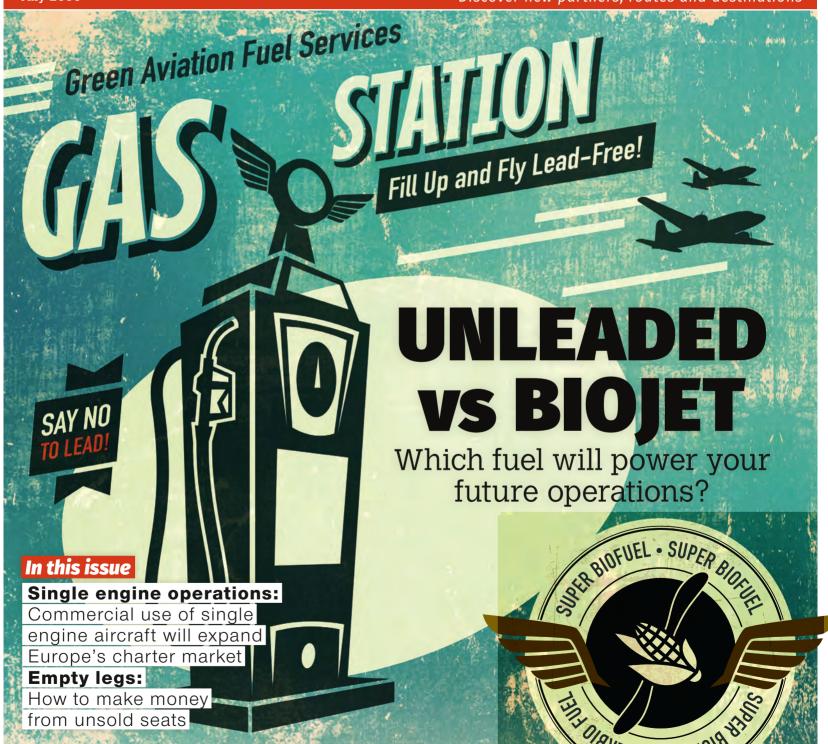
The international guide to business airports, FBOs and ground support partners

Business Airport

NTERNATIONAL

July 2016

Discover new partners, routes and destinations



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IGS Ground Services offers efficient around handling services in Iceland



Welcome

s I write this, the UK has just decided to leave the European Union following a historic referendum on June 23. In the last issue of Business Airport International, Richard Koe from WINGX examined what he thought Brexit would mean for business aviation operators (see Industry comment, April 2016, p14), and it will be interesting to see whether his predictions come true. Will the London-based ultra-rich move to the continent to protect their assets? Will there be a reduction in the amount of investment in business aviation and the wider UK economy? Or will we see less regulation that helps the market flourish outside Brussels' control? Whatever happens, I think it's fair to say we're on the cusp of some major changes across the UK, Europe and perhaps the world.

Other potential changes for the aviation industry are in the form of fuel reforms. While conducting research for the Cleanup operation article on page 32, I was surprised to find that the general aviation industry is the last mode of transportation to use leaded fuel. Now, following pressure from environmental groups, the US Environmental Protection Agency is examining whether the lead emissions specifically from general aviation engines endanger public health, and the findings of its report (due to be published in 2018) will dictate how the industry moves forward with the adoption of unleaded

fuel. The FAA's Piston Aviation Fuel Initiative (PAFI), which aims to find an unleaded fuel alternative for the general aviation industry, is playing a major part in this process. "If the endangerment finding from the EPA is positive, that will set about a chain of events that would make unleaded fuel compulsory," comments Peter White, head of the FAA Alternative Fuels Program Staff, AIR-20, and the government co-lead for PAFI.

The article also looks at the inroads being made into the biofuel market, with many suppliers such as Air BP, Avfuel, Epic Fuels and Total investing heavily in biojet research to secure a more environmentally friendly future for our industry. Whichever fuel source becomes widely adopted - unleaded or biojet - there is no doubt in my mind that this can only be a change for the better. While we can't always protect our trade agreements and unify the European market, we can always do more to protect the global environment.

On a personal note, I'll soon be experiencing a major lifestyle change. This is my last issue of Business Airport International for a while as I am about to go on maternity leave ahead of the birth of my first child. I will leave you in the capable hands of editor-in-chief Helen Norman, and look forward to returning to the helm in April 2017.

Hazel King, editor

"Whatever happens, I think it's fair to say we're on the cusp of some major changes across the UK, **Europe and perhaps the world"**

Profiles

Must-attend show

Fuel service



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- MRO capability for Bombardier, Challenger, Citation, Dornier, Learjet and Pilatus

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- Two 3,000m+ runways offering 24/7/365 operational capability

EAST MIDLANDS

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- Hangarage facilities available up to BBJ or ACJ

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Years of experience

Fontainebleau Aviation is one of Miami's leading business aviation service providers

Established more than 30 years ago as the corporate flight division of Turnberry Associates (parent company of Fontainebleau Aviation), then-Turnberry Aviation designed, built and began operating its own corporate hangars at Miami-Opa Locka Executive Airport. Turnberry Aviation operated the facility as a private corporate jet center, offering renowned service, state-of-the art amenities and benefits to other company flight departments.

In 2011 Turnberry's jet center expanded, acquiring its own fuel service capabilities and status as a full-service FBO while maintaining the feel of a private facility. With the enhancements came a new name – Fontainebleau Aviation – which promises to offer the excitement, glamour and service of a previous era, but in 21st century sophisticated luxury.

entryway of Runway 12-30. Our tenant office area will increase by 30,000ft² and the area used by the FBO will be an additional 15,000ft². The canopy will be the largest in the South Florida region, with enough capacity to hold a BBJ. We will provide our customers with ease, space and an elevated level of service."

Fontainebleau Aviation is working closely with the Miami-Dade Aviation Department on the project and has taken inspiration from the clean, clear lines and views that are common in the aircraft design world, according to Courtney. "The canopy will have the aerodynamic character of a wing and the lobby will be full of natural light and high-end finishes," he added.

"Fontainebleau Aviation will elevate the FBO experience. We will operate out of two facilities – the new facility and our current one – to offer privileged access and VIP exclusivity. We are raising the bar in the South Florida region."

Regional growth

The expansion is in line with the growing traffic at Miami-Opa Locka Executive Airport, which Courtney says has resulted in growth of "double digit percentages in gallons of fuel sold every year from 2006 to the present". He added, "The east coast flight path of New York to Florida accounts for almost 60% of the routes to and from the Miami area. The growing wealth and population of both cities has created a long growth cycle. Miami-Opa Locka Executive Airport is in the top five general aviation airports in the county."

While the company plans to focus on growing and improving its current facility in Florida, Courtney is not averse to capitalizing on other opportunities that may come his way: "Our focus is to expand what we have, but should an opportunity arise that makes sense, we would absolutely be interested in expanding our brand," he explained.

Above: The 12,000ft² taxithrough canopy allows passengers to get as close to the FBO as possible

Right: The upgraded facility will be completed by the end of 2016

"Fontainebleau Aviation is transitioning to better our company and more importantly respond to the needs of our clients"







Meet Josh & Julia Hochberg, Owners, Sonoma Jet Center

Is Signature Select right for you? Just ask Josh and Julia. "Signature's marketing and sales support has been outstanding," Josh says. "We expected that. But we didn't realize what a fantastic all-around partner we were getting." The Hochbergs are likely to pull out photos of two brand-new electric tugs, loaned to them by Signature. "Signature delivered these to get us through a really busy month. It was our most successful month ever. Beyond our wildest dreams." Follow Josh and Julia's lead. Retain your identity and your hard-earned customers and add our loyal global customer base. Join Signature Select.® Profit from the power of Signature Flight Support.®

It's like we acquired a big brother with resources who will do whatever it takes to help us out.

- Josh & Julia Hochberg





statistics

Location: Monterrev. Mexico Operating hours: 7:00am-12:00am Runway length: 6,598ft Fuel: Avgas

Execujet has acquired its first FBO in the Caribbean region, at Princess Juliana International Airport on the island of St Maarten. Bought from TLC Aviation, this

takes the ExecuJet FBO network to 24 locations globally as the company works to rebrand the facility to fit with its own

Caribbean acquisition

Execujet takes over St Maarten FBO

corporate identity.

ExecuJet's Mike Berry commented, "The facility will undergo a transformation over the coming months to adopt the ExecuJet corporate identity, which includes rebranding, furnishings and passenger comfort upgrades. ExecuJet's operating manuals covering standard operating procedures and safety will be implemented. In addition, ExecuJet will look to implement FBO One, which is our preferred business support software for effective management within our global network."

The St Maarten FBO offers ground handling, fueling, air charter, flight plans, executive transport and accommodation services for both customers and crew. In 2015, the FBO handled 1,868 movements, from small light aircraft to large widebodied aircraft such as the A340-500.

The current TLC Aviation staff will remain within the company and ExecuJet will look to enhance the service offering, which may result in further strategic hires to strengthen the team.



xecuJet has opened its first FBO in Mexico, at Del Norte International Airport in Monterrey, offering the largest handling area at Del Norte's General Aviation Terminal (GAT) and boasting the largest hangar in the north of Mexico, covering an area of 39,800ft2.

According to Mike Berry, VP of ExecuJet Middle East/president of Aviation Services, the new Mexican facility provides a window into ExecuJet's larger general aviation service offering. "We are confident this will lead to increased business and will secure new customers in the region, especially in terms of aircraft management. Naturally, an increased demand for aircraft support means more general aviation visitors to Monterrey and an enhanced perception of Mexico's capacity to support private aviation requests," he explained.

ExecuJet has maintained an aircraft management and charter presence in Mexico for a number of years and hopes to further enhance its FBO locations within the region. "The Del Norte FBO staff, many of whom have been with ExecuJet Mexico for many years and have established excellent working relationships with clients, offer the same exceptionally high standard of service found in our other locations worldwide. The new ExecuJet signage has already created renewed visibility and the first movements have received

Main image: ExecuJet Mexico manages 13 aircraft ranging from Pilatus PC12s through to a Falcon 7X, with operations at Toluca International Airport and **Monterrey International** Airport, as well as Del Norte International Airport

excellent feedback from our clients. We are expecting high demand for our management, maintenance and FBO services from Mexican, American and other international customers and look forward to welcoming them all to the new facility," Berry said.

The facility is easy to find from the GAT entrance and offers customers a meet-and-greet area, a passenger lounge, VIP service to and from the aircraft, as well as a crew lounge and administration office for staff. The ExecuJet Del Norte FBO team will be led by Alejandra Zamarripa. O



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SIGNATURE FLIGHT SUPPORT CONTINUES GLOBAL FBO NETWORK EXPANSION WITH THE ACQUISITION OF THE RIZON JET FACILITY AT BIGGIN HILL

Main image:
Signature's expansion
at London Biggin
Hill comes at a time
when the airport
is due to roll out
several operational
and infrastructure
projects

10

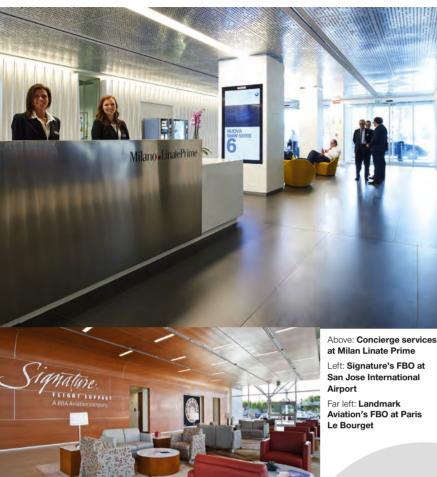
ignature Flight Support has expanded operations at London Biggin Hill Airport after taking over the facility from Rizon Jet on June 20. The FBO is now a fully branded Signature Flight Support location and features elegantly appointed private lounge areas, a boardroom and multiple conference areas covering four floors and occupying over 20,000ft².

LANDMARK AVIATION

The new London Biggin Hill location is part of a wider expansion program currently being undertaken by Signature Flight Support – the company announced in April that it had acquired a 60% share in Italy's SEA Prime network and in February it completed the US\$2.065bn acquisition of Landmark Aviation.

Speaking exclusively to *Business Airport International* about why the company decided to take over the Rizon Jet facility, Mark Johnstone, managing director of BBA Aviation Flight Support EMEA, the parent company of Signature Flight Support, commented, "An opportunity became available to offer an exemplary customer experience at Biggin Hill within a world-class facility with convenient access to the airport from neighboring road links. The opportunity to grow the business model at London Biggin Hill with executive office lease space was also

RIZO



attractive. Biggin Hill has always been a key airport in the London area and a European hub. The opportunity to move to larger facilities mirrors our current London Luton FBO redevelopment and will accommodate the increased traffic comfortably as an alternative to other high-cost and slot-, PPRand space-constrained London airports."

As Johnstone mentioned, the company is currently redeveloping its facilities at London Luton and the newly constructed FBO is expected to open in November 2016. "The customer experience in our Luton FBO will feel like a 5-star hotel and amplify our customer offerings in the London area," he said.

