior options for bedrooms, recreational areas, and a

large dining room for corporate customers. Likewise, heads of state will enjoy ample space for a large staff and communications and security teams.

The executive version of the 787 airframe, which has accounted for at least 16 of Boeing Business Jets' 260 sales over its 25-year history, carries a 2,775-sq-ft cabin while its 9,485-nm range can link London to Sydney or Tokyo to Cape Town, South Africa, nonstop. Jet Aviation redelivered its first BBJ 787 completion last year, and the cabin, designed by an outside firm, features several new design elements and "an exceptionally low cabin noise level," according to the completions company.

Supplemental humidification, an advanced three-stage air filtration system, and a quieter and lower-altitude cabin are additional enhancements. Also, the dual-axis stability system, developed for the 787, delivers a smoother ride.

Meanwhile, trends in cabin preference have seen Boeing's 10 licensed completion centers around the world support engineers' efforts to meet the demand for private rooms with the walk-by aisle not available in smaller business jets, higher-speed and more reliable Wi-Fi, and more convenient connector and charger locations, and what Pearson called wireless gadgets to control the cabin more easily.

Separately, the company has seen increased demand for the BBJ's low-altitude cabin. "As the only bizliner that offers this, BBJ finds high interest in this feature, as well as supplemental humidification systems," she noted. "Finally, we see continued interest in reductions in cabin noise, with interiors now coming with noise levels as low as 40 dB—some of the quietest in the industry by far. This comes with the judicious and targeted installation of noise-reduction insulation."

World Cup takes center stage at Jetex Dubai

by Peter Shaw-Smith

With the FIFA World Cup now in full swing, Jetex's FBO at the VIP Terminal at Dubai Al Maktoum International Airport (OMDW) is likely to be the main beneficiary of movements of day-trippers making the short hop to Doha to enjoy tournament games in Qatar. For company president and CEO Adel Mardini, such activity is a minor cog in what has now become a global business.

Operating 37 FBOs and 50 locations worldwide, this year Jetex opened FBOs at Singapore Seletar Airport (WSSL) and London Biggin Hill Airport (EGKB). In May, Jetex signed an agreement with Cyprus-headquartered Avia Solutions Group to operate the FBO at Hangar 510 at EGKB. This year also saw a ramp-up of operations in Singapore, where Jetex signed an agreement to provide FBO services in collaboration with Bombardier.

Jetex expects to be operating and managing 50 FBOs by the end of 2024—a plan that was only temporarily constrained by the coronavirus pandemic. Only the U.S. lies outside Jetex's grand plan; instead, it will limit its goals to trip planning in the U.S.

Mardini long ago realized that more than a dash of Middle East hospitality would make for a world-beating formula, with hub Dubai at its center. As a result, Jetex claimed 5,000 movements in Dubai in the first half of 2022. "That is not as good as last year when the airport had 15,000 movements, of which we had 11,000," he said. "That's almost 80 percent. Don't forget, we are five FBO operators at OMDW. Of the five, we did 11,000 movements. I don't know what the others did."

Although official statistics are hard to come by, Jetex claims the lion's share of business at OMDW in competition with Jet Aviation and Falcon Aviation, which also operate and manage facilities at the shared VIP Terminal, and DC Aviation-Al Futtaim and ExecuJet, which both run separate facilities. Construction on ExecuJet's alternative FBO/MRO is expected to be completed early next year.

"I have a lot of business," Mardini said. "In my industry, we are a leader. We are one of the

top five or six global FBO operators. Alongside Signature, Atlantic, and Jet Aviation, we are one of the top five in the world. We have seen 100 percent growth in profits this year, compared to last year.

"What we have is different. The yardstick we use to measure this is expansion. We are the only FBO operator in the world providing all services under one roof: fueling, FBO, trip planning, concierge, and charter."

Mardini sees Dubai's business increasing in the future. He believes that once Emirates are close to this location."

