

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

Business Airport

I N T E R N A T I O N A L

January 2018

Discover new partners, routes and destinations

In this issue

Landside

How to diversify and manage airport businesses

Supersonic

When and where the next generation of business jets will land

FBO FEES

Are they becoming too high for non-corporate flyers?

Location focus: California | Case study: Gary Jet Center

City guide: Shanghai | Event preview: Schedulers & Dispatchers 2018

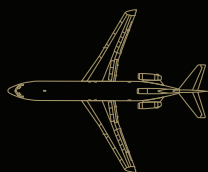
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In this issue...



On the web

- **Ries Vriend, CEO of Amsterdam Software – FBO One**, discusses potential changes to regulation surrounding FBO pricing transparency in the USA
- **Paula Tighe, information governance director at law firm Wright Hassall**, explains what GDPR means for business aviation

For exclusive interviews and industry opinions, visit www.BusinessAirportInternational.com

Arrivals lounge

- 4 Come to Chicago**
Gary Jet Center has opened its new FBO at Gary/Chicago International Airport
- 8 A luxury twist**
Airlander's creators are building a luxury travel variant of its hybrid aircraft
- 10 Oman openings**
Jetex Flight Support is set to open Oman's first FBOs in 2018
- 12 Keep on growing**
Honeywell's *Global Business Aviation Outlook* report predicts modest growth

Features

- 26 Whatever the weather**
How is new technology helping business aviation operate in unpredictable weather?
- 38 Supersonic jets**
High-speed aircraft are set to make a comeback – but are FBOs ready?
- 46 Flying to California**
Tips on traveling to the US state and what to do on arrival
- 54 GDPR approaches**
BAI explores how business aviation is getting ready to meet the requirements of GDPR
- 62 Extra revenue**
How landside businesses can help to boost airport income
- 68 2018 Schedulers & Dispatchers**
A preview of the annual conference, which is taking place in Long Beach, California
- 80 NBAA interview**
BAI speaks to Ed Bolen, president and CEO of the NBAA

18

COVER STORY

Pricing strategy

A look into the heated debate surrounding FBO pricing in the USA

26



38

Regulars

- 14 **Industry comment**
Victor CEO Clive Jackson discusses setting up a successful business
- 16 **City focus**
Your guide to the airports of Shanghai, China
- 90 **Best of the web**
A roundup of the most popular stories from the *BAI* website
- 92 **Back chat**
Does a regulatory body need to intervene with FBO pricing?

Profiles

- 77 **Grafair Flight Management**
CEO Johan Emmoth unveils the new FBO at Stockholm Arlanda
- 78 **Sky Valet**
COO Laurent Peretti discusses his career to date and business hopes
- 84 **Air Service Basel**
A reflection on the company's 50 year history
- 85 **SouthAir**
This Icelandic FBO is prepared for all weather
- 86 **AvFuel**
The supplier offers its top tips on fuel investment
- 88 **Jet Aviation**
Dubai South is added to its FBO offering
- 89 **Air Total**
The fuel provider offers its services around the world
- 90 **Mototok**
London Heathrow is the German company's latest partner



Welcome

Forecasts about the health of the business aviation industry can vary considerably along a broad scale, from gloomy pessimism to shining optimism. Honeywell's *Global Business Aviation Outlook*, now in its 26th year, is one the industry's most detailed and respected forecasts.

Next year's *Outlook*, published in October before the NBAA-BACE Conference, falls somewhere in the middle of that scale. It forecasts slower growth for business aircraft deliveries compared with previous years. *Outlook* predicts that up to 8,300 new business jets, worth US\$249bn, will be delivered during the next 10 years. In 2018, Honeywell expects a similar number of new jets to be delivered as in 2017 – between 620 and 640 – with “modest growth” as customers transition to newer models of aircraft.

Despite pessimistic analyses focusing on lower growth rates, it should be noted that in some regions growth is strong. In North America, for example, where some 61% of projected global demand for new business jets is expected to be over the next five years, 40% of Honeywell's survey respondents said they plan to buy new aircraft over the next two years – an increase of 3% compared with 2016.

Business aviation's performance can be easily measured with such a transparent metric as aircraft deliveries. But it should also be remembered that aircraft, although obviously a vital part of the business aviation

sector, are not the only element. Business aviation has a lot of moving parts, and almost all of them are present at the airport and FBO. From fuel and maintenance provision to VIP customer services and security, there are lots of other areas of the business that generate revenues and, if effectively managed, profits.

Two of our features in this issue highlight the changing nature of profit-making in airport and FBO businesses. On page 62 you can learn about the innovative ways business airports are making use of the asset they invariably have plenty of – land. Go-kart tracks, golf courses and pizza factories are just some of the non-aeronautical businesses that the airports we talk to are diversifying into.

We also tackle one of the most controversial issues in business aviation – FBO fees. As NATA points out on page 18, the dynamics of private aviation are changing and funds are needed to develop airport facilities. But with pilots complaining of high prices for fuel and parking, and financial pressure on many FBOs increasing, is it likely that the government will intervene to regulate the market?

While it remains the case that new jets are always good news for the sector, both of these articles show that successful airports and FBOs are also developing new ways to make money, away from just raising fees.

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“Despite pessimistic analyses focusing on lower growth rates, it should be noted that in some regions growth is strong”

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GARY JET CENTER, USA, HAS OPENED ITS NEW FBO AT GARY/CHICAGO INTERNATIONAL AIRPORT



Gary/Chicago International Airport

Location: 29 miles south of Chicago

Opening hours: 24/7
Runway length: 12/30 – 9,000ft (2,740m)

Fuel: Shell, Avfuel, Jet-A

Gary Jet Center has opened a new corporate flight center as part of its offering at Gary/Chicago International Airport, USA.

The flight center, which was opened in October 2017, cost US\$3m. Its opening marks the completion of 12 years of development for Gary Jet Center's (GJC) west campus.

The 8,300ft² (770m²) building has a glass-walled lobby with seating for more than 45 people, an espresso bar and views of the runway, which was recently expanded to 9,000ft (2,740m). The center also has crew lounges, a private phone, sleep rooms, and a conference room for both passengers and crew.

Positive partnerships

Gary Jet Center's (GJC) partner companies were involved in the conceptualization, design and

construction of the FBO.

Companies that participated in the project included international architecture company Ghafari Associates, Chicago-based design company Partners by Design, and environmentally committed local development and project management firm Lee Companies.

Lynn Eplawy, president at Gary Jet Center, said, "The process was constant and consistent, but we teamed up with the best building partners and that was key for the successful build.

"We started with our construction manager and architect and added the interior designer within the first few months. Those relationships were priceless to the successful outcome. Everyone brought their A-game to the project and the great outcome speaks for itself."



***“The conversation
can now change from
‘one day soon’ to ‘ready
for your business’”***

Lynn Eplaw, president,
Gary Jet Center



Left: The new lounge offers luxury and stunning views of the airport



Flying to Chicago

Famous for the Willis Tower (also known as the Sears Tower), Millennium Park and its bean-shaped mirrored sculpture Cloud Gate, the Chicago area has 10 airports for private charter flights to pick from.

“Chicago is a world-class city with exceptional arts, theater, sports, civic engagements and business culture,” said Lynn Eplaw of Gary Jet Center. “It is known as ‘The city that works’, and that is a very real depiction.”

Provision of facilities for business aviation in Chicago is growing and was boosted in November when another FBO, B Coleman Aviation, completed construction of a US\$5m, 40,000ft² (3,716m²) hangar at Gary/Chicago International Airport.





“Now that the center is open and in operation, it feels like a vision realized”

Lynn Eplawy, president,
Gary Jet Center

Above: **The reception and waiting area is designed to give a 5-star hotel experience**

Below: **The new conference room can be booked by both crew and passengers**

Patrick Lee, president and owner of project manager Lee Companies, added, “Lee Companies is honored to be a part of the campus development and largest private investment at the Gary/Chicago International Airport, culminating in this incredible state-of-the-art corporate flight center. It is the jewel in the crown of the Gary Jet Center west campus, establishing the Gary Jet Center as the pre-eminent FBO in the Midwest.”

Catering to all

The new FBO has floor-to-ceiling glass windows, a lobby with a 25ft (7.5m) black marble desk, custom-made seating, and a floating fireplace wall. It is also built to accommodate and cater to the crews of the aircraft, with three crew lounges, a full-size crew kitchen and laundry room, and direct hangar access to their aircraft.



Left: **The FBO features three crew lounges**
Center: **Crews have access to a fully-equipped kitchen and laundry room**



“We offer an experience that is comparable to walking into a 5-star hotel lobby from an aesthetic perspective, and a customer service experience that is second to none,” said Eplawy. “What is shocking about our industry is that FBOs – certainly American FBOs – have a reputation for being mediocre places in which to spend time. The design is expected and functional, but they don’t rise up to the luxury experience of private jet travel.”

“We understand the many customers we have in the corporate aviation business, from the aircraft owners, the crew, the dispatchers, and the passengers, and we ensure that everyone’s needs are met. That’s not always an easy task, but it’s the most important one,” she added.

Privately owned and operated for nearly 25 years, GJC prides itself on all line staff being NATA Safety 1st trained and certified. The FBO has trained aircraft mechanics on-site and on-call at all times so it can respond quickly to both aircraft-on-ground situations and pre- and post-flight needs. GJC is also the preferred provider of just-in-time freight handling services, and can accommodate aircraft-to-truck ground handling with any size aircraft.

The build of the new FBO began in January, taking nine months to reach completion. The facility is located on the west campus of the airport, which is already home to two 40,000ft² (3,716m²) hangars and over 5 acres (2ha) of ramp space to accommodate large aircraft.

Acting as a gateway to Chicago, GJC hopes to cater to customers visiting to experience the city’s thriving arts, theater and sports scene, in addition to its place as a business hub.

“Now that the center is open and in operation, it feels like a vision realized,” said Eplawy. “We certainly have our work cut out in order to continue to inform people of our new facility and all of our offerings, but the conversation can change from ‘one day soon’ to ‘ready for your business’ and so now it’s become a real sales meeting.”

“The new FBO center allows us to expand into new markets and customer groups. Our maintenance and aircraft management teams also have strategic growth plans to allow us to expand those operations as well. It’s a very exciting time in our company’s history.”

“We’re ecstatic that this is our new FBO and we couldn’t be more proud of the entire experience that we offer.” ○



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One Customer Experience

As president of Jet Aviation in our 50th anniversary year, I'd like to extend sincere thanks on behalf of the entire Jet Aviation team for your business and support over the years. To celebrate this milestone — which we would not be doing without your ongoing trust and loyalty — we launched our 'One Jet Aviation' initiative earlier this year. We are investing in One Jet Aviation to ensure consistent global standards and processes across our sites and portfolio of services for the next 50 years, and beyond. We look forward to seeing you soon!

Rob

Rob Smith | President, Jet Aviation

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HYBRID AIR VEHICLES SIGNS DEAL TO BUILD LUXURY TOURISM AIRLANDER VARIANT

Hybrid Air Vehicles has signed a deal with Henry Cookson Adventures to create a luxury travel variant of its hybrid aircraft, Airlander 10. The plane/airship combination is said to be able to land without a runway and have a lower carbon footprint and reduced noise levels, compared to business jets.