Further expansion

In April 2016, Signature announced that it had acquired a 60% share of Prime Aviation Services from SEA Prime, which operates Milan Linate and Milan Malpensa airports in Italy (see Business Airport International, April 2016, p8), in a bid to expand its growing EMEA footprint. "Italy, especially Milan, Rome and Venice, have been key city-pair locations and we wanted to offer customer handling touch points for these locations," Johnstone said. "SEA Prime is an

"During the Landmark **Aviation acquisition** process, thorough investigations were conducted at all current and new sites to ensure that a fair and open market was available

to all customers"

Creating a monopoly?

Is BBA Aviation at risk of making a one-size-fits-all FBO brand?

BBA Aviation, the parent company of Signature Flight Support, made waves in 2015 when it announced it would buy Landmark Aviation for US\$2.065bn, and left many asking whether this would see the creation of a monopoly in the FBO market.

"Monopoly regulations and commissions are in place throughout the world in all industries, and business aviation is governed by these same rules," explained BBA's Mark Johnstone. "During the Landmark Aviation acquisition process, thorough investigations were conducted at all current and new sites to ensure that a fair and open market was available to all customers. The release of several FBOs in the USA following the acquisition is testament to that process."

As part of the acquisition, Signature had to divest co-located FBO locations at Westchester County Airport, New York; Washington Dulles International Airport, Virginia; Scottsdale Airport, Arizona; Ted Stevens Anchorage International Airport, Alaska; Fresno Yosemite International Airport, California; and Jacqueline Cochran Regional Airport, California. The group now has 199 FBOs located throughout North America, Europe, South America, the Caribbean, Africa and Asia.

"Our core values are to ensure that we treat all our customers with fairness and openness in our pricing and ground support. By continually anticipating our customers' needs, and providing best-inclass customer service, combined with our dedication to safety and security, we have built strong relationships with a diversified and loyal customer base," Johnstone added.

Despite creating one of the largest FBO networks in the world through the Landmark acquisition, Johnstone maintains that each location retains its own identity. "All our FBOs are different," he said.

"We operate in facilities ranging from heavily regulated general aviation terminals where no branding is permitted, to those that look like a 5-star hotel. We try to create a sense of place with wall art showing local landmarks, or slight changes in the uniform. Even the coffee and biscuits are from the local city or region."

> established company in the region and best fits Signature's own core values in offering exceptional service and safety to our customers."

The company is also growing its Signature Select license program (where independent FBOs become a partner member of the Signature Flight Support network), both in EMEA and worldwide. "Signature Select has allowed us to grow the network in Barcelona, Vienna and now Lanseria, South Africa, with partner FBOs, and still allows them their own brand identity and rights to run their business, employing the Signature standards our customers enjoy," Johnstone commented.

Signature Flight Support will continue to look to expand its network across the continents in the future, but Johnstone also maintains that embracing technology will be key to the company's success: "We must not underestimate the power of time nor the need for instant information at your fingertips. The booking of services, the quoting of services, the status updates and the payment process must be reflected in all back-of-house tasks with integrated systems that are compatible with the latest trends in mobile technology," he said. O

BOMBARDIER PREDICTS US\$250BN WORTH OF BUSINESS AVIATION AIRCRAFT DELIVERIES OVER THE NEXT DECADE

ombardier released its 2016-2025 Bombardier Business
Aircraft Market Forecast at
EBACE in May and made some
bold predictions for the future of the
industry. Global GDP growth is predicted
to reach 3% in 2016 and 2017, resulting
in a rise in business aircraft purchases
- 8,300 deliveries are expected over the
next 10 years. Here are the key findings
from the report.



Light category

Typical purchase price:
U\$\$8m to U\$\$20m
Cabin volume: 300-700ft³
Range: 2,000-3,000 nautical miles
Total global fleet by 2025: 10,850



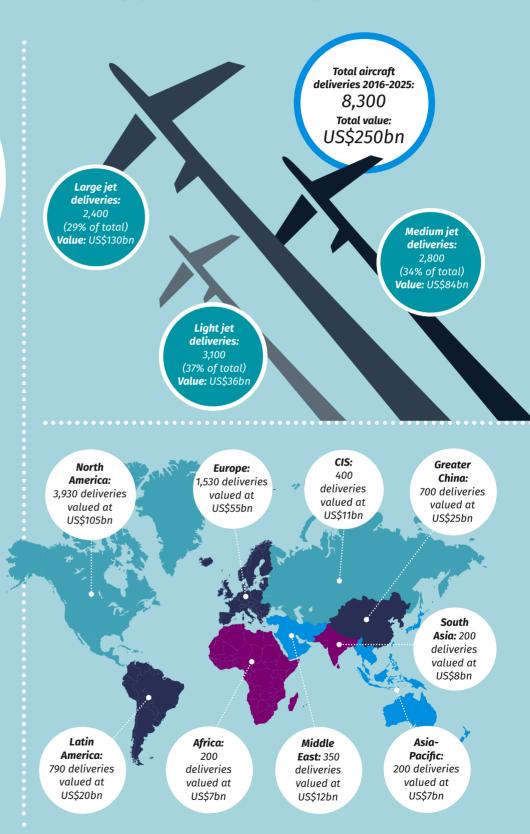
Medium category

Typical purchase price: US\$20m to US\$40m Cabin volume: 700-1,500ft³ Range: 3,100-5,000 nautical miles Total global fleet by 2025: 7,595



Large category

Typical purchase price:
U\$\$40m to U\$\$75m
Cabin volume: >1,500ft³
Range: >5,000 nautical miles
Total global fleet by 2025: 4,040



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to the island"

he first Caribbean Aviation Meetup
was held on June 14-16, 2016, in the
Commonwealth of Dominica, the island
nation located between Guadeloupe and
Martinique in the eastern Caribbean. The event was an
attempt to find solutions in a whirl of airlift challenges.

The Caribbean is one of the most complicated regions in the world for air transportation, the archipelago geography being the least of its problems. The real issue is the lack of 'open sky'. Imagine a country with only dirt roads and national border controls and toll gates every 30 miles. That is the analog of interisland air transportation in the Caribbean. You see the neighboring island on the horizon, but to get there takes at least half a day of traveling because of the difficult air connections. The air fares could be reasonable, but the imposed passenger fees double prices. Governments regard passengers as an ideal subject for taxation. A low-fare airline in the region belongs in a twilight zone between dreaming and failure; most regional airlines have financial difficulties. Yet, for many islands air transportation is a lifeline when up to 85% of the economy relies on tourism. With all these issues, and many more besides, the Caribbean Aviation Meetup was launched to provide a new platform for communication between the various stakeholders in air transportation in the Caribbean.

There are lots of airlift committees and taskforces in the manifold regional political and industry organizations. Studies are done and the conclusions boiled down to what's needed and what the problems are. However, they don't include clear guidelines on how to solve the challenges and especially not who will actually implement them if a decision is made.

The event attracted worldwide coverage

The Caribbean Aviation Meetup aimed to solve this problem and it is hoped that the event will become an annual occurrence. It was a gathering of stakeholders in two industries – aviation and tourism – and used town-hall-type discussions to engage representatives of embattled airports, airlines, tourism authorities and hospitality associations in open dialogs. It is rare to find a conference where at the end of the scheduled 60-minute session, the chairman announces that the session will be extended, saying, "We are not going to stop, but discuss until we drop. This is too important!" All the presentations were introductions to their relevant subjects, providing the opportunity for interaction among the attendees and resulting in extremely lively debates.

The Meetup was proclaimed to be a result-oriented conference. One of the overall successes was the creation of a new essential communication platform; no participant could get away with excuses, hot air, shortcuts or deferment. As the host nation, Dominica benefited from having a mixture of industry professionals on its soil who commented on how Dominica could do more, while spending little or no money, to encourage more commercial, business and private aviation services to the island.

The next Caribbean Aviation Meetup will be held in June 2017 at a yet-to-be-determined location. The interactive conference format will be further developed and extended.





Hani Mutlaq

BUSINESS AIRPORT INTERNATIONAL GETS TO KNOW THE ACCOUNTABLE MANAGER AT LYDD AIRPORT IN THE UK

What was your career path to your current role?

I joined Lydd Airport in May 2003 from a finance and auditing background. I hadn't previously worked in aviation but was hired by FAL Holdings' head office in Riyadh, Saudi Arabia, and am fortunately still here. FAL Holdings is the owner of London Ashford Airport Ltd, which operates Lydd Airport. I have brought the best of my experience and knowledge during the past 13 years to my current job and continue to look to gain as much experience as I can so I can improve my personal performance and the airport's performance in general.

What are the best and worst elements of your job?

The best elements are the daily challenges and the variety of things I do on a daily basis; the worst is the negative government support toward the UK's developing airports, as well as existing legislations that make it difficult and costly for an airport to develop further. The larger UK airports are way behind other developing airports in Europe in terms of additional runway construction, while there is a lot of under-used capacity at smaller airports by both airlines and business jets.

What makes a successful business aviation airport/FBO?

I believe a successful business airport should offer convenience and a premium service, both of which are on offer at Lydd. We are the UK's most easterly airport, making us attractive to flights coming from the east, which is a big business aviation market.

"There is a lot of under-used capacity at smaller airports in the UK by both airlines and business jets"

How do you stand out from your competitors?

Lydd Airport promises shorter flight times from northern Europe and the Middle East, a faster turnaround time because we are an uncongested airport outside of the London controlled airspace, a competitive airport pricing model, and access to fast railway links to London from Ashford International station.

What is your dream holiday destination and what type of aircraft would you fly on to get there, if money were no object?

I would love to visit Hawaii in the USA in a Gulfstream V with my wife. I've heard a lot about it and really dream about visiting.

What's your next step at Lydd Airport?

We will complete the runway extension and pursue more private executive jet traffic. We're also looking to develop routes for low-cost carriers so that they will consider Lydd Airport as their London gateway.

Below left: FAL Aviation UK provides executive handling and FBO services at the airport Below: Lydd Airport is situated in Kent in the Southeast of England







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"The story of aviation is ultimately a story of how passion, innovation and teamwork have led to globalization"



Tim Archer

The founder of Blue Sky Innovations Group outlines his blueprint for successful global expansion in the general aviation marketplace

he idea of three-axis control led the Wright brothers to develop a flying machine capable of controlled, powered and sustained flight. Through teamwork and innovation, their flight on December 17, 1903 gave birth to the aviation industry. More than a century later, our global skies bustle with an average of 10,000 aircraft and millions of passengers each day. And millions of people work in the industry to make those flights possible.

The story of aviation is ultimately a story of how passion, innovation and teamwork have led to globalization. During the dawn of aviation, no one spoke of globalization in the modern sense. The term came about after World War II with the establishment of the United Nations and its mission to bolster international relations. In 1947, ICAO was launched to advance international air transport.

As aviation continues to accelerate globalization, the demand for aircraft, parts, services and infrastructure continues to increase for both general aviation and commercial operations. However, many countries do not have the support infrastructure required to meet this growing demand. This has resulted in growth opportunities all over the world for GA businesses in manufacturing, development, services and support.

Diversification

Global markets are constantly shifting, up one year and down the next. If a GA company is to remain viable and competitive, it must adapt and diversify. Having all its resources in one country or economy is dangerous to financial growth. When the US economy crashed

in 2008, many American companies – not well diversified – found themselves behind the curve. In desperation, they looked for sales in other countries – countries previously unimportant to them. Attempting to grow from behind is not a strong expansion strategy. GA companies who position themselves on the leading edge by diversifying across global markets are in a better position to experience growth, even when one market slows or retracts.

Creating an expansion plan

Expanding across borders requires extensive planning, professional insight and experience in global markets. The following elements provide a blueprint for what's required. This list is not all-inclusive, but rather an outline to begin plotting the expansion process:

- Strategic planning:
 Expansion across borders
 requires an examination into a
 multitude of unique criteria such
 as import/export restrictions,
 cultures, customs, climates, taxes,
 regulatory processes and language
 barriers, to name a few.
- Market analysis: The market analysis begins with a clear understanding of the need a company is trying to solve. A solid market analysis will answer dozens of questions about the economy, culture, products and services in the country of interest.
- Sales and marketing plans: Once a market is identified, the next steps are to develop the business plan, a case for investment, an implementation work plan, timelines, tasks and key milestones.

- Selling channels: Sales channels can include a company sales force, internet marketing, wholesalers, distributors and telemarketers. In GA, cycles are generally long, so it's essential to choose full-circle sales channels and then build a marketing strategy around them.
- Finding qualified dealers: When entering a new market with limited contacts or core assets to leverage, it is best to work with an experienced aviation consulting firm with connections to qualified dealers in the target country.
- International advertising and promotion campaigns: Language barriers, customs, cultures, laws and regulations differ from country to country, making marketing and communication challenging.