Mardini is also eyeing the urban air mobility (UAM) market, which he said is projected to grow from \$2.6 billion in 2020 to \$9.1 billion by 2030. At EBACE in May, Jetex and eVTOL pioneer Volocopter signed what Jetex called a "milestone strategic partnership agreement to define a safe and sustainable model of UAM."

Miami, Singapore, and Paris are the priority markets for the Volocopter deal. "Our understanding is that the infrastructure will be designed by them and built and managed by us," he said. "The plan is to have a Volocopter landing pad right here at the VIP Terminal at OMDW."

Jetex's reseller partnership with Honda Aircraft saw deals for three HondaJets this year. "Our deal with Turkey's Mavi Air was not the first deal we did-which we did not announce—but the second. We did a good deal. We cannot say who the first customer



Jetex's talented customer service representatives carry on the FBO's colorful World Cup theme.

returns to full operations at Dubai International Airport (OMDB), things will change. "That's when slot restrictions will increase again," he said. "The split between OMDW and OMDB is still around 70 percent in favor of OMDW. I would love it to go to 90 percent. OMDB is like Heathrow—a commercial airport. It depends on the client."

As a MEBAA board member, Jetex is the official show FBO service provider at the MEBAA Show this week. "Our location at OMDW is very good for VIP clientele. Given the remote location here, they don't get stuck in traffic. Most of our clients are located in Jumeirah, Dubai Hills, or Emirates Hills. They

was. It was in the Middle East, which is our region. We've done two for Mavi, plus another. We are happy with this achievement," said Mardini.

In addition to the London Biggin Hill Airport FBO, Mardini is eyeing possible options at Luton and Stansted. He believes the importance of Paris Le Bourget will only increase as the Covid effect fully washes out of the global system. "I hope there will be no more Covid problems, and then we'll start moving," he said. "We did more than 10,000 movements in Paris in the first six months of the year. We'll break the record this year in Paris—our expectation is 18,000 flights."

New market entrants help drive demand, says RightJet

by Peter Shaw-Smith

Dubai-based charter and aircraft broker RightJet is making a name for itself as a regional business aviation services specialist with a canny emphasis on optimizing pricing.

"We've had to be dynamic and agile in 2022," CEO Mark Hardman told **AIN**. "I see 2023 as a good year for the industry—and the same with 2024 and 2025, despite the slowing of economies. That's because of some of the challenges that exist elsewhere in the travel industry-connectivity with the airlines and service levels at airports. The good thing is all the new clients coming into the market."

RightJet (Stand 829), which was established early last year, is purely and simply a broker, he maintained.

"We offer value-added expertise all the way through the process, based on 35 years of experience," he said. "We have five revenue streams: principally charter, closely followed by aircraft sales, consultancy, leasing, and management services. These are very bespoke. It's been quite interesting, quite a journey. We set up the business in January 2021, right in the middle of the pandemic. As international borders have reopened, there's been great opportunity."

Hardman claims that RightJet is the only UAE-based charter brokerage to be exhibiting this week at MEBAA 2022. "For me, it was, really, not a big decision, given MEBAA's refocus and support to bring in end users. The MEBAA Show allows us to meet the community again and new clients. For us, the show is not about size or footfall, it's about quality."

He said the number of brokers in Dubai was difficult to count but likely sizeable. "In my opinion, we have reached critical mass," he said. "At a guess, the number stands at over 30—and is possibly double that if we include those who work from a briefcase."

Charter availability very much depended on the owner behind the aircraft. "Obviously, there's quite a number of operators that own aircraft here in the Middle

here. This raises another question: if you were to go out to Al Maktoum International Airport, for example, you'd probably find a very different mix, with maybe 60 percent of the aircraft there available for charter, or maybe even more than that."

As seen by other brokers, new market entrants have helped drive demand over the summer. "Supply has been a challenge on the charter side, as well as on the acquisition

at the right price. We know pricing has been interesting given demand. In terms of the OEMs, we've been working closely with a number of them, including Gulfstream. We've managed to secure new aircraft for clients, even for as early as 2023."