Henry Cookson Adventures, a luxury travel company, will work with Airlander's team of engineers in the lead-up to a maiden private excursion flight in 2018. The trial expeditionary journey will act as a precursor to Airlander's wider use in the luxury travel sector.

Hybrid Air Vehicles (HAV) has been developing the Airlander for almost 20 years. The Airlander 10, at 92m the world's longest aircraft, is currently undergoing test flights. Consultancy Design Q is working with HAV to create the luxury cabin layout with a government grant of £60,000 (US\$79,000).

Andy Barton, civil business development director at HAV, said, "We are delighted to be taking another

"The first trip is likely to be across Europe via the Alps, or across the Atlantic with stops in Iceland or Greenland"

Andy Barton, civil business development director at Hybrid Air Vehicles

step into the future of aviation and this is a reflection of the excellent progress being made with each flight.

"The first trip is likely to be either across Europe via the Alps, or across the Atlantic with some exciting stops in Iceland or Greenland.

"For the trial we are planning in 2018, we will select a crew of nine people in total.

These will be scientists and expeditioners scoping out the passenger viability in advance of the first passenger trip on a type certificated production aircraft.

"On the production aircraft, we could carry either up to 19 passengers in super luxury or up to 60 in a different configuration."

Airlander 10's ability to land anywhere sets it apart from traditional aircraft, bringing guests to locations off the beaten track. Its ability to fly for days at a time in virtual silence, with floor-to-ceiling windows and fresh air, makes it an attractive possibility for the luxury travel market.

Henry Cookson Adventures creates bespoke itineraries to unusual destinations, with recent excursions including a polar bear safari, the first commercial submersible trip to Antarctica, and the re-discovery of the Hang Son Doong cave in Vietnam with the company's founder. The partnership with HAV will help expand its offering to prospective holidaymakers looking for a different travel experience.

A spokesperson for the luxury travel company commented, "We very much hope that the test flight is successful as this will pave the way for Airlander's commercial use, allowing us to utilize her for luxury travel expeditions to hard-to-reach places and providing new and fascinating ways to view our wonderful world." ○

Above: An artist's impression of the luxury airship's first flight

Below left: Airlander takes off during a test flight

Below right: Chief test pilot David Burns in training





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FLIGHT SUPPORT COMPANY **JETEX** IS TO OPEN OMAN'S FIRST FBO AS PART OF ITS AMBITIOUS MIDDLE EAST EXPANSION PLANS

Jetex Flight Support's growth in the Middle East is set to continue, as it plans to open Oman's first-ever FBOs at Muscat and Salalah International Airports during 2018 and expands into new markets in the region.

The FBO operator and trip planning support company is developing new facilities at both of the airports as part of a contract with Oman Airports Management Company. Jetex will operate and manage the two FBOs for 10 years. The company is also expanding its existing FBO in Dubai.

"The FBOs at Muscat and Salalah are expected to open in mid-2018," said Adel Mardini, CEO and president of Jetex. "They will be fully equipped facilities with access to landside in a completely separate building from the commercial terminal. They are exclusively for first class and business passengers traveling by private jet.

"The décor and facilities will be up to a very high standard. We take the approach of combining hospitality and aviation for our terminals. Our target market is high net worth individuals using private aviation for both business and leisure.

"Our aim is to exceed 4,500 movements in our first year of operation at the FBOs."

The Oman contract was signed at the Dubai Airshow 2017. During the show Jetex also launched a second FBO at its VIP terminal in Dubai, which includes a 1,500m² (16,000ft²) luxury lounge. The company also announced it is building an air-conditioned hangar, with the development totalling 20,000m² (215,000ft²), to accommodate the parking and maintenance of aircraft at Al Maktoum Airport in Dubai. It is scheduled to be open by 2019.

Mardini commented, "We've built a very strong and stable business in Dubai and expanding that throughout the GCC [Gulf Cooperation Countries] is a very important part of our future strategy."

"We've built a strong and stable business in Dubai and expanding that throughout the GCC is a very important part of our future strategy"

Adel Mardini, CEO and president of Jetex

Above: **The VIP terminal in Jetex's Dubai hub**

Right: **The new FBOs will be exclusively for those traveling by business jet**



Seeb/Muscat International

Location: 20 miles (32km)
west of Muscat's city center
Operating hours: 24/7
Runway length: 08L/26R
13,123ft (4,000m)
Fuel: Jet/Avgas



Above: **The new Dubai FBO features a 1,500m² (16,000ft²) lounge**

Left: **Dubai's luxury interiors will provide inspiration for the new FBOs in Oman**

"We've wanted to expand the business for a while, and have been waiting for airports to expand into. Once the airport is built, we can get slots at it."

Sheikh Aimen Al Hosni, CEO of the Oman Airports Management Company, added, "Jetex was chosen based on strict criteria regarding the quality and commitment to hospitality and reception that we are aiming to provide at our new airports."

"We hope that this step will boost the level of VIP services, which in turn will take us closer to our strategic goal to become among the top 20 airports in the world in 2020."

Mardini said that there was a lot of opportunity for growth in the business aviation sector in the Middle East, but higher fuel prices mean that growth will be "slow and steady".

"We are delighted to be at the forefront of a new era for business aviation in Oman. We take great pride in the quality and expertise of our team, who strive to deliver best-in-class experiences at all times. Oman is a crucial market for us in the region, and marks another milestone in our growth."

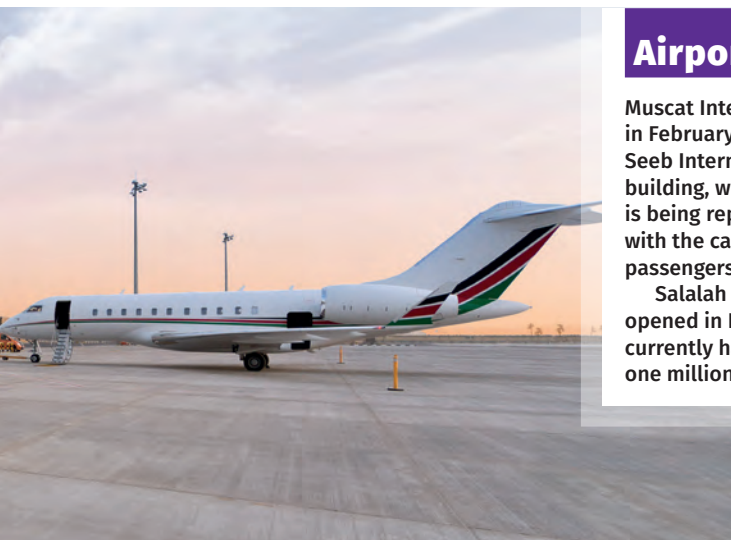
"Together with Oman Airports Management Company, we look forward to pursuing further opportunities to enhance the Omani business aviation experience. It is our goal to give clients access to unparalleled levels of service and discretion throughout the GCC and beyond," he added.

Jetex provides aircraft fueling, ground handling and global trip planning for corporate, commercial and personal air travel. ○

Airports of Oman

Muscat International Airport opened in February 2008 on the former site of Seeb International Airport. Its terminal building, which dates back to the 1970s, is being replaced with a new terminal with the capacity to handle 12 million passengers a year.

Salalah International Airport opened in November 2015 and currently has the capacity to handle one million passengers a year.



A NEW REPORT BY **HONEYWELL** PREDICTS
MODEST GROWTH FOR BUSINESS AVIATION
OVER THE NEXT DECADE

**620-
640**

jets delivered
in 2017,
down 30 units
year-on-year

Larger cabin aircraft
classes, ranging up from
super mid-size, are set to
represent more than

85%
of new purchases in the
next five years

The number of planned
purchases in Europe
declined in 2017 to

19%

– that's 11% less
than 2016's forecast

Asia-Pacific
represents a

6%

share of global
new jet demand over
the next five years

39%

of operators plan to
purchase a jet in the
next two years

In the Middle East
and Africa,

18%

of operators said they
will replace or add to
their fleets with a new
jet purchase, down from
21% in 2016

19%

of current purchase
plans for new
business jets
are expected to
complete in 2018

Slow yet steady growth has been forecast for business aviation in Honeywell's 26th annual *Global Business Aviation Outlook* report. Honeywell spoke with more than 1,500 business jet operators worldwide, with the survey sample representing the entire industry in terms of geography, operation and fleet composition.

Published in October, the forecast expects up to 8,300 new business jet deliveries worth US\$249bn to be made between 2017 and 2027. Ben Driggs, president, Americas Aftermarket, Honeywell Aerospace, said, "We expect roughly similar delivery levels in 2018 compared to 2017

as the industry transitions to new models, which will drive solid and long-term growth."

The report says that the industry is likely to face a modest pace of growth because of the uncertain economic and political environment in some parts of the world and a competitive used aircraft buyer's market. Despite a hike in demand of 7% year-on-year in the preowned field, asking prices are still declining overall, particularly for medium- and long-range aircraft.

Operators continue to focus on larger cabin aircraft, ranging from super mid-size to ultra-long range. Larger aircraft are expected to account for 85% of all new jets in the next five years. ○

"There are several new aircraft models coming to market, which will drive solid growth in the mid term and long term"

Ben Driggs, president, Americas Aftermarket
Honeywell Aerospace



skylink



Skylink Services Ltd is well-established and well known for the provision of ground handling services for Executive and Military Aircraft in Cyprus. It began operations in 1998, filling the gap in the Executive Aircraft ground handling market at both Larnaca and Pafos International Airports of Cyprus.

Over the last decade the company has grown significantly in size and reputation. Skylink Services owns and operates the only FBO facility at Larnaca Airport offering around-the-clock professional VIP aircraft and passenger handling services. Currently representing over 400 companies that own or operate executive aircraft worldwide, the company caters to aircraft ranging from very light jets to larger aircraft such as Boeing 747 and Airbus 340 and we are the preferred choice for most VIPs, celebrities and business persons travelling to or from Cyprus.

Skylink Services also manages and operates the Heads of State Lounge facility at Larnaca International Airport. This Lounge is used by all Heads of State visiting the Republic of Cyprus as well as a host of other visiting dignitaries. Optimum and problem-free operation is evidently crucial as over the past few years the General Aviation

Terminal was used by Pope Benedict XVI, on 6th June 2010, when he completed a historic official visit to Cyprus. In addition, the Terminal was used for the Heads of State during the second half of 2012 when the Republic of Cyprus was hosting the EU Rotating Presidency. Numerous Presidents and dignitaries have also used the terminal on official visits to Cyprus i.e Vice President of the United States Joe Biden, Former President's of the United States Jimmy Carter & Bill Clinton, President of Russia Mr . Medvedev, former EU commissioner Barroso and current EU commissioner Junker, German Chancellor Angela Merkel and many others.

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“Over a four-year period, the business has grown by nearly 1,000%”

Clive Jackson



The CEO and co-founder of private jet charter service Victor discusses setting up a successful business, catering to customer needs and boosting revenue

Launching Victor, the private jet charter marketplace, stemmed from my own frustrations as a well-traveled business aviation customer. Six years ago, and after an airline cut routes to an island where I had a holiday home, I decided that there must be a better alternative to get here.