Before moving into foreign markets, it's essential to understand the marketing strategies that

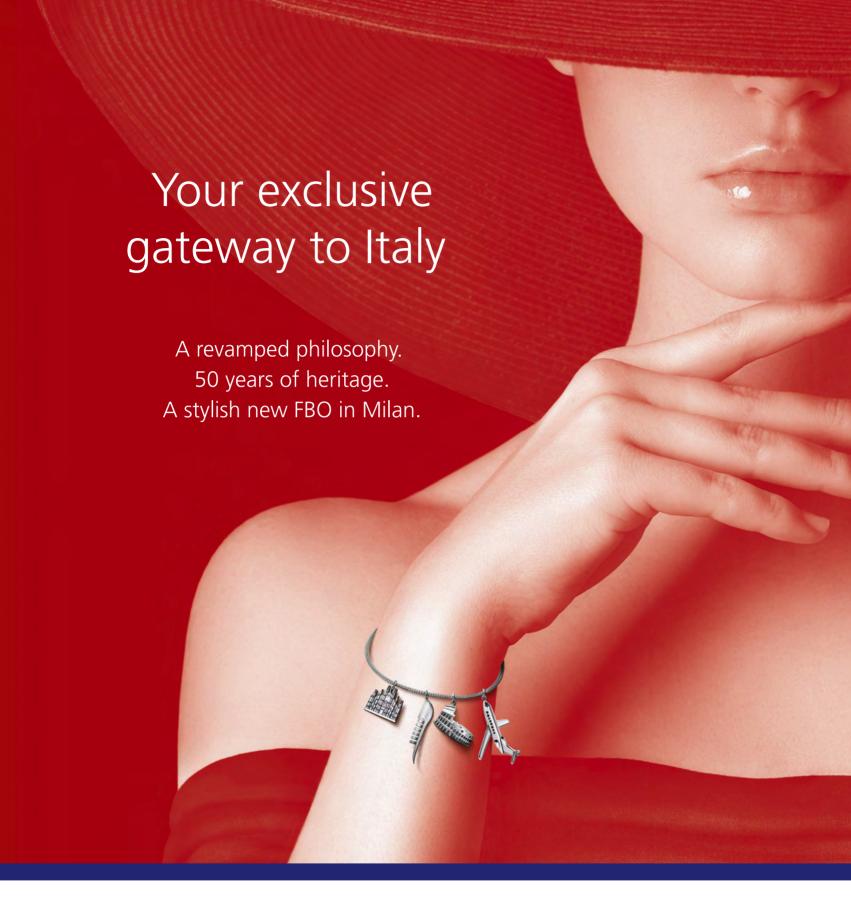
appropriately reflect the new market culture and customs. With growth in aviation forecast across emerging

nations, there exists a gold mine for GA companies prepared to join the jet stream. Before proceeding, be sure to understand the key

elements required and seek guidance from someone who has experience expanding into new markets. \bigcirc







Milano Linate Prime

www.milanolinate-prime.it



Tour. guide

Operators planning a trip to Italy are well catered for at the country's airports. Here's a quick guide to some of the top business aviation facilities on offer

Words | Hazel King



Milano Linate Prime

SEA Prime operates the GAT at Milano Linate
Prime Airport

Milano Linate Prime Airport comprises a 721,000ft² apron, nine hangars measuring a total of 213,000ft², two hangars under construction and a fuel farm for refueling services. SEA Prime manages all the general aviation infrastructures at Milano Linate and offers world-class facilities to operate and support flight activities, including: hangarage; apron parking; de/anti-icing; aircraft cleaning and technical maintenance; passenger and crew lounges; ground transportation; VIP security services; and fuel services. SEA Prime also manages the BMW Business Center and Prime Gusto café and restaurant in collaboration with Gate Gourmet Italia. Future developments include new hangars and a new FBO at Milano Malpensa Airport.

Airport: Milan Malpensa

Operating hours: 24 hours
Facilities: Airport operated by SEA Spa; fixed-base operation provided by Argos VIP, Signature Flight Support and Sky Services
Fuel: Jet A1 and Avgas
Runway length: 12,861ft
GA movements (Jan-April 2016): 957
Closest city: Milan – 19 miles

Airport: Milan Linate

Operating hours: 24 hours with restrictions
Facilities: Airport operated by SEA Prime Spa (see
Milano Linate Prime, left); fixed-base operation
provided by Argos VIP, Signature Flight Support,
Sky Services and Universal Aviation
Fuel: Avgas and Jet A1
Runway length: 8,012ft
GA movements (Jan-April 2016): 6,269
Closest city: Milan – four miles

Airport: Cagliari Elmas

Operating hours: General aviation terminal
9:00am-8:00pm

Facilities: Fixed-base operations provided by Argos
VIP and Sogaerdyn; handling provided by
SkyPartner and Sky Services
Fuel: Jet A1 and Avgas
Runway length: 9,199ft
GA movements (Jan-April 2016): 352
Closest city: Cagliari – six miles





Insect control

Operators must follow strict disinsection rules to protect against the Zika virus

As the mosquito-borne Zika virus spreads worldwide, some health and aviation authorities have introduced new rules for business aircraft disinsection (the use of insecticide on an aircraft for insect and disease control). In February 2016, the Italian government implemented a requirement for all aircraft operating into Italian airports regardless of point of origin to be disinsected.

"It was very confusing at first trying to explain why all aircraft have to be disinsected and at first not all Italian airports were applying this new regulation," explains Barbara Ciolli, commercial director at ArgosVPH Group. "Now all Italian airports require all arriving aircraft to provide a disinsection certificate, otherwise disinsection can be carried out on-site with a certificated provider after paying a penalty surcharge of €107.90 (US\$122.70)."

The process of disinsection can take up to 2.5 hours and a Certificate of Residual Disinsection will be issued within 2-3 business days, which operators must carry on board their aircraft at all times.

Airport: Venice Marco Polo

Operating hours: General aviation terminal 6:00am-10:00pm Facilities: Airport operated by SAVE Group; fixed-base operation provided by Argos VIP, Delta Aerotaxi, SAVE Group, Signature Flight Support and Sky Services; ground handling provided by Aviapartner Executive, GH Venezia and Universal Aviation

> Fuel: Jet A1 Runway length: 10,827ft GA movements (Jan-April 2016): 1,242 Closest city: Venice – eight miles

Airport: Pisa International

Operating hours: 6:00am-10:55pm
Facilities: Fixed-base operation provided by Argos VIP, Delta
Aerotaxi and Sky Services; handling provided by SAT
Fuel: Jet A1 and Avgas
Runway length: 9,820ft
GA movements (Jan-April 2016): 709
Closest city: Pisa – four miles

Airport: Ciampino-G. B. Pastine International

Operating hours: 6:00am-11:20pm
Facilities: Dedicated GA terminal. Fixed-base operation
provided by Alisud, Argos VIP, Signature Flight Support,
Sky Services and Universal Aviation; handling provided by
Aviapartner Executive, Aviation Services and AdR Handling
Fuel: Avgas and Jet A1

Runway length: 7,242ft GA movements (Jan-April 2016): 4,270 Closest city: Rome – 10 miles

Airport: Naples International

Operating hours: 6:00am-11:00pm

Facilities: Fixed-base operation provided by Alisud, Argos

VIP and Sky Services; handling provided by Aviation

Services, GH Napoli and Menzies Aviation

Fuel: Jet A1 and Avgas Runway length: 8,622ft GA movements (Jan-April 2016): 993 Closest city: Naples – three miles

Note: The list of airports is not exhaustive

Airport: Catania-Fontanarossa

Operating hours: 24 hours

Facilities: Fixed-base operation provided by Argos VIP and Aviapartner Executive; handling provided by Aviation Services, GH Napoli and Sky Services

Fuel: Jet A1 and Avgas Runway length: 7,992ft GA movements (Jan-April 2016): 272 Closest city: Catania – four miles

Sky Services network in Italy

Sky Services expands network to Siena Airport

SKY is the most expansive network in Italy and offers full general aviation assistance (FBO) with its own staff, facilities and equipment. It also offers in-flight catering, SKY CUSINE, at 12 FBO locations in Italy, supervision and permits at 43 locations, and fuel at 33 locations. SKY has been elected to be the airport company of Siena Airport. The existing facility will undergo a complete renewal and be entirely dedicated to general aviation. Operations will begin by the end of 2016. SKY also includes a flight academy and maintenance service in Milan Bresso, Capua-Naples and Brindisi.







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Fill her up

A rise in empty leg availability is opening up additional revenue streams as a new breed of customer looks to experience the luxury of business aviation for a fraction of the usual price

Words | Saul Wordsworth





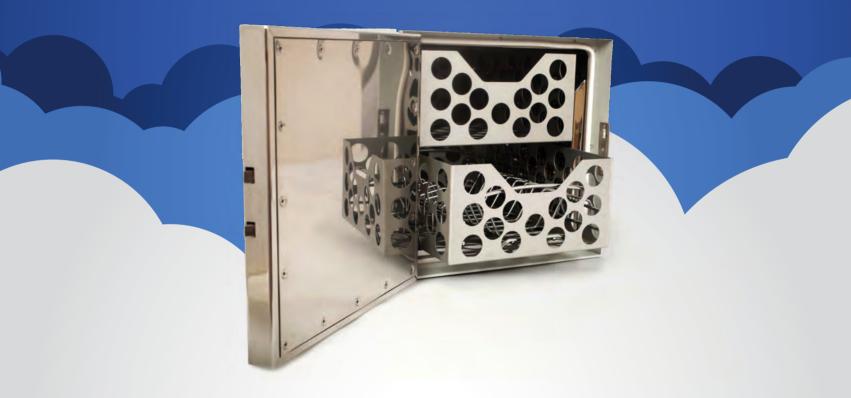
is still a highly fragmented industry, with a huge variety of possible routings and therefore a large number of empty legs (flights without any passengers on board). Since the global economic downturn the industry has moved toward offering up these routes at reduced prices.

"Empty legs are more affordable than full charters," says James Armstrong, head of commercial development at private jet charter company Magnus Aviation. "Aircraft operators are keen to cover the costs for positioning the aircraft so will offer these flights at a reduced cost. This can mean it's up to 75% cheaper to charter an empty leg than a full charter." However, according to Patrick Margetson-Rushmore, chief executive of London Executive Aviation (LEA), more typical savings are 50%, sometimes creeping up to 60%. "Savings on empty legs are hard to calculate," he adds. "Hourly rates for specific aircraft are hugely varied





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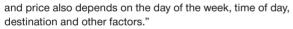
Working together

Charter operators are partnering with online platforms to sell their empty legs

With the backing of the Saudi royal family and Jay Z, JetSmarter was established in November 2012. In the past 12 months the company, which has ambitions to democratize the charter industry and offers 4,000 free flights each month to members, has been selling empty legs on behalf of Jet Edge and GlobeAir. Such international partnerships increase flight options for members while making private flying more accessible to the masses.

By partnering with Jet Edge International, for example, JetSmarter is able to offer members extensive domestic and intercontinental empty leg flight options and global shuttle services in large-cabin aircraft, at no cost to members via JetSmarter's JetDeal service. For Jet Edge, this means a substantial increase in utilizing the company's empty flight segments, as JetSmarter has the ability to purchase up to 35,000 hours of flight time over the next seven years. JetSmarter's partnership with Jet Edge also strengthens and expands JetSmarter's current user base.

For GlobeAir, the strategic partnership means JetSmarter can add the availability of 12 Citation Mustangs to its roster, resulting in broad access to more than 1,500 European airports and helping GlobeAir gain more exposure in the market.



The availability of empty legs correlates to the rise and fall of private and business jet charters. More chartered flights mean more empty legs. According to Magnus Aviation, there were 32% more empty legs available in the first three months of this year compared with the same period in 2015.

"New York-London and Dubai-London are popular routes with many of our clients, and empty leg availability between these cities is often snapped up very quickly," says Margetson-Rushmore. "Europe's private jet traffic sees a significant peak in the summer, so there are many more empty flights available. Typical availability over the summer months includes empty legs back to the UK from Nice, Palma and many other popular summer destinations."

Considerations

Empty leg customers experience the greatest savings when the whole airplane is chartered and every seat is filled, thus dropping the price per head. If the traveler can afford to be flexible with their schedule, is prepared to book last minute, travel in a group and accept that there is no return journey, it can be a way to experience business aviation for a price more commensurate with commercial flying. However, as the by-product of planned charter flights, empty legs come with a degree of risk. If the original journey changes or is canceled, the flight no longer exists. This is why it's critical to ensure the charter broker is one that will reimburse for the cost of an empty leg in the event of cancellation.

"From both a customer and an aircraft perspective, empty legs are a moveable feast," says Adam Twidell, CEO of private jet booking

Law-abiding service

There are some legal requirements for companies offering empty legs

Operators must hold the relevant air operator certificate and insurance to allow them to operate aircraft for public transport. Empty leg platform providers must find a way of demonstrating that operators are in compliance with the relevant laws and insured. There is a risk that the unscrupulous might be able to exploit the third-party platform to try

and operate 'gray' illegal charters. In the case of empty leg platforms that are taking payment from clients, they would have to comply with whatever financial regulations are applicable to protect the end consumer. It is possible that issues of liability may arise around an operator's failure to deliver the service paid for by the client.



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company PrivateFly. "They are much more likely to be subject to change as the repositioning flight is the resulting one-way movement from a full charter booking. If the original charter itinerary changes, as it often does, the empty leg will also change. This can make it more difficult to manage empty leg inventory and customer expectations."

Profit margin is dependent on whether the empty leg flight leaves directly from where the aircraft is positioned or picks up its empty leg passengers en route to its destination.

Sometimes the aircraft will alter its flight path to collect passengers, which will affect the profit margin but still be more profitable than flying empty.

Investment and marketing

"We carefully monitor and link our clients' flights to maximize the efficiency of the fleet but when we do have a large number of empty routes available, we work with our marketing team to produce marketing material that goes out to our brokers and clients to make them aware of the opportunities," says Margetson-Rushmore.