Given that there were some older aircraft about, he identified as a trend in the market, including the Middle East, interest in newer aircraft, new interiors, and new airframes. "The idea that new aircraft are being bought is good for the market as a whole," he said. "Charter clients are going to pick up on that. In terms of charter, it's a little bit of an aging fleet in the region. I welcome any



"We've had to be dynamic and agile in 2022. I see 2023 as a good year for the industry—and the same with 2024 and 2025, despite the slowing of economies."

RightJet CEO Mark Hardman

East," Hardman said. "However, globally, most operators don't own their own aircraft. There are a few exceptions, obviously; however, most private jets are owned by individuals or corporations, and then they have the management company looking after them."

He said charter availability also depended on country, as well as operator and fleet. Some operators had 70 percent or more of their fleet available for charter, while others gave access to only

"This is in Dubai. As an average across the region, I would suggest it's probably 70/30—about 70 percent are not available for charter, while about 30 percent are," Hardman said. "Again, in the region, this varies by airport and you then define which aircraft are actually semi-based

side," he explained. "I do see a little bit of a softening of the markets, maybe due to economies around the world slowing down, and the U.S. tax regime changing a little at the end of the year for new aircraft, from 100 percent depreciation to 80 percent. We are still going to see strong demand because of new users."

In terms of preowned aircraft, he said the market is global. He has seen aircraft come out of a number of countries. Earlier this year, and in the latter part of 2021, demand outstripped supply five to one.

"That has changed," he said. "There's maybe now two or three buyers for every seller. There's that challenge on the preowned side. Being a broker, we're not tied to one market: we can look globally and we do that to make sure we get the client the right aircraft

new aircraft coming in."

To meet client requests, Right-Jet has sold Bombardier Challenger 605s, and Gulfstream G550s, G650ERs, and G700s in the last 12 months. In terms of the G650ER versus G700, there is a pricing differential between the two, and also on delivery dates.

"Both are amazing aircraft," he said. "I have extensive experience with Gulfstream products at previous companies, and much depends on what the client is looking for. If you look at the individual attributes of each aircraft, the G700 is coming into service in the first part of 2023. The launch customer is Qatar Executive. It's a great aircraft, that's for sure. The price is around \$10 million more than the G650ER. If it's purely a question of range, there's not much in it."



Saudi Arabia bizav offers opportunities, challenges

by Peter Shaw-Smith

Uncertainty surrounding the progress of the Saudi business aviation market has continued since several prominent individuals were detained in the Ritz Carlton hotel in Riyadh in November 2017, resulting in restitution in funds to the Saudi government of more than \$100 billion. AIN canvassed opinions from several players in the Middle East market to get a snapshot of the current situation.

"We're optimistic about the Saudi market due to a number of critical developments within the country," Mohammed Al Husaryco-owner, founder, and executive president of UAS International Trip Support—told AIN. Referencing new online tourist visa availability, he said, "The ease with which tourists can now get visas to enter represents a remarkable step in the country's move toward diversifying its economy and will inevitably lead to greater inclusion on the world stage."

Reports of the impending creation of a new Saudi Airline, RIA, to be based in Jeddah, were also noteworthy. Al Husary said. It is aiming to compete with Emirates globally, with the venture made possible by the government's \$30 billion investment and Vision 2030 strategy that could help liberalize and diversify the economy.

AIN understands that Saudi Arabia's General Authority of Civil Aviation (GACA) is eager to develop business aviation. This includes plans to add four dedicated business aviation airports, 11 private jet terminals/FBOs, and more than 400 helipads to the country's aviation infrastructure.

"Saudi Arabia is always threatening to do more, but still doesn't do as much as its size would dictate normally; we're not seeing huge amounts of activity in the kingdom," Hamish Harding, chairman of Dubai-based Action Aviation, told AIN.