Having tried charter, I decided to use my technology experience to create a better experience for other customers. I quickly polled my fellow business class passengers on the soon-to-be-canceled flight to see how they intended to get to Mallorca in future. I left the flight with eight business cards and a mission to make a transparent on-demand jet charter service a reality. I wanted to create a digital platform offering consumers the ability to easily search for, compare and book jets, without the requirement of a middleman getting involved.

Idea to reality

At the time of launch, I could see that the market had gaps, which would effectively stunt its growth. It was dominated by traditional brokers managing most of the jet booking process off-line and offering consumers an inefficient, unclear service. Many of these brokers were not sharing all of the charter booking details, nor their profit margin, so it was difficult for travelers to confirm what specific aircraft they were flying on, and with what seating layout and amenities, and whether or not they were getting best value for money.

By operating largely off-line, they were also costing their busy customers precious time. By and large, the market was ignoring synergies. It was failing to use smart technology to match the supply and demand more efficiently and effectively. The need to innovate and modernize this industry is a challenge now – just as it was six years ago – as more emerging players enter the market.

My technology background means I have an unfair advantage over most people in business aviation. I came into this business not just as a customer, but also as someone with a lot of experience of building global platforms. My last company developed sites and apps for companies such as Bentley, Jaguar, Sony Music and other leading brands. This experience is unique to Victor.

Thriving business

In this industry, there are a lot of players who are very good at banging the drum hard, but often it is a hollow drum. Transactions speak louder than words and my continual challenge is to ensure we matter to customers by offering an excellent ‘surprise and delight’ service, while maintaining the high standards of transparency that have

helped us grow so rapidly since we first started out.

As an outcome of providing superb customer service and an ongoing commitment to advancing our technology, Victor continues to thrive. Between 2015 and 2016 we hit our revenue target – in the region of £30m (US\$39.2m) – and doubled our turnover. Over a four-year period, the business has grown by nearly 1,000%. We are looking to further enhance our global offering by opening new overseas offices, and we have just expanded our Manhattan base, for example. We want to attract more and more new customers to our private jet charter experience.

As I look ahead to 2018, of course, global expansion is just one way in which Victor can play its part in constantly evolving the private jet charter industry. The team and I keep asking ourselves how technology such as AI and machine learning can further enhance our product offering, our growth and our customer experience, so that we continue our journey as a game-changer in the general aviation space. ○



Above: Victor charters flights to locations all over the world, including Monaco

Clive Jackson is CEO and co-founder of Victor, a UK-based private jet charter service. Initially launching a beta service through flyingmajorca.com, more destinations were soon added to its offering and Victor officially launched in August 2011



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city **focus** Shanghai

Your guide to flying to one of
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Words | Kirstie Pickering

Main airports in Shanghai, China

Shanghai Hongqiao International Airport

Operating hours: 24/7

Facilities: Fixed-base operations provided by Shanghai Hawker Pacific Business Aviation Service Centre and maintenance supplied by Shanghai Technologies Aerospace.

Facilities include customs and immigration, electric car charging, and 18 VIP lounges

Fuel: Jet, World Fuel Services, Air BP

Runway length: 18L/36R – 11,155ft (3,400m);
18R/36L – 10,827ft (3,300m)

Distance from Shanghai: 12 miles (19km)



Shanghai Pudong International Airport

Operating hours: Kunshan City Terminal –
5:00am-10:00pm

Facilities: Fixed-base operations provided by Shanghai Hawker Pacific Business Aviation Service Centre. Facilities include customs and immigration, two VIP lounges, and six service counters.

Fuel: Jet

Runway length: 17L/35R – 13,123ft (4,000m);
16R/34L – 12,467ft (3,800m); 16L/34R – 12,467ft;
17R/35L – 11,155ft (3,400m);
15/33 – 11,155ft

Distance from Shanghai: 29 miles (46km)



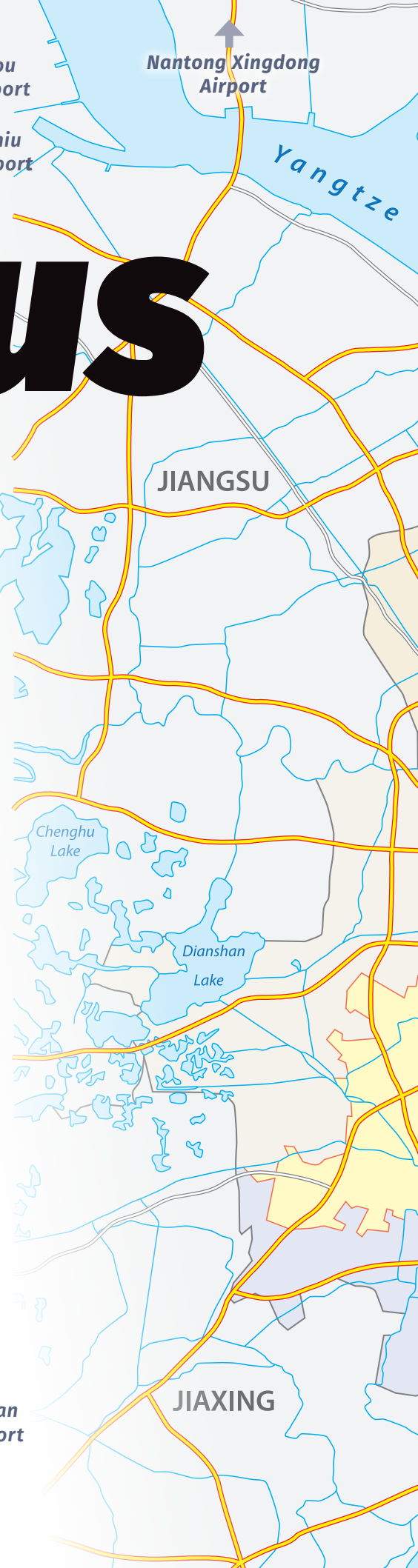
Yangzhou Taizhou
International Airport

Nantong Xingdong
Airport

Changzhou Benniu
International Airport

Sunan Shuofang
International
Airport

Hangzhou Xiaoshan
International Airport





Other airports near Shanghai

Sunan Shuofang International Airport

Operating hours: 24/7

Facilities: Wi-fi, business center and computers for public use. Catering by Vintage Caterers and ground transportation by Commonwealth Worldwide

Fuel: Jet

Runway length: 03/21 – 10,499ft (3,200m)

Distance from Shanghai: 80 miles (129km)

Nantong Xingdong Airport

Operating hours: 24/7

Facilities: Fixed-base operations provided by Apex Air. VIP lounges, conference rooms, baggage storage, luggage packing service, restaurants and shops

Fuel: Jet

Runway length: 18/36 – 7,874ft (2,400m)

Distance from Shanghai: 82 miles (132km)

Hangzhou Xiaoshan International Airport

Operating hours: 24/7

Facilities: Fixed-base operations by Deer Jet. Services include customs clearance, aircraft cleaning, transportation and hotel bookings

Fuel: Jet, World Fuel Services

Runway length: 07/25 – 11,811ft (3,600m); 06/24 – 11,155ft (3,400m)

Distance from Shanghai: 109 miles (176km)

Changzhou Benniu International Airport

Operating hours: 24/7

Facilities: Fixed-base operations by Avia and Fuel For You

Fuel: Jet, 100LL

Runway length: 11/29 – 11,155ft (3,400m)

Distance from Shanghai: 127 miles (204km)

Yangzhou Taizhou International Airport

Operating hours: 24/7

Facilities: Fixed-base operations by Avia and Yangzhou Taizhou International Airport Ground Handling Services. Services include customs clearance, ground transportation, catering

Fuel: Jet, AvGas 100LL

Runway length: 35R/17L – 7,874ft (2,400m)

Distance from Shanghai: 175 miles (281km)

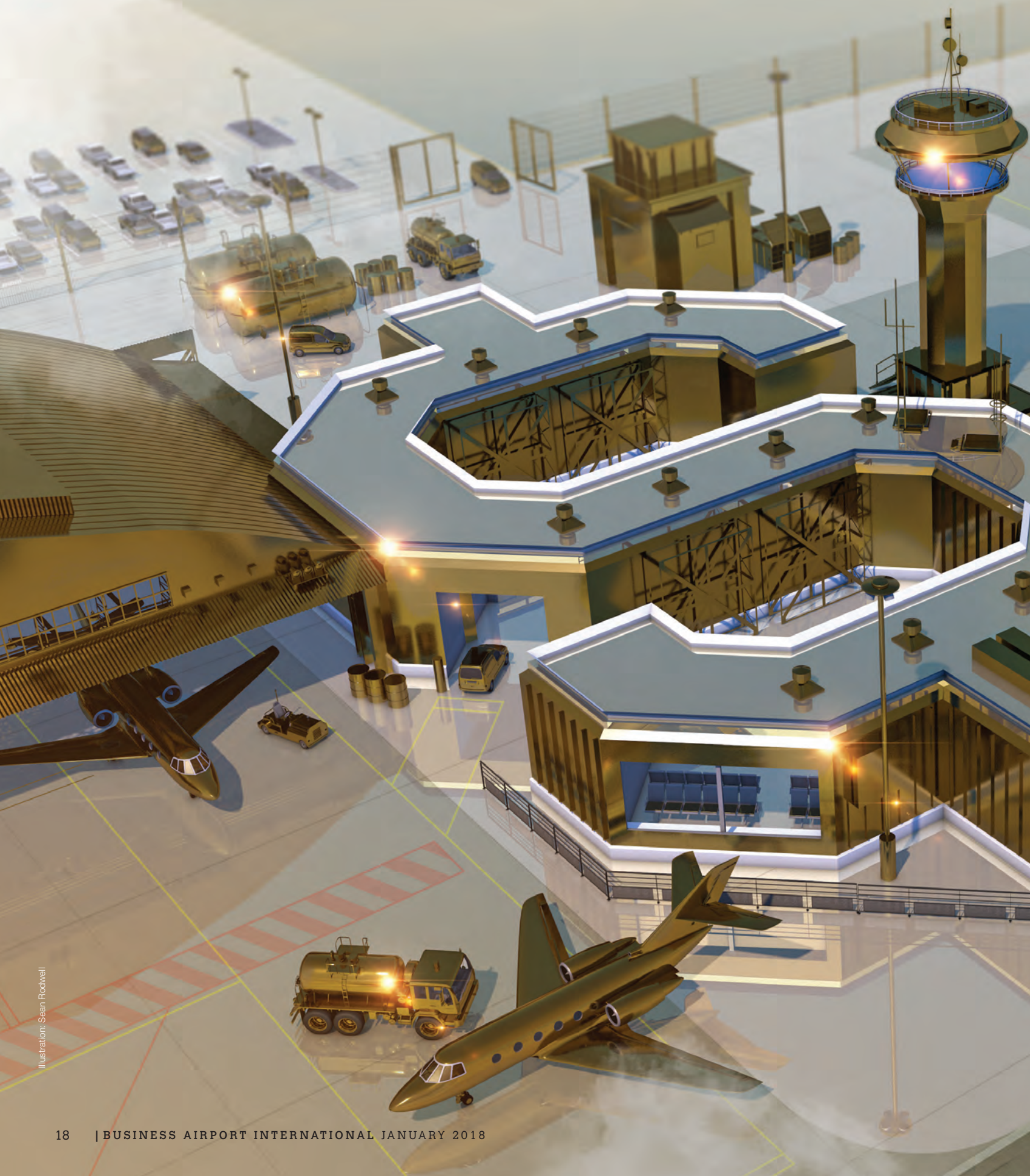


Illustration: Sean Rodwell



Focus on Fees

The current debate about FBO fees in the USA illustrates the challenges of changing airport economics

Words | Kathryn B Creedy

The complaints made by the Aircraft Owners and Pilots Association (AOPA), a non-profit political organization in the USA, about “egregious” fixed-base operator (FBO) fees seemed at first to be no more than the natural outcome of consolidation in the FBO industry. But the debate the complaints created has turned out to be much more complicated. It has grown to threaten airports’ federal grants as well as their viability. Airports are already taking heed and re-examining the way they do business, which may in turn lead to a major overhaul in how they deal with FBOs.