LEA has a dedicated empty leg sector section on its website with daily updates across a variety of aircraft, letting potential charter customers browse the empty legs available and request more information about the ones that interest

"If the original charter itinerary changes, as it often does, the empty leg will also change. This can make it more difficult to manage empty leg inventory and customer expectations"

Adam Twidell, CEO, PrivateFly



Online technology

A new generation of online startups hopes to revolutionize the charter industry

- Fly Victor launched in 2011, Victor uses technology to help customers compare, book and manage private jet charter flights. The company offers an end-to-end charter booking on both web and cell phone, disclosing transaction fees and operator and aircraft details for total transparency and complete financial protection.
- and complete financial protection.
 LunaJets established in 2007,
 LunaJets is a private aviation booking
 platform with access to over 4,800
 aircraft around the world. The system
 uses a proprietary technology to
 match client flight requests with
 available business jets, including
 empty leg flight accessibility, to prenegotiate preferential hourly rates
 for customers
- PrivateFly a global booking service for private jet charter and private aircraft hire, PrivateFly was launched in 2008. The online platform and apps integrate with a live global network of over 7,000 accredited aircraft to pinpoint the best available private aircraft at the most competitive,

transparent market price. Charters can be arranged within 90 minutes. · Stratajet - the newest of the startups, Stratajet was officially launched to the consumer in 2016 and is a real-time booking platform for private jets. Its proprietary search and booking engine can provide realtime, accurate prices of private jet flights. It uses complex algorithms to calculate these prices by examining a vast number of fee variables, such as landing fees, handling fees and government airways, while the 'compliance engine' examines elements such as time and noise and the logistics of whether specific aircraft sizes can use certain airfields. · JetSmarter - founded in 2012, JetSmarter is a mobile marketplace for private jet charter. The company uses a smartphone application to connect passengers and air carriers to chartered flights. More than 3,000 aircraft of all makes and models are currently available for booking through the company's mobile app.

them. The system is also accessible through online charter marketplaces such as Avinode, so if a broker is searching a marketplace for a trip-specific aircraft and availability information, LEA's empty legs will come up.

"A small amount of investment is required operationally to ensure customers are aware of our empty leg routes," he says. "The empty legs section on our website is updated daily by our operations team. If an aircraft is going to be sitting at an airport for a couple of days, we'll make sure we let people know it's available. Marketing material and tweets are also sent out to promote the empty legs available. This is all done manually so no additional investment in technology is required."

Increasingly aircraft operators are looking at technology to help them market and sell their empty legs. Most will use scheduling software to help them manage their aircraft's availability. To reach a wider audience many operators are now working with a new generation of startup platforms that integrate automatically with their software, taking a feed of available empty legs via an API integration and enabling publication of live availability via website and app (see *Online technology*, left). This new solution is looking to smash the traditional brokerage model and make private jet access available not just to the super-rich, but the reasonably wealthy too.

Uber of the skies

"There are a number of third-party platforms entering the market that are pitching themselves as Uber-style market disruptors," says Andrew Hughes, senior partner

Boutique threat?

A new business class boutique airline has entered the market

La Compagnie offers enticing routes between Paris. London and New York. Although slick in its presentation, according to a number of industry insiders it is in unlikely to usurp the existing charter operations.

"La Compagnie's business proposition is interesting but it's goes against the key principle of private jet travel - that the aircraft has to work around the passenger," says Jonny Nichol, founder and CEO of Stratajet. "It doesn't offer the same flexibility as private jet travel. With private jet travel you have total control. You can decide when and where you fly from and, if traveling as a group, it can often work out more cost effective to all fly on a private jet rather than individually paying for business class tickets."

"La Compagnie operates aircraft that would fit some of our clients' requirements in terms of the aircraft seating, but the service provided by private jet charter is very different and far more exclusive," says James Armstrong at Magnus Aviation. "La schedule. A standard charter company can facilitate flights almost anywhere in the world, any day of the week, and opening times. We have a huge range of aircraft at our disposal. La Compagnie only operates Boeing 757s so even if it wanted to, it couldn't fly into a huge number of airports."

Compagnie only flies once a day to a set at any time of the day within the airport

> "Overall technological advances in the marketplace. coupled with overall value and service, should prove to be a

to expand charter services" Geoff Makely, executive vice-president of charter management, Jet Edge

company's most effective way

at industry consultant Mango Aviation Partners. "This is not quite as disruptive as it would appear. Most of the platforms are simply an additional communications channel facilitating the client booking a flight. The new empty leg type platforms emerging are, in simple terms, replicating the services a conventional broker would provide. In some cases, the platform is the equivalent of sending an email to a broker. The flight request made from an app literally just sends a message to a broker at a desk who starts contacting operators to obtain the best price for their client."

Traditional brokers will argue that they provide a level of personalized service and client knowledge that simply cannot be handled by a software platform. They may have a point, but for the vast majority of charter clients best price is always likely to win the day, particularly when the purchase of an empty leg route via smartphone may take a matter of seconds compared with the usual few hours.

It is worth pointing out that where this new breed of companies is hoping to maximize the opportunities, others have failed. When it was established in 2012, on-demand



private jet service BlackJet, which sold seats on a shuttle service, promised to be the 'Uber of Jets' but shut down earlier this year. Time will tell, but what looks good on paper doesn't always work in reality. The one-way model and empty leg model are two vastly different systems.

Wrong emphasis?

It could be argued that making empty legs more affordable waters down the exclusivity and kudos of business aviation. The moment all available empty legs are published and passengers are asked to adhere to a certain schedule, the flexibility of the flight is lost. In theory this breaks the private jet principle of the airplane working around you, making it a different proposition. Whether this is true or not, empty legs are still more expensive than most first class commercial flights, so the exclusivity remains.

"The industry needs to move away from its obsession with trying to market itself as a luxury product," says Hughes. "A light jet is undeniably more comfortable than a packed 737 but its biggest strengths are its time-saving capabilities, convenience and flexibility. Selling empty legs is always going to be a good thing but

the industry is trying to use this as a means of increasing access to business aviation. This is simply the wrong way to answer the question of how to increase the use of business travel. The answer is to market the benefits that the use of a light jet can provide. This isn't just a change in marketing terms but a shift in the way operators operate. Ruthless cost management and the adoption of low-cost airline management principles take out the elements of luxury cost. The key is to lower the price-point to the client and increase the utilization of their aircraft. At that point, whether you are able to market an empty leg as a bargain ceases to be an issue; sensibly priced business flights become the norm and are no longer seen as the preserve

Business potential

of the rich, famous or privileged."

"I don't believe empty legs are an effective way to expand charter services," says Geoff Makely, executive vicepresident of charter management at charter and aircraft management company Jet Edge. "Overall technological advances in the marketplace, coupled with overall value and service, should prove to be a company's most effective way to expand charter services."

However, others argue that it is worth persevering with empty leg sales. "We hope that the future is bright for empty legs because they are an all-round winning situation for the charter customer and aircraft owner," says LEA's Margetson-Rushmore. "As the market increases in size and more people use private jets, the number of such routes will also increase and will steadily become a more popular way to use a private jet at a reduced cost. Furthermore, it is likely that the users of empty legs will eventually become full charter users, increasing the market size further."



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Cleanup operation

The days of using leaded fuel in general aviation operations are numbered as the industry is working together to clean up its act and embrace greener alternatives. Business Airport International presents case studies for the unleaded and biojet fuel markets, examining the developments being made, the implications of each fuel for operators, FBOs and fuel suppliers, and which lead-free alternative is likely to become the mainstream fuel in the future

Words | Hazel King



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UNLEADED CASE STUDY

"If the endangerment finding from the EPA is positive, that will set about a chain of events that would make unleaded fuel compulsory"

> he general aviation industry is the last mode of transportation that still relies on leaded fuel, making it a target for environmental groups who have petitioned

the USA's Environmental Protection Agency (EPA) and filed lawsuits to speed up the introduction of unleaded fuels.

According to the FAA, approximately 167,000 general aviation aircraft in the USA (80% of the country's total fleet) rely on 100 octane low-lead avgas (100LL), and the administration is working hard to reduce this number to zero in the next decade or so. To do this, it launched the Piston Aviation Fuels Initiative (PAFI) in 2012, which seeks to find a suitable unleaded alternative to 100LL.

"In 2011 the General Aviation Avgas Coalition – which is made up of the Aircraft Owners and Pilots Association, the Experimental Aircraft Association and the General Aviation Manufacturers Association (GAMA) – was concerned about the future uncertainty of an unleaded avgas, which was having a big impact on the growth of the industry in terms of new product sales and existing product upgrades," explains Peter White, head of the FAA Alternative Fuels Program Staff, AIR-20, and the government co-lead for PAFI.

The Coalition approached the FAA and asked it to take a leadership role in helping the general aviation industry transition to an unleaded gasoline. "The resulting Piston Aviation Fuels Initiative is an industry/government collaboration whose goal is to help the industry make the transition to unleaded avgas. The 35 stakeholders from 30 general aviation organizations that participate in PAFI span the breadth of the industry," comments White.

Phase 1 of PAFI – which involved primarily laboratory and rig testing of four candidate fuels – was completed in December 2015 and Phase 2 is now underway. This involves engine and aircraft testing using two shortlisted fuels from Shell and Swift Fuels. "The testing will provide data and reports that can be used to obtain a production specification from international standards developer ASTM for the fuel, which helps it to be produced and distributed throughout the infrastructure and to allow the FAA to authorize the general aviation fleet to operate on these fuels," White explains.

While PAFI's main focus is on the US market, the FAA will collaborate with foreign authorities to make sure approvals are accepted so those fuels can be used worldwide. "The

fuel producers are certainly interested in having a worldwide market. While the program is funded by US tax dollars and primarily focused on the US fleet, the expectation is that these solutions would be suitable worldwide," White says.

Global fuel supplier Avfuel is working with Swift Fuels on the development of its unleaded fuel for PAFI, creating a distribution plan for Swift's 102 MON no-lead solution to foster competition and availability and to keep prices in check. "Avfuel is also encouraging select FBOs to make Swift's 94 MON no-lead alternate fuel available by providing the necessary equipment," says Alfred A Pease, director of alternative fuels, Avfuel Technology Initiatives Corporation.

The road to unleaded

Michael G Mooney, VP and chief risk officer at EPIC Fuels, which is part of PAFI, explains why the aviation industry has been slow to adopt unleaded fuels: "Aviation gasoline producers have been trying to identify an alternative unleaded formula since the late 1980s, however no 'drop-in' solution [one that can be used transparently on engines and aircraft without the need for material or operational changes] has been identified. Evaluating the impact of completely new fuel chemistry on the full history of aircraft production is an immensely complicated undertaking; the safety implications of switching to a new fuel, rigorous testing, in multiple conditions and with multiple engine types, must be completed first."





Above: There is currently no 'drop-in' alternative to 100LL fuel for aircraft, so an entirely new fuel must be found to meet environmental targets

Left: Avfuel has partnered with Swift Fuels to create a fuel distribution framework for Swift's unleaded 94 MON Avgas



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Fuel standards

Rob Midgley, global technical and quality manager, Shell Aviation, explains why jet fuel needs to do more than pass specification tests

"It is tempting to assume that if a liquid passes the jet-fuel performance tests, then it can be used with confidence as jet fuel. However, there is more to it than that. The test limits reflect historical issues: for instance, a freezing-point limit was set in response to pilots flying at greater altitudes. Jet fuel must pass these tests, but the specification also states that the composition must be hydrocarbons and approved additives only, and thus, by implication, nothing else. For some contaminants, zero really should mean zero. For example, low levels of vanadium can damage turbine blades.

"Fuel-quality-related incidents are rare, but a few are reported every year. For confidence in their jet fuel, operators should ask their suppliers about jet fuel specifications, traceability (to be sure it was made as jet fuel without biofuel or other non-hydrocarbons in the feedstock) and the supply chain quality system that protects the molecules from refinery to wingtip.

"These questions are increasingly important as fuel supply chains become more complicated with additional opportunities for contamination and new refiners entering the market with different interpretations of how to correctly apply the specification standards."

There is still a way to go before unleaded fuel becomes mainstream for the aviation industry – in fact, White predicts that Phase 2 of PAFI won't be completed until 2018. "Meanwhile, the EPA is undergoing a process to determine if the lead emissions specifically from general aviation engines endanger health, and it is scheduled to make a preliminary finding in 2017 and a final ruling in 2018," he adds. "If it does determine that lead emissions endanger public health it will be compelled to set limits of emissions and the FAA will need to make sure the engines and aircraft meet those limits. If that endangerment finding from the EPA is positive, that will set about a chain of events that would make unleaded fuel compulsory."

Further cooperation will be needed between all industry stakeholders to ensure that the impact on the general aviation fleet is minimal. EPIC Fuels' Mooney says, "The supply of an unleaded replacement to the current grade of 100LL must be coordinated with all potential manufacturers and distributors to ensure a safe and appropriate roll-out across North America." EPIC Fuels has recently built and commissioned a large capacity railcar supplied avgas facility in southern California, one of the larger avgas markets in the USA, to ensure it is fully prepared to deliver whatever solution is agreed upon by the industry.