"I think it's probably not as active as it should be. There are transactions going on. People are buying and selling jets there, but it's not the booming market that it could be, in a sense, given its size and the benefits of having a business jet in a country like that. Strange rules like you can't keep a foreign-registered jet in Saudi Arabia for longer than 72 hours before the crew has to relocate to somewhere such as Dubai make no sense in a country trying to move forward internationally."

The traditional Saudi preference for new aircraft over preowned is today constrained by budget concerns. "If you need to get direct to London, and you don't have unlimited cash, then you're going to want to go preowned," Harding said. "New aircraft that can

go Riyadh-London are quite expensive."

For Ahmad Abu Ghazaleh, general manager of Arab Wings in Jordan, leaner times were more noticeable after the Ritz Carlton incident, given the firm's proximity to and reliance on the Saudi market. Until then, the buoyance of the market had been impressive.

"Remember that the boom time was interesting, but I think it's less so now because Saudi Arabia has shut down," he told AIN. "Qatar has its own government private jets. Saudi Arabia is thinking of doing its own state-type thing, similar to Qatar. It's just the UAE—there's nothing else happening other than that in the Gulf.

"After what happened with a lot of highprofile individuals going to the Ritz Carlton in 2017, and the airplanes being seized or people not wanting to show their wealth as much as they used to, from what I've heard from a lot of the manufacturers, they're selling close to nothing in Saudi Arabia today."

Arab Wings has regular flights to Saudi Arabia but did not have any Saudi clients. "The country's opening up," he said. "For sure, there'll be more activity in terms of people wanting to visit, in terms of business—with oil at the price it is, there's a lot of movement—bankers, people wanting to set things up in Saudi Arabia. You're going to have a lot of business jet movements. I'm only talking about actual business jets being managed inside Saudi Arabia."

Four years ago, enthusiasm existed from other Middle East locations for launching operations in Saudi Arabia, but delays have stymied those efforts. "There isn't enough structure in the market yet, economically, on one hand, and from a regulatory perspective on the other," Holger Ostheimer, managing director of DC Aviation Al-Futtaim in Dubai, told AIN. "The group has been having these discussions with our likely Saudi partner for a number of years. The parties involved believe the time hasn't yet come to put that into operation."

Ian Moore, chief commercial officer, VistaJet, said the reluctance among prominent Saudis to be seen owning and operating business jets had played into VistaJet's hands at the four main international airports in the Kingdom.

"Our brand and what we stand for and...that we're available to our customers all around the world means that Saudi businessmen aren't just confined to their region," he said. "There's a lot of flying to Europe and the U.S. That comment about the Saudis is pretty much emulated around the world. Owning an aircraft just doesn't make a lot of sense. There was never a global solution like ours previously."

Arab Wings-initiated \$350M hospital spurs medevac biz

by Peter Shaw-Smith

Most people who run business aviation companies have their hands full, but Ahmad Abu Ghazaleh, general manager of business jet charter and management firm Arab Wings, saw things differently, founding and launching a 35-floor, 206-bed, multi-specialty healthcare facility in Jordan's capital, Amman, in 2019. This gave Arab Wings, the country's most established business aviation concern, the opportunity to develop new business in medevac operations.

"We put up a \$350 million investment to build the nucleus of a healthcare system, called Abdali Hospital," Abu Ghazaleh, who is executive vice chairman at the hospital, told AIN. "It has 120 clinics and specialized centers: everything from cardiology to neurology to orthopedics. It's a group practice with multidisciplinary teams. We iust obtained Joint Commission

International accreditation."

The rulebook of Jordan's Civil Aviation Authority (CAA) had to be rewritten to catch up with Arab Wings' plans. "Jordan didn't possess the civil aviation framework to certify an air ambulance," he said. "We worked hand-in-hand with the Jordanian CAA. It took close to two years of paperwork, coming up with the civil aviation requirements and doing all the training. Finally, as of mid-October, we are a certified air ambulance operation."