Changing and challenging times

According to the National Air Transportation Association (NATA), the controversy centers on the changing dynamics of private aviation – declining pilot populations, general aviation flights, and fuel purchases; as well as technology changes such as improvements to aircraft fuel efficiency. The organization makes effective arguments about the economics of FBOs, depicting them as being in a tough, no-win situation. Exacerbating the problem is the economic impact of the abandonment of airline routes on airports.

NATA also defends FBO pricing by saying that airport authorities need FBO funds to pay for the development of their own facilities. Airport upgrades often need 20- to 30-year FBO leases to recoup investment costs.

“As a result, airport sponsors find themselves relying increasingly upon rent from tenants and fees from users for the continued management, maintenance and operation of the airport, including runways, taxiways and ramps,” says NATA in its economic analysis of the industry, *The State of the FBO Industry*, published in March 2017.

“FBO master lease agreements require the FBO to adhere to federal and local policy requirements, including increased insurance limits, technical staff training, and so on.

“FBOs must also ensure they provide services at the levels required by lease terms and/or the minimum standards established by an airport... This comes at a time when declining fuel sales are driving a new business model – one in which everything comes with a fee.”



“Pilots are not looking for a free ride. We’re willing to pay our own way, but fees need to be reasonable and in sync with the service delivered”

Mark Baker, president, AOPA



Above: OK3 Air in Utah was identified by pilots as having high fuel prices

Left: Rising fuel prices at some FBOs have caused many pilots to complain

AOPA acknowledges that the nature of the aviation business is changing. “We understand the economics of airport and FBO operations,” says AOPA president Mark Baker in an article on the organization’s website. “The lion’s share do a great job at fair and reasonable prices, but this is simply not the case at some locations.

“Those paying their own way, on a budget, shouldn’t be forced to go somewhere else, nor should they be forced to pay for services they don’t want or, worse yet, simply get charged for showing up.

“Pilots are not looking for a free ride. We’re willing to pay our own way, but any fees need to be reasonable and have to be in sync with the service delivered.”

Control and ownership

AOPA hopes to prevent fees from rising further by convincing airports and the FAA to examine the market and rule whether they violate grant provisions. The body is calling for reasonable and fair pricing that is not unjustly discriminatory.

But the key question remains: does giving FBOs control of parking, hangars and fuel via a lease constitute a privatization of a public asset?

NATA, which represents aeronautical business suppliers, argues that in addition to industry changes, the prices are simply the free market at work. It characterizes AOPA’s efforts as economic regulation, something that AOPA rejects, however, suggesting that airports provide reasonably priced alternatives to FBOs, including transient parking. Such facilities need only be a convenient gate to the parking lot and a porta-potty.

“This isn’t about regulating,” says general counsel of AOPA Ken Mead. “It is about pricing practices putting airports in violation of grant assurances and at risk of losing federal funding.

“We think there are other ways to solve this. The development of alternatives for pilots who don’t want to use the FBO services is one of them. But don’t talk to me about free markets when the FBO is a monopoly.”

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Some city councils are taking steps to allow the creation of new FBOs and more competition. For instance, the FBO OK3 Air in Heber City, Utah, did have the highest fees in the USA, until the city council adopted new minimum standards on fuel providers and self-fueling in October 2017. The changes mean a different FBO or even the city can establish a self-serve avgas fueling station at the airport. AOPA called the move a self-help strategy.

"Airport authorities are finding things out of balance," says Mead. "FAA, which gives US\$3bn to US\$3.5bn a year to airports, hasn't exercised proper oversight for a very long time. We think that is changing and that guidance may be coming soon that airport authorities will find extremely useful. We just hope that the guidance stays intact and doesn't get watered down."

AOPA has also formed an airport access advisory panel with airport authorities, users and FBOs. "It's the right thing to do because this is complicated" Mead says. "One thing we are looking at is self-service fueling, provided by someone other than the incumbent FBO – that gets complicated because the FBO has made investments and that may be unfair. It all has to be balanced. The airport advisory access panel will help us do that."

In the meantime, AOPA has issued its own guidance. Several airports are already changing to include more options for parking and fueling services. These include Cedar Rapids, Iowa; Santa Barbara, California; Orlando, Florida; Jackson Hole, Wyoming; and Syracuse, New York.

Indeed, AOPA recently lauded Cedar Rapids for providing a new option – self-service fueling for 100LL, US\$2 less than is offered by the local FBO, but called for fuel provision to be expanded to include JetA. The airport also plans to provide transient parking.

"We expect this to grow," says Mead. "The best solution is for local airport governing boards to try to govern their airport, since they are in a better position to keep that promise than Washington DC."

Consolidation

FBO consolidation was sanctioned when the Department of Justice (DoJ) anti-trust division approved recent big

Right: **Ramp services such as maintenance do not replace revenue from declining fuel sales**

Below: **Self-service fuel pumps may offer a cheaper alternative at smaller, regional airports**

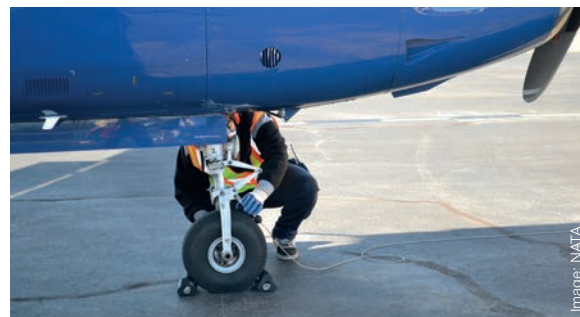


Image: NATA

"We don't think airports or any organization should be strong-armed into how to run their business"

Signature spokesperson

deals. For example, the DoJ ordered several properties to be sold in the Signature/Landmark deal to avoid market concentration. However, critics say the free market approach naïvely assumes that market forces will keep prices in check. As has been seen in the airline industry, markets often don't work that way. Furthermore, FBOs often hold monopolies because of low traffic.

"Within eight or nine months of the Signature/Landmark merger we started getting complaints," says Mead. "We have a list of about 30 problematic airports and of those, 22 are Signature properties."

Signature takes umbrage at AOPA's complaint. "We don't think airports or any organization should be strong-armed into how to run their business," a Signature spokesperson told *BAI*. "Taxes support airport operations, but taxes alone are not enough to ensure the safety, effectiveness, and sustainability of local airports. To be financially sound and reliable, airports must enter into relationships with a variety of facilities and service vendors, such as FBOs."

Airports at risk

NATA argues that competition is healthy and pilots can choose to avoid high-priced airports. However, sometimes pilot choices are driven by passenger needs to be at a given airport, or they may be part of networks and have a fuel card to use.

"Often, an FBO's primary competitor is not a competing airport operation but rather another airport in close proximity, or the airport where the plane came from," says NATA in its report, *The State of the FBO Industry*, citing four services – AirNav, Flight Planning and Tracking, RocketRoute and Fltplan.com – as providing the transparency needed.

Mead disagrees. "It is hard to go online and get an accurate picture of fees," he says. "We think airport governing boards are in a better position of oversight, but pilots ought to be able to find pricing."

"There is no requirement for transparency, although airports are coming up with minimum standards requiring the FBO to develop real-time displays of pricing and fees."

"It's about price transparency and reasonable access to places that are supposed to be public."

While not all of the information on fuel costs and fees may be online, it is available, says NATA's senior manager of regulatory affairs, Megan Eisenstein. She adds that it is part of a pilot's pre-flight routine to call the destination FBO so



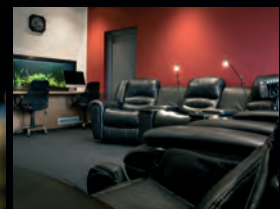
Image: AOPA

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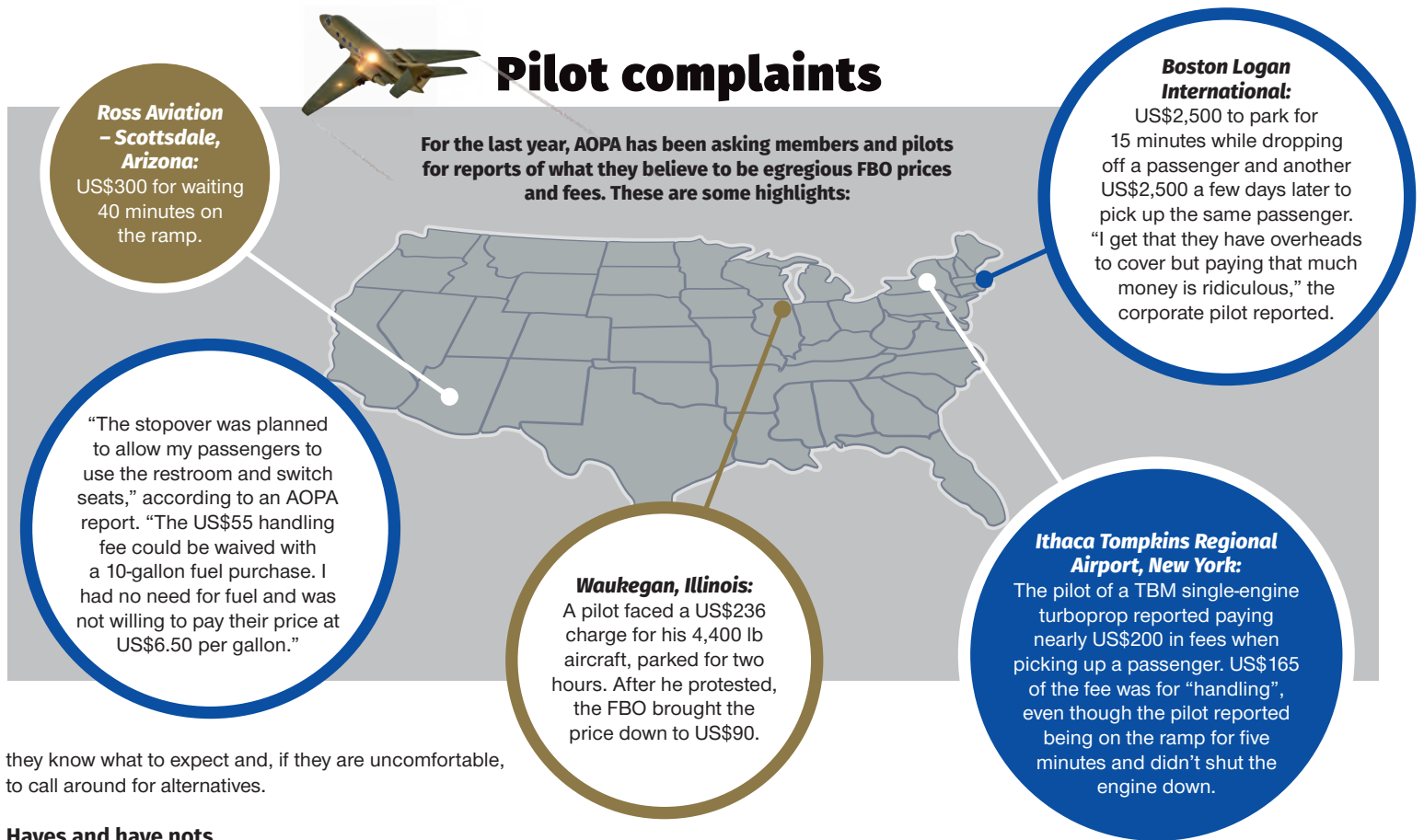
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they know what to expect and, if they are uncomfortable, to call around for alternatives.