TOTAL, HJELMCO and Air BP are also heavily involved in finding an unleaded replacement for 100LL – they have been working on unleaded avgas research since 1992 and are members of PAFI's Technical Advisory Committee. "Working with the FAA, EASA, ASTM, the Co-ordinating Research Council and other industry members, Air BP has made a significant contribution to the development of ASTM D7547 and Defence Standard 91-090 Issue 4 unleaded Avgas specifications. These cover the mid-octane grades UL91 and UL94 respectively developed by TOTAL and Swift. This has been a major project and directly offers over 50% of the global general aviation fleet an unleaded fuel option," says Miguel Moreno – Air BP global marketing director GA.

TOTAL, who submitted one of the four unleaded fuel formula tested for PAFI Phase 1, was the first to produce and distribute UL91 on a European scale. Originally AIR TOTAL launched UL91 to offer ultralight aircraft pilots an aviation fuel that was safer and of better quality and performance than motor gasoline (mogas). Quickly after its introduction on the market, Lycoming and Continental approved AIR TOTAL's unleaded avgas for most of their engines.

In April 2016, Air BP improved access to, and distribution of, its UL91 product in Norway by installing a self-serve automat facility at Kjeller Airport. "This is the first of a network to stretch across Scandinavia and demonstrates Air BP's commitment to support the supply of unleaded fuels," adds Moreno.

"Come 2018, we hope to have identified fuels that can be used on a broad portion of the fleet but the steps to fully integrate these fuels into production, distribution and supply infrastructure are challenging," explains the FAA's White. "There are a lot of issues involved but we believe we've got the right organizations involved to support a smooth transition that will not impact the reliability of general aviation."



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Shell Aviation







BIOFUEL CASE STUDY

"We have a limited supply of fossil fuels; we as an industry must work toward mainstream usage of biofuels"

or the past few years, the aviation industry has been working on developing environmentally friendly fuels that will help it to meet the environmental targets set out by GAMA and the International Business Aviation Council

(IBAC): improve fuel efficiency by 2% per year between 2009 and 2020; achieve carbon-neutral growth from 2020; and halve CO_2 emissions by 2050, relative to 2005 levels (see *On the right track*, April 2016, p38-42).

Pease from Avfuel explains, "The entire global aviation industry produces only 2% of all human-induced CO_2 emissions. Of that number, 80% of the CO_2 is emitted from flights of over 1,500km [930 miles], travel for which there is no other practical alternative mode of transport. The Air Transport Action Group has asserted that if commercial aviation were to get up to 6% of its fuel supply from biofuels derived from biomass by 2020, they could reduce the overall carbon footprint by 5%, to 1.9% of all human emissions."

This year's EBACE in Geneva, Switzerland, in May, was a prime example of the rising popularity of biojet fuels in business aviation aircraft operations, with Gulfstream using its own renewable fuel blend to fly in a G450 and G550 to the static display. The low-carbon, drop-in renewable fuel is derived from agricultural waste and combined with Jet-A fuel to provide a 50% reduction in greenhouse gas emissions.

A number of fuel suppliers are also developing their own biojet fuels in partnership with OEMs. "We are working on a number of different pathways to develop biojet in a bid to become a leader in the sustainable aviation fuel market as and when this market becomes established," explains Philippe Marchand, director of biotechnologies at TOTAL.

The pathways for the French fuel supplier are sugarto-biojet (in partnership with US company Amyris); hydroprocessed esters and fatty acids-to-biojet; and alcohol-tobiojet (in partnership with developer Gevo), and TOTAL – an ASTM approved company – has already begun commercial



use of some of these biojets with Air France-KLM, Lufthansa, GOL and Cathay Pacific.

EPIC Fuels is also in the biofuel and biofuel blend market. Kai Sorenson, bio/renewable fuels commercial manager, comments, "We have been primarily working with Boeing on the OEM side – we conducted the Boeing ecoDemonstrator 757 flight with US-made 'green diesel' biofuel in June 2015 and Boeing's first-ever flights using a HEFA blend during the ecoDemonstrator 787 flight test program in December 2014 – and we're also working with multiple carriers including Alaska, KLM, Nippon Cargo, United and others. The results have been very promising. We expect that there will be multiple options for sustainable fuel for aviation, whether its green diesel, alcohol-to-jet or other combinations; these flights are clearly demonstrating the advantages of using a biofuel blend to improve the aviation industry's environmental sustainability."

The FAA is also working on a biofuel option – the Commercial Aviation Alternative Fuels Initiative (CAAFI) is a collaborative biofuels effort similar to PAFI on the avgas side. "These fuels are all 'drop ins', unlike the avgas solution," says White.

In January 2016, Air BP, in partnership with Norwegian airport operator Avinor and sustainable biofuel specialist

COVER STORY: FUEL

SkyNRG, became the first supplier at Oslo Airport Gardermoen to supply biojet to commercial operators via the airport's existing hydrant mechanism.

Air BP's Moreno comments, "Air BP anticipates this will lay the foundations for the increased adoption worldwide of jet biofuel supply. Air BP is working closely with Avinor in its assessment of market demand. The key challenge in this area is the supply of biofuel. Air BP is evaluating many options to determine how best to source and market biojet to customers. We want to be a leader in the supply of biojet as we recognize its importance for our customers and the wider industry in meeting ambitious industry environmental targets."

According to Moreno, other airports have also expressed their interest, particularly in Sweden where Air BP has started to supply biojet at Karlstad Airport.

Work to be done

Despite Air BP's Scandinavian supply, the aviation industry is yet to fully embrace biofuels, with cost and regulations being barriers to market. "Cost is certainly an issue as most biofuels, even for road transport, are more expensive than fossil fuels, especially as the price of crude oils has dropped in the last few years," TOTAL's Marchand says. "However, biofuels in road transport have been in place for decades – more than 40 years in Brazil and more than 10 years in the USA and Europe – and the reason why biofuels have been able to be incorporated into road transport is because there were the proper regulations and legislations in place. In an emerging market you need some support to make sure that you can reach a decent level of competitiveness with the right level of technology and volume growth."

EPIC Fuels' Sorenson argues that the lack of infrastructure is also limiting the widespread use of biofuel. "Given that we have a limited supply of fossil fuels, we as an industry must work toward mainstream usage of biofuels. What's currently lacking are large-scale production facilities to produce the alternative fuels, but we're seeing progress there. Whether it's fuel from Gevo's alcohol-to-jet production facilities in Colorado that was first used on Alaska Airlines flights this summer, or biofuel produced by Diamond Green Diesel, a refiner in the Gulf Coast region, more and more alternatives will come online in the next few years."

Air BP's Moreno agrees: "As the biojet industry develops, we will hopefully see more plants producing biojet. While biojet is more expensive than regular jet fuel, it can be blended at small percentages, resulting in a manageable incremental cost."

One positive for biojet as opposed to unleaded is its ability to be 'dropped in' to current airframes. "In essence, the bio molecules that are blended together with fossil fuels to make biojet are drop-in, so all biojets comply with the existing jet fuel specifications and no modifications need to be made to the aircraft," explains Marchand. "Biojet, generally speaking, improves the behavior of the engine and the airframes because they are cleaner and their energy content is higher so they improve operations."

For Marchand, the mainstream use of biojet is still a way off – he predicts it will not happen within the next 10 years – but its popularity will continue to grow in line with GAMA and IBAC's 2020 target for carbon emissions.



TOTAL developed a biojet fuel with Amyris for its Lab'Line for the Future project

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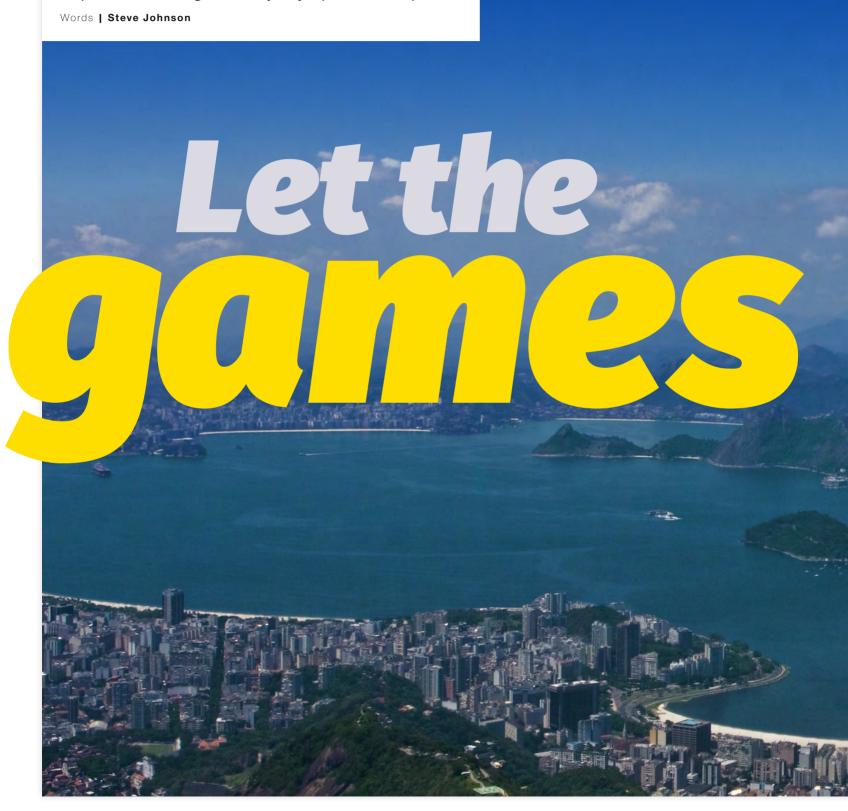




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 Operators flying to Rio de Janeiro this summer are urged to plan ahead and seek assistance from those on the ground to ensure smooth arrivals and departures during the busy Olympic Games period





Rio at a glance

· Check NOTAMS frequently;

be requested.

Facts and tips for operators flying to Rio de Janeiro in August • 10% of slots for general aviation flights (15% for two days HIBIN either side of the opening and closing ceremonies); · Landing permits may take up to seven days; Allow extra time to process documents; • Ensure all documents are valid and current: · Pay landing fees to validate flight plans; • File flight plans 90+ mins prior to departure; · Slot deviation ±30 mins permissible; Parking spaces limited – ground handler should

he 2016 Olympic and Paralympic Games is fast approaching, with sporting events taking place at 33 venues in the host city of Rio de Janeiro and at five venues in the cities of São Paulo, Belo Horizonte, Salvador, Brasília and Manaus. From

August 5 to September 18, Rio de Janeiro will become the first city in South America to proudly fly the famous five-ring flag. For business aviation aircraft and passengers flying into Rio, the preparations and the expected aircraft numbers involved are substantial, and all the stops are being pulled out for smooth and successful travel.

It is reported that 39 airports located within 120 miles of the host city will be involved in air operations during the Games. Paulo Henrique Possas, director of the department of airport management at the civil aviation authority Secretaria de Aviação Civil (SAC), estimates that there will be an additional 4,500 aircraft arrivals and departures; 900+ movements are expected for the opening ceremony on August 5 alone. He adds, "Around 2,200 air traffic controllers will have specific training for the event and an extra 1,000 aircraft parking positions are being provided. Delegations from 206 countries and more than 100 heads of state are expected to attend the Games."

For any operator flying to Rio 2016, the clear message is that advanced planning and preparations are essential. Completing preflight formalities will probably take longer than usual and greater consideration will need to be given to what might otherwise be straightforward and routine. According to Líder Aviation, Brazil's premier FBO network, the Games's 48,000 volunteers may be trained, enthusiastic and friendly but "it is best not to expect perfection". The advice is to be patient and understanding of their situation.

If there's one core factor to reassure business aircraft operators, pilots and passengers, it is that preparations have been underway since 2012. Fuel suppliers such as Petrobras have been involved in planning - the demand for the 2014 World Cup final alone for two million liters of fuel has provided an indication for Rio 2016. RIOgaleão, which

Above: Additional ground handling staff will be available throughout the Games at **Santos Dumont Airport**

Below: SITAONAIR has deployed new technology systems at airports across Brazil to help air traffic controllers cope with the rise in arriving and departing flights

operates RIOgaleão Tom Jobim International, has said that the airport has no concerns about supply as it has a direct supply from the Petrobras refinery. However, Andre Camargo, managing director of Universal Aviation Brazil, argues, "Fueling the day before departure may be best to avoid delays or missing a slot."

In 2014, air transportation IT and communications leader SITA announced that it would be working with the Comissão de Implantação do Sistema de Controle do Espaço Aéreo (CISCEA) to upgrade Brazil's air traffic management technology. Adriana Mattos, SITAONAIR business development senior manager, comments, "SITA has a contract with CISCEA to deploy services such as digital automatic terminal information (D-ATIS) and departure clearance (DCL) systems in 23 Brazilian control towers

"Because many restrictions will be applied during this period, it will be critical to be prepared for last-minute regulatory changes and have access to experts on the around"

Andre Camargo, managing director, Universal Aviation Brazil



with local partners. We are also refreshing systems at São Paulo-Guarulhos International Airport prior to the Olympic Games. Brazil is more than prepared to host the Olympics."

Universal's Camargo adds, "When Brazil hosted the 2014 World Cup the operating environment for business aviation was complex and continually changing. We're expecting conditions to be similar but most traffic will be focused on Rio de Janeiro. Because many restrictions will be applied during this period, such as slot requirements and airspace closures at certain times, it will be critical to be prepared for last-minute regulatory changes and have access to experts on the ground."