He believes expanding medevac operations into Jordan will cement its status as a healthcare tourism destination. "Historically, we've done a lot of flights from Iraq, Yemen, Libya, and Saudi Arabia into Jordan," he said. "We always used to do medevac, but without official certification. We thought that we needed to take the extra step and obtain it. Doctors in

Jordan are the best in the Middle East. Air ambulance is absolutely necessary."

Abu Ghazaleh expects six medevac flights a month to increase with its new certification status. "It's a safer bet going with a certified air ambulance, for companies like International SOS, for the government, for the international insurance companies," he said. "Remember, there are a lot of international oil companies in Iraq, and many government agencies all over the Middle East. All will benefit."

He sees medevac as adding a new set of options to Arab Wings' toolkit. "We've already had offers: 'Can we take your air ambulance for 50 or 60 hours a month for 12 months on lease?" he said.

Abdali Hospital's real potential lies in the fact that it is much bigger than medevac. As well as being a teaching hospital, it is the first digital hospital in Jordan. "We saw that opportunity," he

said. "Jordan has incredible physicians, nursing, and infrastructure, historically, because of the Royal Medical Services, and universities in Jordan that produce fantastic healthcare human capital. It was a no-brainer."

As early as 2016, the World Bank said Jordan had "positioned itself as one of the top destinations for medical tourism, both regionally and internationally."

Dr. Ahmed Hijjawi, the medevac program director at Abdali Hospital, told AIN that the facility's highly qualified physicians are trained in the U.S., UK, and Australia to the latest international guidelines, policies, and procedures, as are nurses, pharmacists, and biomedical engineers. Competitive costs for medical services, coupled with the availability of natural health spas, such as the Dead Sea and Ma'een Falls, and natural mineral water sources were added attractions.

"Jordan's strength lies in the high quality of its healthcare services," he said. "Jordan today occupies the number-one position in the Middle East and is one of the top 10 in the world for medical tourism."

Jordan could be the future, Abu Ghazaleh believes. "You can't build a new hospital in New York City or Paris," he said. "It's going to be very difficult to build an affordable hospital in London. If you have British, European, or U.S. board physicians in places like Amman that are 20 percent of the cost, just because of the air travel, it makes a lot of sense.

"I really believe that healthcare is going to be globalized, ultimately, because the aging population is growing, and the infrastructure globally for healthcare is catching up. If you can connect cities and really make sure that everybody gets proper treatment, you're in good shape going forward."



Now with its own 206-bed, multi-disciplinary health-care facility, Arab Wings sees opportunities for developing additional business in providing medical evacuation flights for Middle East travelers.

Dynamic Advanced makes training feel 'hyper-real'

by Kerry Lynch

Dynamic Advanced Training (Stand 829), which provides specialized aviation safety and security training in the Middle East, is opening its doors to MEBAA Show attendees. Located in a 4,100-sq-m (44,100-sq-ft) facility at the Mohammed bin Rashid Aerospace Hub near Dubai World Central, Dynamic is carving a niche in providing what it calls "hyper-realistic" safety and emergency procedures training that combines theoretical, simulator, and hands-on based learning covering a range of scenarios.

The company claims to be the first of its type in the Middle East, North Africa, and South Asia region offering private, business, and commercial aviation safety training in one facility. This includes cabin emergency evacuation simulation training for a variety of large-cabin business jets and bizliners. It also offers virtual reality-enhanced door trainers for Boeing and Airbus aircraft and a "real fire fighting trainer" that incorporates virtual reality and sensory-enhanced elements.

This training works in tandem with Dynamic Advanced Aviation's wave pool used to practice ditching and separate rooms recreating crash sites in arctic or jungle



Dynamic Advanced Training simulators join arctic and jungle scenario rooms, as well as a wave pool and hypoxia trainer, to provide emergency preparedness training for business aviation operators in the Gulf region.

conditions, as well as a hypoxia air generator for decompression training. In addition, the facility houses computer-based training and debriefing rooms.