Haves and have nots

However, AOPA points to another unintended consequence. “High fees actually hurt these airports,” says Mead. “By pricing out certain general aviation traffic, FBOs are harming local economies because pilots and passengers go elsewhere, and money those travelers would normally spend never reaches towns across America.

“This results in less traffic at the airport, which can have its own effect regarding access to FAA funding.”

AOPA is not arguing about an FBO’s right to build high-end facilities or charge rates to recoup their investment, or having to pay fees if facilities are used. What AOPA is arguing about is pilots being forced to pay exorbitant fees even if they don’t use facilities.

“I don’t think FBOs should be building non-aeronautical costs into their fees – some of these buildings are very nice but why should the costs of that building be built into the parking fee on public property?” says Mead. “I could see a case being made when an FBO has repaved the apron and is recouping those costs. I could see reasonable



access fees including the cost of apron and parking area – but including FBO buildings is a step too far. Airlines wouldn’t put up with that.”

Signature disagrees. “Even if pilots do not take advantage of the fuel or hospitality services provided by FBOs, the very act of landing comes with the benefits of services provided and financed by FBOs, which enter into multi-year commitments with airports that include long-term, capital-intensive investments,” it says.

“Security, parking, airfield equipment and staff are ensured by the presence of FBOs and have an inherent cost. The facilities and service options offered by FBOs may not be used for every pilot during every visit, but they provide assurances to everyone in the general aviation community that both are available if and when needed.

“As such, FBOs ensure the integrity of the general aviation industry, making FBOs the backbone of general aviation and the gateway to local communities.

“Without the assurances provided by FBOs, taxpayers and other users may be forced to shoulder more of the long-term financial burden. Or worse still, local communities might be forced to close airports and, as a result, be cut off from essential services.

“Furthermore, beyond the range of expected activities like fueling and hangar rental, FBOs such as Signature, are the first line of defense when disaster strikes in local communities. While commercial airports are forced to remain closed, FBOs are the first to reopen and, in the wake of natural disasters like hurricanes and wildfires, serve as important staging grounds for evacuations, search and rescue operations, and supply delivery.” ○



Above: **Parking, security and equipment charges may be included in the cost of fuel**

Left: **Some airports are changing local regulations so they can provide cheaper fuel than incumbent FBOs**



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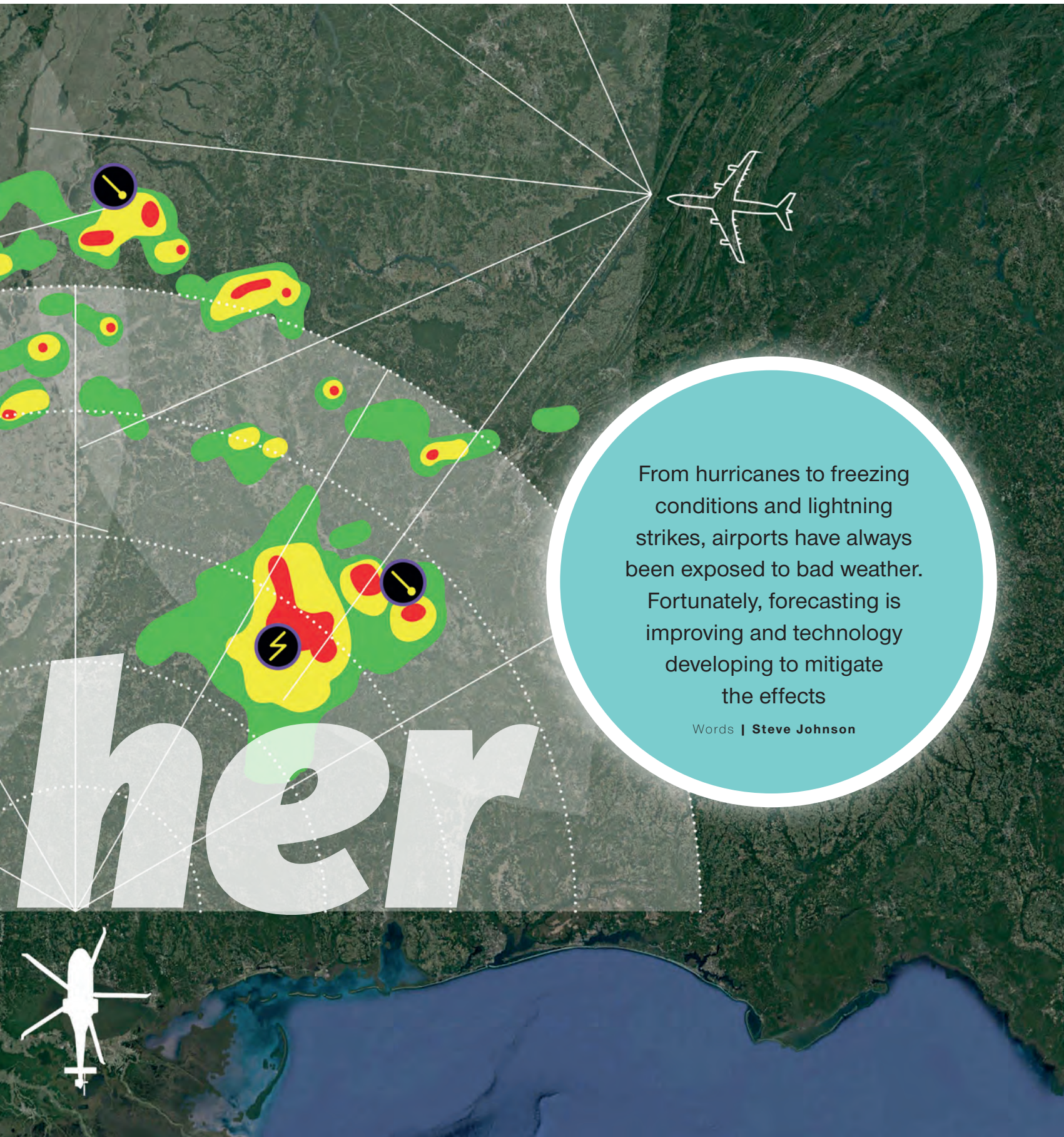
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From hurricanes to freezing conditions and lightning strikes, airports have always been exposed to bad weather. Fortunately, forecasting is improving and technology developing to mitigate the effects

Words | **Steve Johnson**



Above: Weather conditions will determine much about a flight, even whether it leaves

Aviation is arguably more closely interwoven with weather conditions than any other form of transport. No matter how hardy the aircraft, the people, systems or infrastructure, weather conditions will determine much about a flight, including whether or not it will leave the ground. Safety will always be the number one priority and will prevail in every respect.

FBOs are faced with many challenges in managing adverse weather. New technologies are giving FBOs, operators and pilots more options to deal with extreme weather. For the most part, FBO and private charter aviation face similar issues to commercial operations. Bad weather typically means uncertainty – delays, schedule changes or rerouting. But there are also some notable differences, some of which can give FBOs the upper hand when challenging weather presents itself.

Business aviation in the south of the USA, especially Florida, was severely affected by hurricane Irma. However, despite the challenges facing their own operations, FBOs, airports and operators stepped up to the plate to support the communities affected by the storm.

Coping with Irma

With Irma inbound, there was early evidence of business flight request patterns changing. PrivateFly, the London-based booking service, experienced a big increase in requests. But then, as Irma got closer to land, the company found that fulfillment became more difficult as operators and airports began to shut down.

Avinode, the air charter technology and data partner, experienced a 125% increase in travel requests before the hurricane hit. This increase shows the intensity of the response to Hurricane Irma from business aviation. Per Marthinsson, executive vice president of Avinode, says, “For many of the millions of people seeking to evacuate

“Fortunately we had enough warning before the event to evacuate our staff from the island, preventing any loss of life”

Patrick Hansen, CEO, Luxaviation



Above: Luxaviation CEO Patrick Hansen with the St Maarten FBO team

Below: St Maarten's Princess Juliana International Airport in the wake of Hurricane Irma



threatened parts of the Caribbean and Florida, business aircraft came to the rescue. Brokers, operators and, indeed, our own team worked relentlessly to provide support.

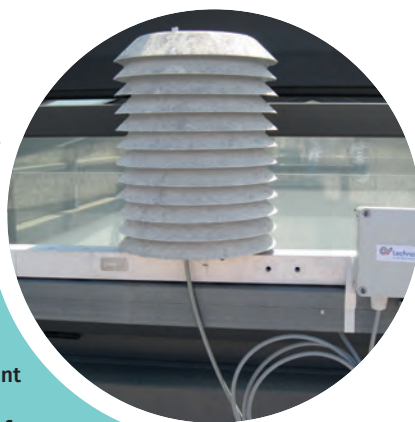
“Pilots volunteered their services and customers moved their booked flights to allow aircraft to be focused on the humanitarian effort. It’s no exaggeration to say that the business aviation industry saved lives during the crisis.”

At the same time, aviation businesses in the path of the hurricane were preparing to face Irma, in the knowledge that a category five hurricane will damage, even destroy, anything in its path, including both small and large airports. The Luxaviation ExecuJet facility in St Maarten suffered extensive damage.

Patrick Hansen, CEO of Luxaviation, says, “Our priority is always to do everything in our power to protect our staff and friends. Fortunately we had enough warning before the event to evacuate our staff from the island, preventing any loss of life. We flew out to distribute supplies and assist in the immediate aftermath of the event.

“Moreover, having witnessed the extent of the devastation, the group has pledged to assist and support our colleagues whose lives and homes have been shattered by Irma.”

In the aftermath of Irma, business aircraft continued to deliver supplies to the affected areas. Irma was followed by other hurricanes that hit the US Gulf Coast, the eastern seaboard, Puerto Rico and the Caribbean. Hurricane Harvey bought large-scale flooding to Houston. Business aviation continued to play a role in supporting rescue and clean-up efforts throughout the difficulties.



Above: An ENAV 3 sensor undergoing outdoor testing

DIY weather forecasting

Forecasting technologies have undergone rapid development in the last few years. Integrated solutions, online communications, smartphone technologies and data accessibility have all combined to give smaller airports, FBOs and pilots a much more powerful and reliable resource.

Meteorological equipment company Vaisala has more than 40 years’ experience in developing airport weather systems. Jon Tarleton, head of weather marketing, Americas and information services for Vaisala, says, “The biggest change recently is that authorities and airports are accepting data storage and display through the cloud.