To put the capacity situation into perspective, 80% of slots will be reserved for commercial aircraft, 10% for VIPs and 10% for general aviation. For the two days either side



of the Olympic Games opening and closing ceremonies on August 5 and 21, the percentages will change to 70/15/15 respectively. VIP flights, heads of state and major sponsors will take priority on those days.

Visas, permits and slots

Brazil is looking to attract as many visitors to the Olympic and Paralympic Games as possible and has launched an initiative to reduce the need for visas. Visitors from the EU, Australia, Canada, Japan, New Zealand, Russia and the USA are among those who do not require a visa. However, it is best to check visa details for other nationalities well in advance, as well as noting specific provisions for pilots, flight attendants and licensed technicians.

Operators will probably already know that necessary landing and domestic permits need to be applied for well in advance of travel to Rio. Camargo explains, "The current processing time is 48 hours, but may extend up to seven days during the Olympics." The authorities have also highlighted the need to ensure that the most recent issues of all pilot, insurance and aircraft documentation are used and extra time is given for any updates or renewals. Having permits approved in plenty of time will enable slots to be requested via Centro de Gerenciamento da Navegação Aerea (CGNA), the air traffic management center. If multiple landings in Brazil are planned, an AVANAC (national civil aviation agency) landing permit will be required. Operators should also be aware of how to avoid cabotage infractions (such as ferry legs and passenger changes within Brazil), which might otherwise lead to permit revocation.

"For the Olympic Games, we will have additional staff available at Galeão and Santos Dumont airports and will also be supporting Guarulhos, Campinas Brasília and Confins airports," comments Danniel Maher, manager of ground handler Swissport Executive Brazil. "There will be restricted parking, especially for larger aircraft, slots are mandatory and additional charges may also apply. There's a good chance that a 'drop and go' operation will be in place on certain days, such as for the opening and closing



Vital statistics

Airport: RIOgaleão Tom Jobim International

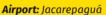
Operating hours: 24 hours

Facilities: Fixed-base operation provided by DNP VIP Aviacao, Líder Aviação and Maher's Handling

Fuel: let A

Runway length: 10/28 - 13.123ft: 15/33 - 10.432ft **Slots:** Required from August 1-September 30

Distance from city center: 11 miles



Operating hours: Closed August 3-22;

6:15am-10:00pm at other times

Facilities: Fixed-base operation provided by Lider

Aviação and Colt Aviation Fuel: 100LL and Jet A Runway length: 2,952ft **Slots:** Not required

Distance from city center: 21 miles



RIO DE JANEIRO



Airport: Cabo Frio International **Operating hours:** 24 hours

Facilities: No fixed-base operation available

Fuel: Jet A

Runway length: 8,366ft **Slots:** Not required

Distance from city center: 100 miles



Airport: Santos Dumont

Operating hours: 24 hours on August 3-23; 6:00am-11:00pm at other times. Closed daily 12:40pm-5:10pm on August 8-18 for filming **Facilities:** Fixed-base operation provided by

Líder Aviação and TAM Aviação Executiva

Fuel: Jet A and Avgas

Runway length: 02L/20R - 4,068ft;

02R/20L - 4,340ft

Slots: Required from August 1-September 30

Distance from city center: 1 mile



ceremonies. With expensive hotel rates and airport parking fees, repositioning aircraft and crew is highly likely."

Operators carrying competitors' sports equipment – some of which might be potentially dangerous – will need diplomatic clearance. Camargo says, "For such flights, permission to travel with this equipment will not be an issue but approvals via the appropriate embassy will need to be obtained. In the event that a flight isn't considered 'diplomatic', the International Olympic Committee (IOC) will probably be involved to provide the necessary approvals."

Eight airports currently confirmed for slot coordination are Brasilia, Galeão International, Santos Dumont, Tancredo Neves International, Pampulha, Guarulhos International, Congonhas and Campinas. It is understood that slots for VIP flights will be coordinated by the IOC.

With the heavy traffic forecast, slots will only be allowed a 30-minute deviation; any cancellations will require a minimum of four hours' notice and there may be penalties for non-adherence. Airports will be categorized Class A or B; Class A airports require arrival and departure slots, Class B only an arrival slot and PPR issued by the airport. Flight plans must be presented one and half hours before departure – normally this is just 45 minutes.



Above: Galeão International Airport is in the yellow exclusion zone, meaning there will be some restrictions during the Games

Parking and security

Accommodating visiting aircraft may be another challenge for Rio 2016. Around 600 extra priority parking spaces are being arranged according to SAC, but given that landing slots do not include automatic parking rights, separate requests should be initiated through the ground handler. There may also be on-the-ground time limitations at some airports. Cynthia Oliveira, operations director at Líder Aviation, explains, "Galeão has a long-term parking area that, based on World Cup usage, will accommodate around 260 aircraft." However, some airports have few parking slots – just three at Viracopos Campinas – and re-positioning aircraft may be necessary. According to Embraer, 25 large business jets can be accommodated between its hangar and apron at Sorocaba Airport.

As the number of aircraft arriving in Rio increases, and with the increased risks of terrorism worldwide, there are some concerns about air and ground security. Street crime is generally acknowledged as being the greatest issue for visitors to the Olympic and Paralympic Games; robberies, for example at ATM machines, have increased. The advice is to use secure transportation to and from airports, a hotel safe for valuables, and be generally vigilant and cautious at all times. Clearly airport security will be heightened during the Games, and for business aviation this may mean first landing at a hub airport for the necessary inspections to take place and clearances given. Checking operating times for individual airports and security requirements, as well as allowing time for resultant delays, will be an essential aspect of flight planning.

The establishment of three exclusion zones – white, yellow and red – is designed to secure airspace from accidents or terrorism incidents. Maps issued by CGNA with a vertical limit flight level 145 provide the necessary detail and restrictions. For example, Pampulha and Santos Dumont airports are both in the red zone and will be closed for specified times during the Games. Flight plan routing permissions are required to operate in the white and yellow zones. Operations to and from airports in the yellow zone will need to arrive and depart Brazil from yet-to-be-defined 'hub' airports that have approved security inspection processes.

The overall impression is that aviation provisions for Rio 2016 are being planned diligently and in detail. The authorities and organizations on the ground give every indication that they are 'on the ball', although at time of writing there are some details still to be announced – notably the hub airports. Rio wants to give its projected half a million visitors a great experience, not just for the Games but in the wider context of what the city and Brazil has to offer. \bigcirc

"Around 2,200 air traffic controllers will have specific training for the event and an extra 1,000 aircraft parking positions are being provided"

Paulo Henrique Possas, director of the department of airport management, Secretaria de Aviação Civil

Zika

Make sure you're aware of the disinsection rules for aircraft flying to and from Brazil

The World Health Organization (WHO) is monitoring the Zika virus very closely; its statement in May 2016 focused on advising travelers to Rio de Janeiro for the Olympic and Paralympic Games. The WHO stated that with the Games being held during the winter and hence fewer active mosquitos, the risks associated with the virus are lower.

That aside, there are substantive and ongoing concerns about the Zika virus spreading and this comes with the need to disinsect aircraft. Currently, relatively few countries require aircraft to be disinsected while passengers are on board; others require all interior surfaces to be disinsected on pre-flight approach. Currently, the scope for disinsection in individual countries ranges from all

inbound flights to aircraft traveling in from specified areas, including Brazil. Andre Camargo at Universal Aviation Brazil comments, "At this time, Brazil doesn't have any requirements for aircraft operators traveling to the Olympics. This may change, but we don't expect regulations to be put in place based on information we have received so far from the authorities. However, it's always recommended to check on requirements that other countries may have for operators traveling to and from Brazil."

For Rio 2016, if the WHO advice is followed, the risks of Zika infection appear to be relatively low. For routes and locations where disinsection is not currently mandated, operators should at least be ready to respond if the situation changes.





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Personal profile

Rady Fahmy has over 15 years of diverse professional experience in creating and launching successful enterprises and organizations. As executive director and CEO of the African Business Aviation Association, he has been integral in launching this innovative new association into the international business aviation landscape. He works closely with the board of directors to continuously develop this highly dynamic not-for-profit association and has helped position it as a familiar, respected and recognized organization within the business aviation community.

Mext of this

Among the world's continents, Africa has the world's fastest-growing economy and presents a multitude of opportunities for business aviation operators looking to expand their horizons. **Rady Fahmy**, executive director of the African Business Aviation Association, talks more about the options available

Words | Hazel King



frica was a focal point in
May at EBACE in Geneva,
Switzerland, as the industry
came together to discuss
business aviation opportunities
in emerging markets. The

continent has had continued economic growth over the past few years – 4.5% in 2014 and 3% in 2015 – and GDP is expected to rise by 6% per year between 2013 and 2023. This is good news for the business jet market, which is poised for a period of substantial expansion over the next few years. "Several studies have indicated an expected growth of 4% in business aviation ownership and activity over the next 10 years," explains Rady Fahmy, executive director of the African Business Aviation Association (AfBAA). Companies such as ExecuJet have been investing in their African services in recent months in a bid to capture the opportunities available on the continent (see *Recent developments*, on page 50).

Africa comprises 54 countries, whose different levels of wealth and development make it a complex market for business aviation operators. Launched in 2012, AfBAA aims to unite these countries and promote the growth of business aviation across the continent.

"From day one we developed a strategy and set of initiatives to deal with the entire continent, which we split into four regions – southern, east and central, west and north," comments Fahmy. "Some of the initiatives include working with supranational organizations such as the African Union and the African Civil Aviation Commission, others have the support of regional organizations such as the Economic Community of West African States, and finally some of them include working with local

AfBAA chapters. Additionally, and most importantly, it is the tireless efforts of our members that help develop the initiatives across Africa's regions."

In just four years the association has grown from 12 founding members to 108 members representing a diversified portfolio of nationalities, industry expertise and a wide range of stakeholders. "The driving principle has always been about growing business aviation on the continent from the operator's perspective," continues

Fahmy. "Our vision and mission has always been about a combination of adoptive and adaptive strategies – adoptive in terms of instilling best practices from around the world when they fit with Africa's diversity, and complementing that with adaptive strategies and innovative solutions when conditions call for it."

For Fahmy, it is the rising wealth and vastness of the

INTERVIEW: AFRICAN BUSINESS AVIATION ASSOCIATION

For Fahmy, it is the rising wealth and vastness of the continent that makes Africa attractive to business aviation. Many of the economic centers, such as Nigeria, Angola, Kenya and Egypt, are not well served by an efficient transportation network, meaning business aviation has a key role to play in these areas. "South Africa remains Africa's largest and most mature business aviation market," he says.

There are several industries that are driving growth in business aviation – the oil and gas, mining, telecommunications, retail and medical evacuation services. "The underlying trend is the rise of African industrialists and business people that understand and appreciate the benefits of business aviation and the positive returns it has on their bottom line," Fahmy argues.

AfBAA's work

EBACE provided the ideal platform for Fahmy to announce several initiatives, including its conference and exhibition event strategy, which is built on "market-driven events that will help the community grow through networking as well as by means of educational and inspirational sessions".

He adds, "We also announced an innovative strategy of including unmanned aerial systems/remotely piloted aircraft systems [RPAS] under the umbrella of AfBAA. We have added RPAS operation under the definition of business aviation, meaning that we will concentrate on the same efforts we exercise for business aviation operations

"The underlying trend is the rise of African industrialists and business people that understand and appreciate the benefits of business aviation and the positive returns it has on their bottom line"

Above: Swissport Executive Aviation will be operating the first FBO at Marrakech Airport and apply them to RPAS. We will therefore concentrate on easing legislation, training, safety, and in general creating an ecosystem for RPAS to grow in Africa. The strategy was implemented in response to growing interest from our operators.

"In addition, we announced the first AfBAA Ethiopia Chapter to provide our services to a country with such promise in terms of aviation."

Alongside its annual conference (see AfBAC 2016, right), AfBAA works closely with international sister associations such as NBAA and EBAA as well as the Commercial Aviation Association of Southern Africa for local issues to improve the overall market for the business aviation community. "We are blessed with passionate and active members that continue to strongly support our association because they believe in the vision and mission we collectively share," Fahmy adds. "Members organize themselves in committees, such as the AfBAA Safety & Training Committee, and many others. Members are key speakers at our events, they sponsor our initiatives, and most importantly act as our conduits between the association and the local stakeholders."

The Safety & Training Committee is a particularly important part of AfBAA as the association works to change the perception of Africa in terms of safety to the wider business aviation community. "While business aviation activity in Africa is safe, we continue to grow our initiatives to instill a safety culture, encourage best practices and

Recent developments

Business aviation companies are investing in African operations

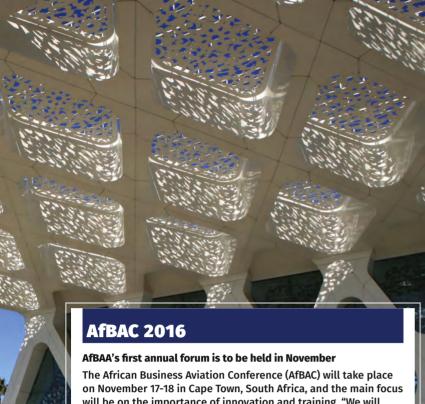
- May 2016: Swissport Executive Aviation is awarded the ONDA (Morocco National Airport Authority) FBO tender and will launch the first FBO facilities at Casablanca, Marrakech, Rabat and Tangier airports in Morocco.
- April 2016: ExecuJet announces it will extend its line maintenance capability for EASA-registered aircraft at its base in



Murtala Muhammed International Airport, Lagos, Nigeria.