A Khansaheb Investment company, Dynamic Advanced Training received certification from the General Civil Aviation Authority (GCAA) in 2020 and also is compliant with FAA and EASA regulations.

MEBAA chairman

> continued from page 1

MEBAA constituents are a vital cog in the global industry because of the number of highnet-worth individuals, VVIPs, and royal families who fly privately. Boeing previously told AIN that more than a third of BBJ products went to customers in the Middle East, especially in the Gulf Cooperation Council.

Alnaqbi said that while the entire aviation industry contributed 2 percent to global CO2 emissions, business aviation's share was less than a quarter of that, at 0.44 percent. Fully 85 percent of private aviation use was devoted to business, while only 15 percent was family, leisure, and holiday travel, he claimed. But to environmental activists, such arguments fall on deaf ears.

Sustainable Aviation Fuel in the Middle East

Fuel suppliers in the region told **AIN** there is no sustainable aviation fuel (SAF) currently available at Middle East airports. Government mandates will likely be required to initiate SAF production and catalyze action at national oil companies (NOCs) like Abu Dhabi National Oil Company (ADNOC) and Saudi Aramco. However, it is unclear when that could happen, as the timing of such rollouts is always unpredictable in the Middle East region but could

happen quickly. NOCs and the private sector are unlikely to move without this lead.

Regional fuel companies said the lead needs to come from commercial airlines, rather than business jet operators. The requirement for fuel for business jet operations for one year is the same as a major international carrier would consume in a week, according to fuel suppliers. They added that airlines need to be involved to get the volumes up, and the costs down, before business aviation can take up the challenge.

"If you want to start SAF as an airport, business aviation's not the answer. The volume is too small compared to what an airline consumes, and then everybody benefits from that," one source told AIN.

Operators are wary of individually throwing their weight behind SAF due to the higher costs. Even blended SAF is likely to cost much more than jet-A today. A pooled effort is required, where everyone contributes.

AIN's search for mention of SAF on the websites of Saudi Aramco and ADNOC was unable to locate any reference to the term, but the region's expertise in fuel technology is expected to make it a major contributor to the greener fuel's rollout. In November 2020, a Dubai aviation sustainability webinar indicated that efforts to develop SAF in the Middle East were still embryonic.

Given its penchant for innovation, Dubai is a likely candidate to give SAF the regional go-ahead, making progress likely in the next five years. However, the suspicion is that Gulf Cooperation Council governments and NOCs are shying away from it because they are doing so well on traditional hydrocarbon revenue given buoyant oil prices.

"I don't know the entire picture of what everybody's doing," one fuel supplier said. "Everybody's keeping things close to their chest—only certain things are coming out in the media. For now, I think SAF's being over-publicized-nothing's happening, but a lot of things are being talked about. It's a hot topic, so hopefully, in the next couple of years, we'll see a lot more deliverables than just talking. SAF could happen tomorrow. The way things happen in the UAE, it could just happen tomorrow."

Alnaqbi said the SAF agenda is a high priority this week at MEBAA 2022. "Several global companies involved in the development of SAF are here. We will get them in a room with the local fuel providers and producers to plot the way forward. We are encouraging the UAE General Civil Aviation Authority and counterparts all over the region to initiate discussions with local fuel producers.

"It is very expensive to use SAF at the moment because demand is not that high. The hope is to significantly expand the volume of production. However, we are going in the right direction: the latest ICAO Assembly, in September, adopted 2050 sustainability targets. We are working with everybody. We have to move our discussions with the airlines forward. That is our agenda."

SAF curiousity grows in Mideast

by Curt Epstein

While the Middle East has long been associated with oil and petroleum products, World Fuel Services (Stand 1120) has noted growing interest regarding sustainability and sustainable aviation fuel (SAF).