“As a result, customers now expect regular updates as part of the service and to do this a data transfer model is necessary.

“A second change is that sensors are getting smarter and use data from other sensors to help ensure that the most accurate information possible is being provided.

So communication within the system has improved and increased; best seen when an airport selects a single supplier that has established this level of integration.”

Tarleton believes that weather systems will incorporate more automation and be less reliant on human observation and input in the future.

“There will be increased focus on providing for services that are both inside and outside the ‘airport fence’ that are impacted by weather at the airport. Getting these stakeholders informed will help the economic impact of the entire airport,” says Tarleton.

The decision for an airport or FBO to invest in the latest weather systems will still be based on practical economics and business risk factors. But with an emerging picture of much greater capabilities, the value of integrated, online technologies is clear. Substantial operational benefits in terms of service and safety are there for the taking.



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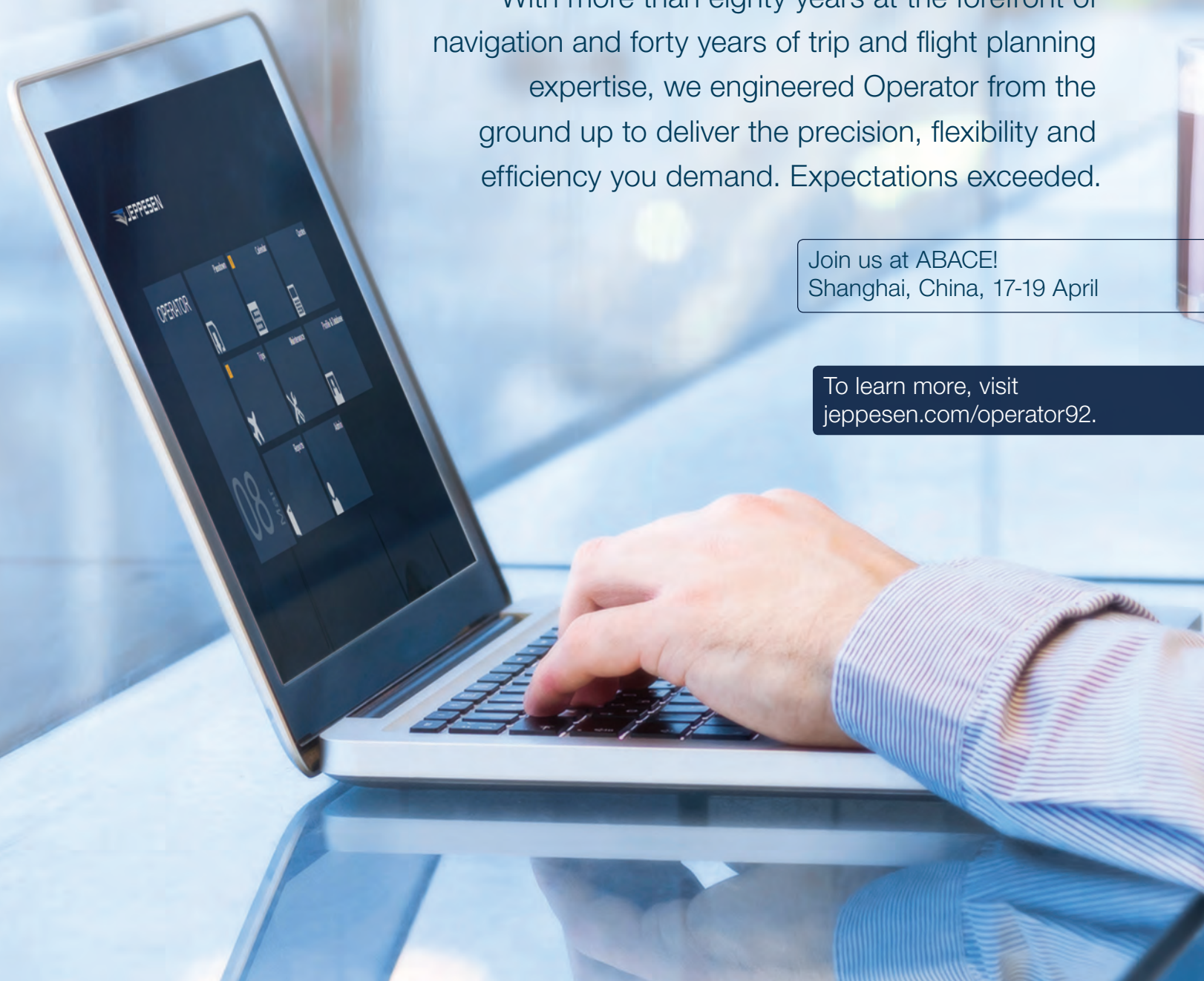
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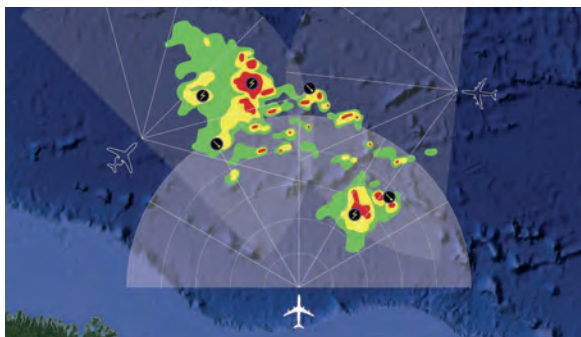
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“There may be important routing and diversion issues to consider. There is also the problem of more fuel being required in poor weather”

Meric Reese, flight coordination manager,
Jet Linx Aviation



Above: Vaisala has developed airport weather systems for Suvarnabhumi Airport in Bangkok, among others

Left: Honeywell describes its Weather Information Service app as “a mini flight-management system”

Aircraft to aid better forecasts

Aviation technology firm Honeywell is extending the value of the meteorological data stored on its aircraft hardware by creating a downlink for real-time weather data from aircraft to ground stations. Once an aircraft and its systems are on the ground, the data is compiled to enable pilots to see real-time weather conditions on their desired flight route.

Once analyzed, the information will be available to subscribers to Honeywell’s Weather Information Service app or the Godirect Flight Bag app.

Testing of the system is complete and Honeywell is in the process of securing partners able to offer up their aircraft as pseudo weather balloons for the system. The main incentive to do so

is that those who provide data will not pay to access the service.

The app, described by Honeywell as “a mini flight-management system”, will display the filed flight plan in one color, overlaid with the suggested optimized flight plan, which will change in real time as accumulated weather data changes.

Kiah Erlich, director of flight support services for Honeywell, says, “The connectivity pipe is getting bigger and faster. This means we can pump more data through it. The more information we can put into an app, the more situational awareness we can provide to the pilot.

“It’s like having a virtual copilot on the ground interpolating all this data for and then giving advisory information back to the cockpit.”

Hurricanes are extreme weather events, but ice, snow, low cloud ceilings and freezing rain are more typical of the problematic weather business aviation has to deal with. Mike Cetinich, weather and NOTAMs (notices to airmen) expert for Jeppesen, says, “Business aviation has more leeway in routing and scheduling, so a customer can fly hundreds of miles out of the way to avoid turbulence and icing hazards if required.

“Operators must also have patience and flexibility if weather shuts down an airport. In that situation it becomes necessary to find an alternative airport, with better weather conditions, and to arrange ground transport for customers to reach their destination.”

Commercial aviation and weather

There is an argument that commercial aviation takes much longer to resume operations after a major weather event – commercial traffic may have landed away from base if it cannot reach its scheduled destination. PrivateFly’s CEO, Adam Twidell, says, “Business aviation is much more flexible, being able to land at a nearby airport that may be smaller, but able to accommodate our aircraft safely. As soon as principle airports reopen, things can be back on track much faster.”

Business aircraft have access to over 6,000 airports in the USA. Commercial airlines run scheduled services to around 600. However, in other regions of the world, choice may be much more restricted when operators are looking for alternative airports. “There may be important routing and diversion issues to consider,” says Meric Reese, flight coordination manager at Jet Linx Aviation. “At small airports, manpower or equipment might not exist for snow removal and runway de-icing,” he says. “There is also the problem of more fuel being required when operating in poor weather, and fuel stops may be necessary.”



“Avoiding early morning departures greatly reduces the risk of certain types of fog and de-icing requirements”

Adam Twidell, CEO, PrivateFly

Above: **Not all airports have de-icing facilities, so careful planning is required if they are on the flight plan**

Below: **More accurate forecasts enable airports and dispatchers to move aircraft before major storms**

Another consideration, during particularly cold weather, is the need for heated hangars to carry out maintenance work. PrivateFly says that given an aircraft is likely to be covered in ice when left outside in freezing conditions, it prefers to use hangars during the winter.

PrivateFly CEO Twidell says, “Preparations can start days before the actual flight. We look to avoid delays by discussing departure times with our customers at the booking stage. Avoiding early morning departures greatly reduces the risk of certain types of fog and de-icing requirements. And given that not all airports have de-icing facilities, careful planning is required if such airports are on the flight plan.”

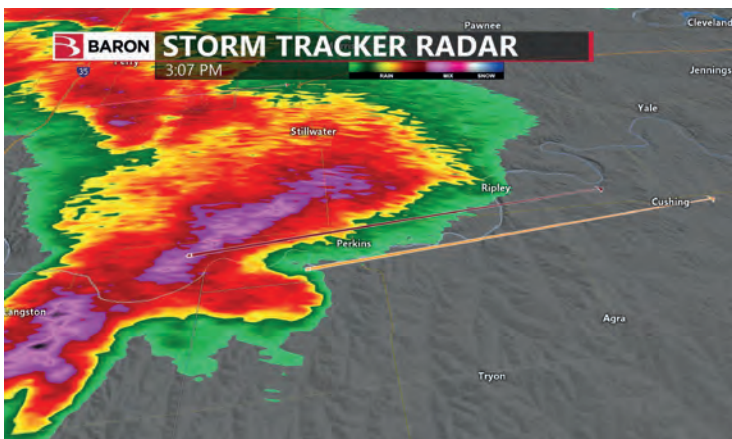
Another consideration for operators and pilots when rerouting is that remote business aviation airports that suffer from a lot of bad weather conditions often have restrictions enforced because of altitude or terrain. For example, whereas it may be relatively easy for mainland flights to have a diversion airport, this can be much more problematic for island destinations.

Forecasting

Perhaps the most important aspect to mitigating the effects of bad weather on aviation activity is minimizing air traffic control delays. The ability to predict clearance times, clear-air turbulence and to improve forecasts at locations outside major terminal areas is improving thanks to developments in computing power, online services and numerical weather detail. Forecasts have become considerably more accurate over the past 10-20 years. With much greater confidence in the detail, operators can make better decisions on how and when things will affect airport and flight operations.

Cetinich says, “It used to be ‘wait and see’ before making decisions. Now airports and dispatchers are moving aircraft in advance of a major snowstorm or hurricane to protect assets, and are able to return to normal operations faster. The short-term need is to get near-real-time weather information into the hands of pilots in the cockpit, so that they can make strategic route decisions to avoid bad weather.”