- February 2016: ExecuJet expands its African managed and charter fleets with the addition of its first Bombardier Challenger 850 aircraft, which is based in Johannesburg, South Africa.
- May 2015: Angola-based Bestfly becomes the only FBO to provide aviation fuel in Sub-Saharan Africa.
- October 2014: South Africa-based business aviation concern Fireblade Aviation opens the first and only FBO at Johannesburg's O R Tambo International Airport.

Left: Fireblade Aviation's FBO at O R Tambo International Airport in Johannesburg



The African Business Aviation Conference (AfBAC) will take place on November 17-18 in Cape Town, South Africa, and the main focus will be on the importance of innovation and training. "We will also use the meeting as a platform to launch Africa's first annual forum dedicated to the burgeoning sector of remotely piloted aircraft systems. Additionally, we will be introducing a new format, which will include 'fireside' chats with influential aviation leaders, extended networking opportunities and a full two-day agenda," Fahmy explains.



adopt international standards [SMS, IS-BAO, IS-BAH] to benefit our stakeholders. The seven members that make up the AfBAA Safety & Training Committee are charged with a strategy that will focus on building stronger relationships with international and continental organizations, push for the adoption of standards such as IS-BAO, and implement training programs and personal development plans, among many other goals," explains Fahmy.

The association is involved in humanitarian aid work, with many of its member operators providing air transportation of people and materials in projects related to humanitarian issues. "We take great pride in the work we do to alleviate some of our continent's challenges," Fahmy says.

AfBAA's presence at events such as EBACE continues to grow as the association aims to spread the word about Africa's business aviation potential, and Fahmy is confident that the group will continue its expansion in the future. "We continue to build our network of stakeholders to implement our mission and objectives. We will do so by organizing more conferences and exhibitions, being present at international events, and finally innovating products and services that will help us achieve our objectives," he concludes.

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Single market

The European short-haul charter market is set to expand as EASA moves to allow widespread use of single-engine aircraft in commercial operations

Words | Liz Moscrop

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SINGLE-ENGINE OPERATIONS



At the recent British Business and General Aviation (BBGA) conference in March, Edwin Brenninkmeyer, CEO at Oriens Aviation, the UK distributor for the Pilatus single-engine turboprop at Biggin Hill Airport in the UK, shared that Geoff Parker, head of the UK CAA flight operations policy, had already held two public meetings with EASA and advised that the CAA would use its exemptive powers to allow such flights in the UK by as early as October this year. "It is not a question of if, but when," Brenninkmeyer says. According to AOPA UK CEO Martin Robinson, Eurocontrol is already working on developing new low-level routes to accommodate these aircraft so that they will be ready when approval is granted.

Business opportunities

Both Neil Harvey, a director at UK brokerage Hunt & Palmer, and Duncan Daines, chief marketing officer at executive air charter and aircraft management company Gama Aviation, welcome the new ruling, which they believe could stimulate the flat European market as well as introduce new business models. Daines says, "Different price points and accessibility of different airports and airfields mean there are new possibilities for point-to-point services using single-engine aircraft. This is something to be embraced."

Turboprop and turbojet/turbofan ('jet') engines use the same method for power generation – combusting fuel spins a turbine – however, turboprop engines deliver more power and efficiency at slower flying speeds and are more economical to buy and maintain. The six turboprop types mentioned in *Choosing an aircraft* on page 56 all have short field capability and can get into many more airfields than many aircraft currently in operation in Europe. Daines alluded to the success that new business model companies such as Wheels Up have brought to the market in the USA. "For us, the biggest impact would be on offering more base maintenance and line maintenance. We are used to providing support where needed," he adds.

Daines would prefer to see new models emerge: "SETs don't necessarily need to be incorporated into existing offerings. Bringing in different price points with lower operational costs gives the industry a great opportunity. I would love to see these types of aircraft used for fun experiences. We have a thriving hospitality business in Europe. We could bring fans from their local airports to big

Above: Cessna's Grand Caravan is a popular choice for first-time single-engine aircraft buyers

Above right: Wheels Up has opened up the market for turboprop aircraft in the USA

sports games. There are lots of possibilities for innovation. Second-tier airfields could get busier, possibly attracting more investment into third-tier airports."

Sources say that operating costs for single-engine types will run at between £900 and £1,000 (US\$1,325 to US\$1,470) per hour in the UK, and Harvey believes that single-engine aircraft will realistically compete with the likes of the King Air and very light jets. "It is a reasonable option on shorter runs, but will be slower. What takes an hour in a jet could take an hour and a half in a turboprop. New aircraft capital costs are also high, so it won't be an ultra-cheap option, unless you are doing short hops." He points out that educating the public would help, as there is an unfounded perception that turboprops are less safe. "Jets tend to be more attractive to passengers," he adds.

The new ruling would also help operators of twin types, according to Gabriella Somerville, CEO of ConnectJets, which distributes the Piaggio Avanti EVO type in Europe.

Safety controls

Strict rules are in place to ensure the safe operations of single-engine aircraft

It's taken a long time to arrive in Europe, but rest assured these operations will be super safe according to EASA. To pass stringent EASA requirements involves creating operational requirements for crew training, capability and experience, flight planning, enhanced maintenance programs with tighter minimum equipment list specifications, and aircraft type suitability.

The draft EASA mandate stipulates that any single-engine aircraft used in commercial air transport operations would have to have a SET-IMC approval. To that end, the agency commissioned QinetiQ to put together a Minimum Equipment List for SET-IMC operations. Some of the safety elements it recommended putting in place include: proven core engine controls with

resistance to static discharge and lightning; bird strike

resistance; foreign object resistance; and an engine health monitoring program.

To ensure the aircraft does not run out of fuel, there must be effective fuel management control and foolproof refueling caps to ensure there is no leakage. There must also be a standby electrical source to run all essential instruments on descent, as well as checklists if necessary. There must be adequate power to maintain cockpit lighting in emergencies, and in the event of an engine failure, pilots must make two attempts at engine relighting. There must also be enough oxygen for everyone on board in the event of depressurization.





Choosing an aircraft

There are a number of options for operators looking to invest in the single-engine aircraft market

Most city pairs in Europe are well under 1,000 nautical miles apart and realistically there are six types of single-engine aircraft in service today that would be appropriate for such missions:

• Cessna Caravan – cost US\$1.6m, maximum range 932 nautical miles

• Daher Socata TBM 900 – cost US\$3.8m.

- maximum range 1,730 nautical miles

 One Aviation Kestrel 350 cost US\$3.2m.
- One Aviation Restret 350 cost 0553.211,
 maximum range 1,300 nautical miles
 Pilatus PC12NG cost US\$4.5m,
- maximum range 1,845 nautical miles
 Piper PA-46 cost US\$2.3m, maximum
- range 1,343 nautical miles
 Quest Kodiak cost US\$1.7m, maximum range 1,132 nautical miles

The common factor with the six aircraft cited above is that all but the Kestrel are powered by one of the world's most reliable engines – a derivative of the Pratt & Whitney Canada

PT6A (the Kestrel has a Honeywell TPE331-14GR, which also has a solid reputation). The PT6 has earned a reputation for excellent reliability. A Transport Canada position paper of 2012, entitled Commercial passenger service-night/instrument meteorological conditions in single-engined aeroplanes, refers to an optimistic engine failure rate for the Pratt & Whitney PT6 engine of 1/200,000 hours. Indeed, it flies one of the most popular twin-engine types – the King Air. Neil Harvey at Hunt & Palmer explains, "I heard somewhere that there is more chance of both engines failing for different reasons on a twin than a single-engine failure of the PT6. It is an excellent engine."

Cessna also announced a new singleengine type at EBACE 2016, which it promises to reveal at the EAA AirVenture show later this year.

She says, "Attracting new entry-level customers could lead to people upgrading to twin types, then on to larger aircraft." A common route to buying larger jets is through an initial purchase of a small aircraft. Manufacturers build cockpit commonality into their aircraft families as they are well aware of this path to larger purchases. She continues, "It is something that will benefit us all. The operating costs for turboprops are very favorable when compared with those for a light jet."

Improved connectivity

According to Somerville, a new segment would also have a beneficial impact on connectivity as many more airfields become accessible. "Turboprops can get into so many more airports than jets can, which opens the market. The general consensus is that the existing FBO network is well able to cope with an influx of more aircraft," she explains.

Gama Aviation's Daines suggests that innovation could spill into airports too in terms of accommodating passengers with new types of FBO facilities. "I've seen great things done with sea containers for example and pop-up places. There is no reason why this kind of thinking couldn't be applied to airports," he explains.

"This is just what this stagnant market needs," says Richard Koe, managing director of consultancy WINGX Advance. He reports that the market for aircraft such as the Cirrus, Socata TBM and PC-12 has seen a 16% compound annual growth rate over the past decade. There are around 2,000 such aircraft active in Europe, almost all flying privately, with the PC-12 being the most popular.

At London Oxford Airport in the UK there has been a marked increase in users of business turboprop and piston-

Top: Pratt & Whitney Canada's PT6 aircraft engine is said to be one of the most reliable

Above: Single-engine operators are likely to upgrade to twinengine aircraft like the Piaggio Avanti EVO engined aircraft flying, as operators like to keep their costs tight. The airport's business development head James Dillon-Godfray suggests these aircraft would be ideal for the tedious 200- to 300-mile trips where the car journey is too long and the train service is not direct – and typically very expensive. Single-engine aircraft would also suit shuttle services for corporates who want to get to their factories a few times a week, according to Dillon-Godfray, who believes the Cessna Caravan is a good alternative for road or train trips that would normally take up to four hours and the Pilatus PC-12, flying at up to 300mph, for those journeys that by ground transportation take four hours plus. "The PC-12 hits the economical sweet spot on trips from Oxford to Edinburgh or Paris," he adds. "These new aircraft could breed a new range of mini-FBOs at smaller general aviation airports."

Alison Chambers from business aviation public relations specialist Emerald Media is a passionate advocate for SET IFR. She arranged the BBGA event, and is arranging a further conference on the topic at London Oxford Airport on October 18 this year. She comments, "This endorsement for IFR commercial air transport for business aviation is welcome because its affordability will widen the customer pool. It will also be a boost for many general aviation airfields. The conference will address what it all entails – the operational challenges, how single-engine aircraft can complement larger business aircraft, the types currently available and the new offerings."

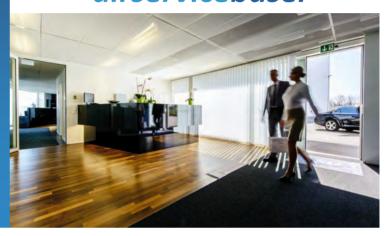
Given the job opportunities potentially about to open in Europe, it would be worth asking any pilot attending the conference what the optimum number of engines on an aircraft is. At the end of the event, the answer might well become "One".

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Must-attend show

The debut **AIR OPS Europe** event will draw key players in European business aviation ground operations

ith a strong line-up of conference sessions and big-name exhibitors already committed, AIR OPS Europe is shaping up to be the must-attend business aviation services event, alongside EBACE in Geneva, Switzerland, and the NBAA Convention and Schedulers & Dispatchers events in the USA. Taking place at Cannes Airport on October 12-13, 2016, and organized by EBAA, AIR OPS Europe is a premier event for the business aviation support community.

"This event - the first of its kind in Europe - offers the ground-handling community a platform to strengthen their competitiveness to deliver best-in-class client and passenger experiences," explains Fabio Gamba, CEO of EBAA. "It promotes partnerships and sales opportunities for operators and the support services sector, enhances market insights and engages the business aviation community to actively contribute to the debate on enabling legislation, harmonized standardization and optimized security procedures that directly impact the performance of ground operations."

Crucial platform

A wide range of industry-leading companies from the business aviation ground services community have already confirmed their participation in AIR OPS Europe. Among registered exhibitors are ABS Jets, Aerodit, Air BP, Air Service Basel, Air Support, Avfuel, BBA Aviation, DC Aviation, Flanders International Airport, G-OPS, German Aviation Service, Jet Services/Advanced, Marshall, Signature Flight, Sky Services, SkyValet, SNC, Lavalin, South Air Iceland and UKIP Media & Events, publisher of *Business Airport International*.

"AIR OPS Europe will be a great platform to network with key decision makers and strengthen existing relationships with our customers," explains Paul James, director of ground operations at DC Aviation. "It's also a great venue to learn the latest industry trends and share best practices."

"This business aviation support services convention will give us the



opportunity to see our customers and providers, expand our network, and be a part of the debate regarding the legislation and standardization of procedures for improving the ground operations services provided to our customers," adds Karim Berrandou, CEO of French ground service support provider G-OPS.

Operators are also throwing their support behind AIR OPS Europe. "At GlobeAir we set the bar very high to delight our passengers at every stage of the journey," comments Bernhard Fragner, founder and CEO of GlobeAir. "We are committed to delivering clients the highest-quality experience before, during and after the flight. Therefore, when it comes to FBOs, we want to ensure the same quality standard.