"I think it's definitely increasing from the perspective that we are getting asked about it regularly in terms of customers asking 'can you supply this market or that market," said Riyan Qirbi, World Fuel's director of market development for the region. "Of course, in most cases, we say we can't because there is no supply source [in the region] that we can actually access, but there's definitely an interest from multiple parties. If it were available and at the right price, I think there would be a market for it."

He believes that if the regional governments were to more firmly embrace environmental sustainability either through incentivization like in North America or by mandate, as is being done in Europe, that would spur further interest.

Yet, Qirbi explained to AIN, the deck is stacked against the growth of SAF in the Middle East. The region, which is largely arid, has little to offer in terms of potential feedstocks crops.

"They don't grow anything so the chances of taking plants and converting them into sustainable aviation fuel, this is a very limited opportunity, and where they do grow stuff, they grow it to meet a part of their overall food balance, which is negative," he said. "All of these countries are net importers of foodstuffs." While there are some differences from area to area, Qirbi noted, "in terms of SAF being produced in Africa and the Middle East, I think we are still some time away from that happening."

But SAF is just one part of the sustainability solution, said Matt Whiton, World Fuel's v-p of European fuel supply for aviation and land. "There are many solutions, and they have to be complementary and work together."

This week at MEBAA 2022, World Fuel is featuring its World Kinect sustainability product among its full range of offerings, and one of the company's experts on the subject is participating in a panel discussion.

"Through our sustainability division, we take a broad view of the carbon reduction challenge of which SAF is a portion," said Peter Stevens, the Miami-based fuel provider's v-p of global marketing for aviation and marine. "We want and we guide and we advise our clients to source renewable fuels, but on the path to net-zero [carbon emissions] it starts with a strong advisory function."

"I think that eventually the first stage for us in this region is going to be carbon trading and offsets," said Qirbi. "We've talked to the various players about it, so the conversation has already commenced."



Lack of suitable feedstocks is hindering development of sustainable aviation fuel in the Middle East, but World Fuel officials said aircraft operators could use carbon



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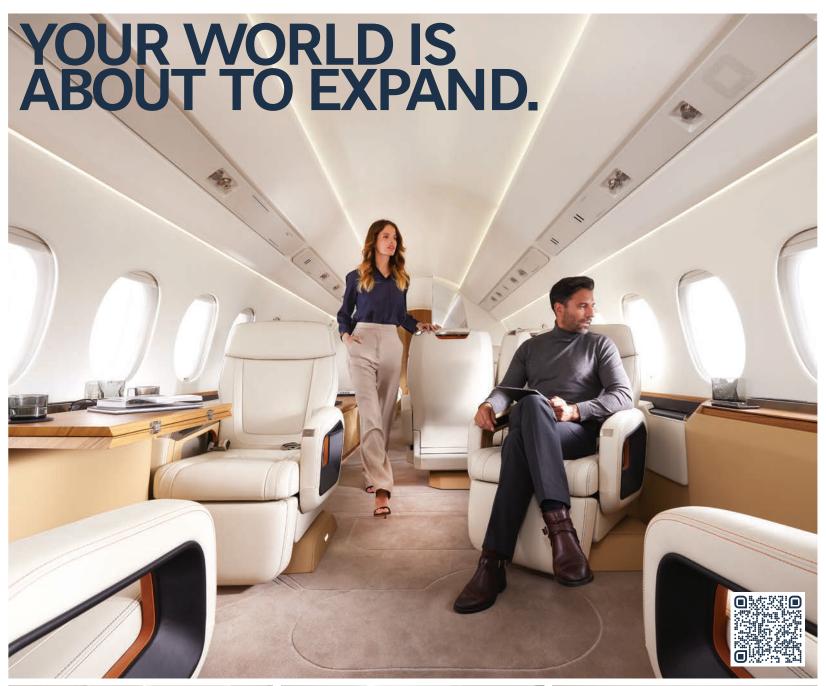
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