Aircraft systems have also improved considerably and now incorporate better weather prediction technology. High-resolution radar displays in cockpits and Automatic





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Dependence Surveillance – Broadcast (ADS-B) technology are the most important developments. The ability to capture actual environmental conditions at altitude, such as outside air temperature, pressure and windspeed, and then transmit reports directly between aircraft, greatly improves a pilot's ability to plan. Head-up displays, previously an expensive technology used only in military jets, are now optional extras for larger private jets and can enable navigation in deteriorating weather conditions.

Twidell says, "When landing in poor visibility, a head-up display overlays the exact position of the runway for the pilot to look for as the aircraft descends through cloud. Until recently pilots could only use the picture generated by their own aircraft's radar, which limited the range of the weather ahead that the pilots could look at.

"With satellite communications, the new generation of weather radars take feeds from ground radars. This gives pilots an incredibly accurate and high-definition picture of weather along their entire routing."

Looking ahead, Cetinich says, "Improvements in numerical modeling are making forecasts better, which will help everyone. Probabilistic weather information derived from prediction systems can also provide better accuracy when determining if a weather phenomenon will adversely impact airport or en-route operations.

"Then, as UAVs enter the market, we will get more and better observations in the boundary layer, which will help with forecasts of thunderstorms and winds. The better we can define the initial state of the atmosphere, the better the forecasts will be."

There will never be a time when aviation will not be affected by the weather. The mission to minimize the risks and maintain services as much as possible is just as unending. But for the benefit of business aviation especially, not only have great strides been made, but everything is set for much more to come. ○



Above: **Anuj Agrawal**, chief marketing officer at Earth Networks

Below: **Accurate and timely lightning information is crucial for airports**

"As UAVs enter the market, we will get more and better observations in the boundary layer, which will help with forecasts of thunderstorms and winds"

Mike Cetinich, weather and NOTAMs expert, Jeppesen

When lightning strikes: Anuj Agrawal, Earth Networks

What are the risks to airports from storms?

Airports are typically at risk from lightning strikes due to their open landscape and the presence of towers and antennas. Having accurate and timely weather and lightning information is crucial to ensuring optimal operations and keeping ground crews as safe as possible.

What else can airports do to mitigate the risk from storms?

Airports are adopting automated real-time alerting platforms that allow them to customize severe weather triggers based on their internal planning and response guidelines. For example, many set up alerts when lightning strikes within five miles of the airport. At that time, a response plan is triggered to evacuate outdoor personnel and coordinate airlines and operators carrying out refueling.

How can false alarms for disruptive weather be prevented?

The greatest disruptions are when there are more volatile weather patterns, and a higher prevalence of severe storms. In the past, operations would get disrupted due to weather forecasts that were made for a larger area than the specific location of the airport, and false alarms could trigger unnecessary shutdowns. Now, with even more detailed tracking and forecasting, airport operators can more confidently start response procedures.

How is weather forecasting for aviation improving?

Weather information used to be processed, aggregating information from various sources to make a decision. Now, automated tools collect all the relevant information, apply decision logic to it, and proactively send alerts to cell phones or other communications device. The result is that airports and operators get more time to prepare for a pending weather event and shortened response times."

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Missing from the skies for over a decade, supersonic jets are set to make a comeback. How viable are they as a means of transportation and are FBOs ready to accommodate them?

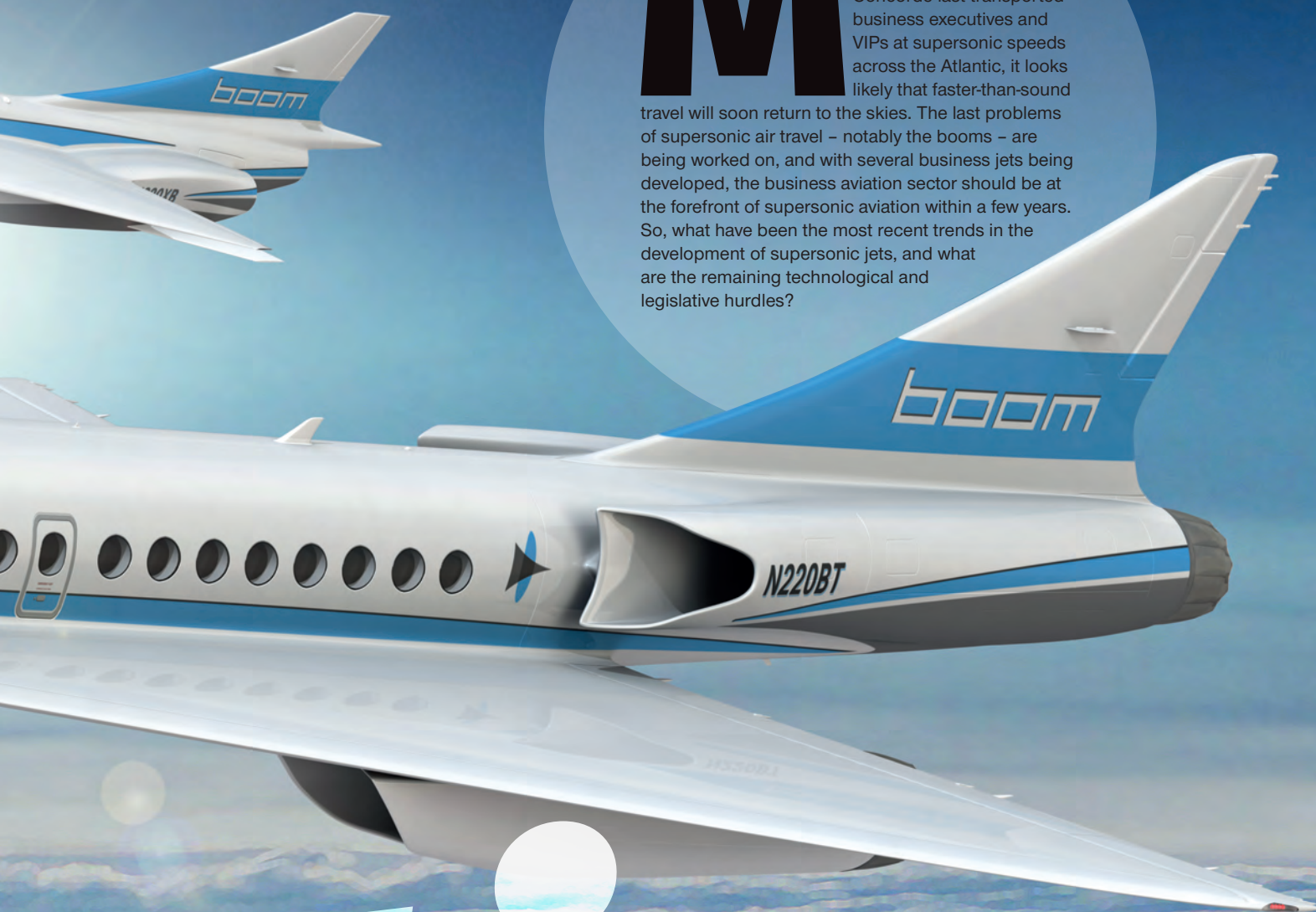
Words | Andrew Williams



Boom

The Boom
supersonic jet
is one of several
developed for
the business
aviation sector

More than a decade since Concorde last transported business executives and VIPs at supersonic speeds across the Atlantic, it looks likely that faster-than-sound travel will soon return to the skies. The last problems of supersonic air travel – notably the booms – are being worked on, and with several business jets being developed, the business aviation sector should be at the forefront of supersonic aviation within a few years. So, what have been the most recent trends in the development of supersonic jets, and what are the remaining technological and legislative hurdles?



time

SUPERSONIC JETS

One of the trailblazers in the sector is Boom Supersonic, based in Denver, Colorado, which is currently in the process of developing the novel XB-1 demonstrator supersonic aircraft. When it takes flight in 2018 to perform initial subsonic tests near Denver, followed by supersonic testing near Edwards Air Force Base, California, the company claims the XB-1 will be the world's fastest civil aircraft.

Advanced technology

According to Eli Dourado, head of global policy at Boom Supersonic, the aircraft – slated for commercial availability in the mid-2020s – has been intentionally designed without any unproven technologies, meaning that every element of the first Boom airliner “has already been certified by the FAA in other contexts”.

Since Concorde – the world's first and last supersonic airliner – took flight in the 1970s, technology has progressed substantially, Dourado explains. He singles out several areas of technological progress that make developing next-generation, faster-than-sound aircraft viable. This includes the construction of carbon-composite airframes.

“While the aluminum Concorde would expand and contract by over 1ft [0.3m] during flight, carbon fiber is much more thermally stable,” says Dourado. “In addition, carbon composites are much easier to fabricate. This allows us to design aircraft parts with sweeping curves to optimize the airliner's aerodynamic profile. Concorde also had to fire inefficient, noisy afterburners just to get off the ground. Modern engine technology enables us to get to Mach 2.2 without afterburners and operate much more efficiently.”

In Dourado's view, another key advantage for modern developers is the ability to make use of computer-aided design techniques. While the Concorde team used slide rules and slow, expensive, wind tunnel testing to design the aircraft, he notes that most of the Boom engineering is carried out on computers, although it does still use wind tunnels to validate certain aspects of computer simulations.

“What took Concorde's designers months can now be accomplished in a matter of minutes. We run many virtual wind tunnel tests a day to arrive at the best design.”

Boom mitigation

Another company actively engaged in the sector is Nevada-based Aerion, which is currently developing the Mach 1.5



“What took Concorde's designers months can now be accomplished in a matter of minutes. We run many virtual wind tunnel tests a day to arrive at the best design”

Eli Dourado, head of global policy
at Boom Supersonic

AS2 business jet. As Jeff Miller, vice president of marketing at Aerion Corporation explains, the key enabling technology of the jet is the supersonic natural laminar flow, which reduces friction drag over the wing by about 70%, and over the entire airframe by about 20%. As a result, the power requirements are reduced and the fuel efficiency and range are increased.

Elsewhere, Gulfstream Aerospace, based in Savannah, Georgia, USA, is also highly engaged in the ongoing development of supersonic jets, and maintains a small team committed to researching sonic boom mitigation and technologies needed to enable civil supersonic flight capability. This team also routinely engages with the regulatory agencies responsible for maintaining international aviation noise standards, and collaborates with a small sonic boom research community including NASA, the FAA, universities and a number of research contractors.

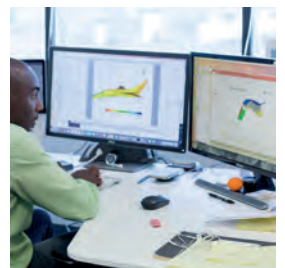
In terms of noise mitigation, Dan Nale, senior vice president for programs, engineering and test at Gulfstream, argues that the real question is: how quiet is quiet enough? According to him, the sonic boom research community has already demonstrated analytical design capability to develop aircraft shapes “fairly consistently” in the 80 PLdB (perceived decibel) range. He also reveals that NASA and its contractor team have recently converged at demonstrator aircraft configurations at or near 75 PLdB.

“Our internal studies have shown that a feasible noise standard may need to be this quiet or possibly even lower for worldwide acceptance,” says Nale. “What's important to consider here is that at these sonic boom levels, we are talking about radically different noise levels than experienced from Concorde or typical fighter aircraft, more akin to a very low and distant rumble of thunder or hearing your neighbor close the trunk of their car.”