Above: An exhibition area will showcase the latest industry developments

Below: Event organizers EBAA hope AIR OPS Europe will become as successful as the annual EBACE event "We strongly believe that the key for success lies in having a network of trustworthy international partners throughout the entire value chain, and AIR OPS Europe has the potential to become a crucial platform to guarantee transparency and synergy in our industry. GlobeAir is excited to join the first edition of AIR OPS Europe."

Vital statistics

Location: Cannes Airport, France

Date: October 12-13, 2016 **Organizer:** EBAA

More information: Email

Space is going fast

AIR OPS Europe participants will have the opportunity to attend conference sessions on such pressing industry topics as IS-BAO; IS-BAH; implementation of ISO 9001-V2015 quality management systems; ISO 180001 occupational health and safety; ISO 14001 airport carbon accreditation; Fuel AT and MOT applicability; Jet A1/Avgas challenges; helicopter challenges; a roundtable with national authorities; fatigue management systems for FBOs; and much more.

Additionally, dynamic speed networking sessions will ensure all attendees have the opportunity to connect, learn from one another and, importantly, conduct business.

"Exhibition spaces are going fast, so don't delay," comments Belarmino Gonçalves Paradela, senior manager of economic and operational activities at EBAA. "This event is tailor-made for European and global providers from the FBO, fuel, maintenance, catering and cleaning service areas."



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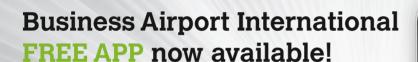






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Fuel service

International operators can avoid refueling mishaps by enlisting **Avfuel**'s support

vfuel Corporation through its flight planning division, Avplan, recently bolstered its trip support systems to capture specific data that helps operators and commercial customers make informed decisions regarding when, where and how to purchase fuel. This sophisticated matrix enables Avfuel to stay abreast of emerging trends, including location performance and service levels, which greatly boosts efficiency and cost for a smoother fueling experience with less hassle and a lower price.

The following list of scenarios to avoid might sound obvious, but when a busy operator or novice flight planner undertakes the management of a complicated international trip with multiple fuel stops, the number of considerations can become overwhelming.

With enhanced systems and a principle of exclusively employing seasoned staff, Avplan provides reliable plans that avoid mishaps. While the following list certainly isn't exhaustive, it presents complications that are easily avoided with a reputable fuel supplier and experienced flight planner.

Radio silence

Most fueling locations advertise 24-hour service, but some are only readily available at certain times. Avplan ensures the fueling operation knows an aircraft's timeline by staying in contact with the ground handling operation from start to finish.

Grounded

Get back in the sky with an operation capable of handling an array of maintenance needs on the spot. "Always plan for unexpected maintenance," says Avplan senior operations specialist David Kang. "For example, due to mechanical issues, we recently had an aircraft sitting in Tocumen International Airport in Panama for a week. It was the intended fuel stop specifically picked for its ability to handle repairs if needed – and it was needed."

No fuel

Operators should choose a location with a reliable fuel supply by looking at its branded supplier. Stick with



locations supported by one of two or three reputable fuel suppliers who have invested in the fueling operation and the industry's infrastructure to ensure uninterrupted supply. Avfuel also benefits its global operators and commercial customers with ad hoc fuel solutions for emergency needs.

Hidden costs

Additional charges associated with fuel transactions, such as card processing fees, interest rates on late payments and credit extensions, add up fast. Understand tax considerations and know what product liability insurance is offered – Avfuel assists with both. Dig past the obvious advertised fuel cost.

Bad handling

Know what certifications the fueling location has received and what type of training its employees complete. Avplan ensures that only the most qualified operations are included on a flight plan.

A 60-minute quick turn

Avplan can easily identify which locations have a track record of trusted, timely service. These locations are known for their consistency with quick turns and ground handling, providing a seamless experience for customers.

Above: Operators should choose a location with reliable fuel supply backed by a reputable fuel supplier. Avfuel's systems help operators make informed decisions regarding fuel purchases

Looking for a latte

The best locations offer every service for which a discerning passenger could ask. For instance, customs may be right next door, or the facility may offer high-end refreshments. "One location we always trust is Hector International Airport in North Dakota," says Kang. "Crews like the airport because it has a great relationship with customs and can service any aircraft."

Vital statistics

Established: 1973

Fueling locations: 3,000
Products: Global network, bulk fuel

supply, contract fuel, trip support, training, insurance, FBO branding

Diversions

Once operators select fueling locations with the above preventable complications in mind, it's imperative they go through the entire process again and select alternate locations that also fit the bill. International operators and commercial customers appreciate Avplan's logistical expertise and ability to select appropriate diversions in advance for a smooth trip.

By tracking fueling operations' performance and drawing on Avfuel's extensive resources, Avplan can save international operators time with a personalized flight plan and fuel schedule that offers maximum efficiency, avoids risk and saves money.

AVFUEL

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Vital statistics

Location: Keflavík, Akureyri,

Reykjavík and Egilsstaðir, Iceland **Founded:** 1973

Experience: All staff attend yearly courses as according to the ISO 9001 certificate

Services: Ramp services, VIP handling, cargo handling, passenger handling, fuel and customs coordination, HOTAC and transportation, excursion planning

Nordic support

IGS promises efficient ground-handling services for private travelers stopping off in Iceland when crossing the Atlantic



ourist arrivals in Iceland have risen by 20-30% every year since 2010, and both commercial and private aviation travel have been on the rise as the world economy has partially recovered since the 2008 financial collapse.

For private air travelers crossing the Atlantic, Iceland is the ideal stopover destination. IGS, the general aviation ground handler at Keflavík International Airport, promises a personalized service whether visitors are in for a quick fuel stop or for a longer period. The company services a range of aircraft types, from the LJ35 to the A380, handling all kinds of flights including private, ferry, cargo, charter and commercial.

IGS is now the largest FBO network in Iceland, offering services at Akureyri, often called the capital of the North; Egilsstaðir, the largest town in eastern

Right: IGS staff provide trip support and can organize excursions to popular Icelandic tourist destinations



Iceland; and Reykjavík, the capital of Iceland. Its proximity to all necessary services, such as hospitals, hotels and restaurants, makes Reykjavík the ideal place for an overnight stop. The company's main operating base at Keflavík International Airport is where all orders and invoices are centrally processed. Keflavík is only a 25-minute drive from the famous Blue Lagoon geothermal spa.

For visitors looking to experience something different on their stopover in Iceland, IGS offers a choice of handling packages. It can facilitate every need, whether visitors want to hop on board a 30-minute helicopter ride while IGS fuels their aircraft, or drive the famous Golden Circle route that spans 186 miles from Reykjavík into central Iceland and back (on this route they can see Gullfoss,

Above: Thingvellir national park

Right: IGS provides ground-handling services for a range of aircraft types up to the A380



the largest waterfall in Europe; Geysir, the famous hot springs; and Thingvellir, a national park and a UNESCO world heritage site).

It is important to choose the right handler in Iceland when crossing the Atlantic during the winter. The local weather can be unpredictable and it can start to snow without warning, so visitors need to be able to count on efficient de-icing capabilities, which IGS offers. The company is also ISO 9001 and 14001 certified, so its clients can count on quality and security issues being a top priority, as well environmental issues being taken seriously.

IGS aims to work very closely with its trip-support clients and offers full access to all training and quality material for its contracted partners. That way, IGS's clients can make sure their customers are always receiving the best possible level of service. \bigcirc

IGS

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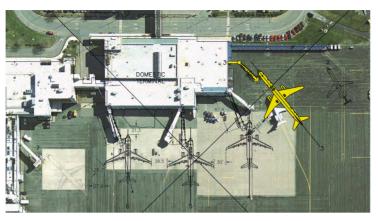
The multimillion-dollar refurbishment program at Bangor International Airport is nearing completion

onstruction of a jet bridge, suitable for most aircraft, has recently begun at Bangor International Airport (BGR) in Maine, USA, where an extensive refurbishment program is reaching its climax

Due for completion by December 2016, the additional jet bridge will allow passengers to board and disembark without going outside or being exposed to the elements.

"The new jet bridge may be used for all but turbo props," comments BGR marketing manager Risteen Bahr. "It is one of a number of imminent enhancements to the airport, including expansion of the post-security screening waiting area, which will now hold 140 additional passengers."

Completion of the airport's domestic terminal upgrade has been marked by its renaming in honor of former airport director Peter R D'Errico, BGR's longest-serving airport director.



Computer-generated image showing the position of the new jet bridge at Bangor

The Peter R D'Errico Passenger Terminal forms part of a US\$14.4m refurbishment scheme that sees major operating efficiencies for BGR and a considerably enhanced experience for passengers.

Sometimes referred to as the 'father of the airport', D'Errico held the airport director's role at BGR for more than 20 years, playing a major

role in its transformation from a military airfield, the former Dow Air Force Base, to a civilian airport, by Bangor City Council in 1968.

Formerly stationed at Dow, he and his family made Bangor their home in 1959, becoming industrial development director with the City of Bangor. From there he joined Eastern Fine Paper before being

asked to take up the reins at the renamed Bangor International Airport when its first manager, Bill Depuy, moved on to the FAA.

In his 21 years of service as airport director, D'Errico more than exceeded the challenges set by the City Council, making BGR a profitable entity and the best example of a successful military air base re-use facility, according to the US Department of Defense.

Commenting on the refurbishment program, present-day airport director Tony Caruso said, "Erection of the new jetway dovetails with the completion of an extensive redesign, which brings with it major operating efficiencies for the airport, as well as an enhanced customer experience."

BANGOR INTERNATIONAL

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Business Airport International on the road

The Business Airport International team will be at LABACE 2016 in São Paulo, Brazil, August 30-September 1

The Business Airport International team will also be at Jet Expo 2016 in Moscow, Russia, September 8-10

The team will also be at AIR OPS Europe in Cannes, France, October 12-13. **Come and meet the team at stand D5!**

Business Airport International magazine will be distributed at all three events







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WHAT DOFS THE UK'S DECISION TO LEAVE THE EUROPEAN UNION MEAN FOR THE FUTURE OF **BUSINESS AVIATION OPERATIONS?**



n June 23, the UK voted in a referendum to leave the European Union, a move commonly described as Brexit. Since then there have been numerous discussions on the implications of this decision for UK businesses and the country's relationship with its European neighbors. The UK is one of Europe's most important business aviation markets. According to business aviation data specialist WINGX it is the number-one market in terms of business jet charter

activity, has the largest and most valuable fleet of midsize and heavy jets, and hosts at least 15% of the European industry's employment and investment. The decision to leave the EU therefore poses some serious questions for the future of operations. Will there be rising costs? Will flight numbers fall? Will the UK have more freedom from Brussels' regulations? Here, leading figures in the industry discuss the implications of Brexit and their hopes for the future of the UK/European business aviation relationship.

Your views



Adam Twidell, CEO of PrivateFly, said, "In terms of employment, the crews, pilots and

other staff in our industry are typically multinational and naturally mobile. How easy will it be for UK crews to work for EU operators and what impact will differing employment legislation have on the desirability of working for British operators? We place a high value on language skills and recruiting team members with European culture and experience. On a positive note, there is an opportunity for charter brokers in private charter, given currency volatility. The choice of operator and where they are based can now make a big difference to the price paid by the customer."



Siegfried Axtman, CEO of FAI Rent a Jet, Germany's largest business jet operator, commented,

"For business aviation, Brexit is likely to decrease profitability of a number of companies as the waitand-see effect takes hold. However, much of business aviation trading is conducted in dollars, which could provide some sort of buffer to the low currency exchange rates the GB pound is currently experiencing. I suspect that the UK will probably be given the same status as Switzerland, which means holding full EASA membership but with some restrictions on flight operations within the EU.

"We are also living in a time of consolidation and it may be that we see more activity in this area as European companies acquire those based in the UK, effectively giving them a 'home' in Europe. We will certainly be looking at opportunities such as these, but otherwise for FAI it is business as usual. The UK will continue to be an important market for us."



Richard Koe, managing director of WINGX, commented, "In the short term, inevitable market volatility will increase economic uncertainty and that

will directly diminish business jet sales. Depending on forthcoming trade negotiations, the UK aviation sector (and therefore also business jet operators) may also suffer detrimental traffic rights limitations in the future. If London loses its competitiveness, the migration of financial services to the continent will directly diminish business jet demand in the UK. If the economy sustains long-term damage, we can expect business aviation sales and activity to correlate downward.

"But if, after the dust settles, it turns out that the UK economy can thrive after Brexit, business aviation will benefit, most obviously through improved trading relationships with emerging markets around the world, which

should be a boon, especially for large jet sales and activity."



Neil Turnbull, COO, Vertis Aviation, explained, "There's much speculation about what

will happen, but until the question of whether the European open skies policy remains in place is answered, there is little we can do to predict how overall business will be affected. The fundamentals of business will all need reassessing - currency exchanges, training, existing regulations, the ability to operate within Europe, and so on – but the wider effects of policy changes about the big issues such as open skies are most likely to have the greatest impact."

Your comments





What do you think? Will the UK's exit from the European Union be positive or negative for business aviation operations? We'd love to hear your thoughts on this or any other topic affecting the business aviation industry, so visit www.linkedin.com and search Business Airport International to join in with the debate.

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