Above: A wing spar is tested at Boom Aerospace

Below: Computational fluid dynamics software enables the faster development of supersonic aircraft

Left: Wind tunnel tests are conducted to help validate designs of supersonic aircraft



Meanwhile, Miller from Aerion claims that there are no significant technical challenges currently facing the Aerion development team, and revealed that the AS2 will also be “designed to be certified under current regulations, including those for airport take-off and landing noise”.

“New technologies for quieting supersonic boom will advance the industry. NASA is planning to field a low-boom demonstrator, which is a first step. New regulations recognizing the ability to fly above Mach 1 with a barely audible boom will also provide an incentive to industry,” Miller adds.

Dourado also stresses that Boom is “constantly mindful” of the need to fit into the existing policy environment, and reveals that the company has designed the XB-1 to operate economically without needing to change any laws.

“At the same time, we support policies that would help advance more affordable and ubiquitous supersonic capabilities. For example, we think the current overland ban on supersonic flight should be replaced by a sensible noise standard. This would enable itineraries like New York to Los Angeles in 2 hours and 30 minutes,” he says.

Sobering assessment

Despite the bullish predictions about the future of the supersonic sector among developers themselves, other observers offer a rather more downbeat assessment.

Potential market

How big might the market for supersonic business jets be? According to current projections, Jeff Miller, vice president of marketing for Aerion, there could be a market for some 600 of its supersonic business jets over a 20-year period.

In June, Boom announced 76 orders for its first commercial aircraft. Dourado says the cost of a ticket on the airliner will be comparable to current long-haul, subsonic business class fares, but stresses that passengers will get from place to place in less than half the time it would take on a subsonic aircraft.

“Time savings are not the only advantage to flying supersonic. When a round trip from New York to London can be done in a day, for example, more people will be inclined to go,” he says.

“To make the traveling experience even more convenient, airports could think about how to streamline the check-in and security experience, as well as how to more efficiently manage ground operations to optimize aircraft turnaround. These factors will become relatively more important as supersonic aviation returns.”

Offering a more objective assessment, Aboulafia estimates that the total market for supersonic business jets is more likely to be in the range of 300-400 jets. In his opinion, the technology to make supersonic jets has been available for decades, and he points out that emerging technology is also making them easier to maintain and operate, and is lowering their cost.

“However, subsonic jets are improving in all these ways too. This means that the relative appeal of a supersonic airplane compared with a subsonic airplane is staying about the same,” comments Aboulafia.



Richard Aboulafia, vice president of analysis at Teal Group, warns that the economics of scheduled supersonic airline transportation are currently terrible, and argues it is highly unlikely that another SST (Supersonic Transport) will come to fruition in this generation. That said, he admits that a supersonic business jet (SSBJ) along the lines that Aerion is proposing might have some kind of niche market, if someone funds its development.

“Aerion, and for that matter the other new-start companies, aren’t able to develop and build a jet on their own,” he says.

In his view, the problem with SSBJs is that the trade-offs, particularly speed for cabin size, are “quite severe”, and he points out that, so far, every established manufacturer has believed that the market prefers a larger cabin every time.

“High-end business jets are getting larger,” comments Aboulafia. “SSBJs offer higher price tags than the biggest large cabin business jet, only with smaller cabins, needed to reduce drag. For most people this holds limited appeal, but again, for a niche market such as militaries, other government agencies, ultra-high net worth individuals and so on, the speed is worth the trade-offs.”

Elsewhere, Robert W Mann Jr, principal consultant at R W Mann & Company describes the prospects for the emerging raft of supersonic ventures as “pie in the sky”.

“Several of the designs don’t pass a laugh test, including lacking appropriate powerplants, and are suffering, in all likelihood, a more limited payload and range envelope than claimed,” says Mann. “No silent supersonic design has been demonstrated, as would be required for overland use. Several companies claim progress, but these designs have yet to be validated.”

Even if these issues can be worked out, the total cost of ownership and operating economics will be challenging, Mann believes, assuming a supersonic design is ever certified, and argues that the industry would have to assume very cheap jet fuel.



Above: The Aerion AS2 jet could cut travel times between major cities by more than a third

Below: The interior of Aerion’s AS2 aircraft will be finished to the standard expected for executive jets



SUPERSONIC JETS

“The issue is not technological feasibility; we did it 40 years ago after all. The issue is economic, with a lack of a sufficient business case for either the manufacturers of airframes and engines or operators. It’s a basic problem – speed costs money. How fast can enough customers afford to go?” he says.

Value to airports

Despite conflicting views on the prospects for a new supersonic era, airport managers and FBOs are still likely to be interested in exploring the possible value – and implications – of supersonic business jets to airports. Aboulafia stresses that, if an airport or an FBO is seeking to adapt itself to supersonic jets, the jet designers “have done something wrong”. He believes such aircraft should fit into existing infrastructure, runway length permitting.

“I would argue the only thing needed on an airport manager’s part is a fair degree of wishful thinking,” he adds.

Despite this relatively downbeat assessment, Miller from Aerion reveals that the AS2 model will begin to generate meaningful business when it is certified in 2025, and also confirms that it will require no specialized ground equipment beyond perhaps a little more ramp space.

An orbital future?

As an increasing number of companies continue to develop supersonic jet technology and vie for a slice of the eventual market, there are growing signs of even bolder technological changes on the horizon.

In recent years, several companies and organizations have begun to talk up the possibility of rolling out low Earth orbit (LEO) flights and space travel as another way of speeding up executive travel in the future. US airport operators seem particularly enamored with the idea, and a total of 10 spaceports – including leading space port Mojave Air and Space Port – are now licensed by the Federal Aviation Administration.

“The new target is hypersonic and suborbital rockets, a multiple of supersonic speed, a fraction of the trip time,” says aviation consultant Mann.



“The issue is not technological feasibility. The issue is economic. It’s a basic problem – speed costs money. How fast can customers afford to go?”

Robert W Mann Jr, principal consultant
at R W Mann & Company

Meanwhile, Dourado believes the main benefit of the Boom airliner – and others like it – for airports will be the increased levels of customer demand. He claims it will “work economically on hundreds of routes”.

“Every improvement in the convenience of transportation leads people to travel more,” says Dourado. “Look at what happened to air travel after the first commercial jet aircraft was introduced in the 1950s – many more people went on trips they otherwise wouldn’t have taken. Airports will benefit from this increase in customers.”

In general terms, Dourado predicts that airports will not need to modify their infrastructure or operations to accommodate the Boom airliner. For example, he reveals that the aircraft will be able to board and deplane passengers using existing gates, and given the Boom’s narrower wingspan, he argues an airport could even increase the density of aircraft at a given terminal.

Meanwhile, Nale points out that business aviation is a valuable asset to airports around the world, meaning that the addition of another class of aircraft that might increase the strategic value of business aviation and would certainly benefit airports with increased business. ○

Above: Early adopters for supersonic jets will likely be private aviation users

Below Left: The Aerion AS2 will be narrower than many existing aircraft, reducing the need for changes to airports

Below: Aerion has enlisted GE Aviation to help develop the engines for the AS2



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California is one of the USA's most popular states to visit, whether for business or pleasure. *BAI* explores business aviation in the region and looks at what else is on offer locally

Words | Kirstie Pickering

The **Golden** *State*

Fly in to...

San Francisco

Airport: Sacramento
McClellan Airport
FBOs: McClellan Jet Services
Facilities: Repairs, pilot
lounge, on-site lodging
Runway: 10,599ft (3,231m)

Los Angeles

Airport: Van Nuys Airport
FBOs: Signature Flight Support,
Clay Lacy Aviation, Castle & Cooke
Aviation, Jet Aviation
Facilities: Aircraft exterior and
interior cleaning, executive
terminal, crew lounge
Runway: 8,001ft (2,439m)

San Diego

Airport: McClellan-Palomar
Airport
FBOs: Atlantic Aviation, Western
Flight, Magellan Aviation,
Jet Source
Facilities: Executive terminal,
pet-friendly location,
luxury lounge
Runway: 4,897ft (1,493m)



F

amed for its golden coastline, glamorous lifestyle and Hollywood hills, California has long been a favored destination for business jet passengers. The state

sits strong within the business aviation industry, having fixed-based operations at all of its 35 commercial airports and the majority of its 200+ public-use airfields.

For business jet passengers arriving from cities outside of the USA, there are 15 airports in California with customs services. Special arrangements are not required when entering California from any other US state or city.

“The most active business aviation airport in California is Van Nuys, located in the Los Angeles area,” says Stacy Howard, US western regional representative for the National Business Aviation Association (NBAA).

“This airport has no scheduled airline service, and yet turbine operations in 2017 surpassed 2005 activity which, up to now, were the highest ever. Expansion, acquisition, or construction of new business aviation facilities at California airports within the past 24 months include Van Nuys (KVNY), San Luis Obispo (KSBP), Hawthorne (KHHR), Long Beach (KLGB) and Ontario (KONT). This level of activity and investment is a good sign of the health of the industry.”

Popular hubs

Van Nuys Airport is one of two airports owned and operated by Los Angeles World Airports (LAWA), and is located in the San Fernando Valley region in Los Angeles. Van Nuys’ operations figure in September 2017 was up 3.28% year-on-year, and the hub has averaged 4,000 weekly operations throughout the year.



Above: **The Hollywood sign is one of the most iconic landmarks in the state**

Below: **Van Nuys is the most active business aviation airport in California**



“August is the most consistently busy month every year,” comments Flora Margheritis, airport manager at Van Nuys Airport. “California offers exceptional tourism and weather, a beautiful landscape and, with Hollywood, the best of entertainment experiences.

“Over the next 5-10 years, business aviation will play a bigger role in serving smaller communities, with the uncertainty of the Department of Transportation Essential Air Service (EAS) program in the future.” This governmental program is in place to ensure that smaller communities maintain commercial air service.

Sacramento McClellan Airport (KMCC), situated within the McClellan Business Park six miles north of Sacramento itself, is another airport option. Processing approximately 104 incoming and outgoing flights every week, the hub has its on-site FBO, McClellan Jet Services, to add to its business aviation offering.

“Flights here are predominantly from cities within a 300-800 mile [480-1,290km] range,” says Scott Owens, executive vice president and chief operating officer at Sacramento McClellan Airport. “Approximately 30% of our business aviation customers come from cities further away than this.

“Compared with Sacramento, the Bay Area just to the west of KMCC and the Southern California/Los Angeles area are more active business aviation areas by far. The



Sacramento area is a light jet and turboprop market, although our FBO acts as a stop for many larger jets traveling from the eastern and Midwestern US cities.

“That being said, the Sacramento area is well poised for growth into the next five years, as it is growing substantially due to large-scale improvements to the downtown area and the fact that the cost of living and doing business is much less than in the neighboring Bay Area.”

Operators

Many major global FBOs operate in California, proving the state’s importance as a business aviation destination.

Castle & Cooke Aviation is a full-service FBO based at Van Nuys Airport. Its primary services include fueling, ground handling, parking and hangar storage, and all concierge services required by passengers and crew. The company can organize catering, hotels and ground transportation. US Customs clearance can also now be arranged for its internationally arriving customers.

Tony Marlow, vice president of aviation operations and business development at Castle & Cooke Aviation, says, “We are busy most of the time as Van Nuys is the busiest business aviation airport hub on the West Coast. The airport and our facility are used by all sorts of organizations and therefore traffic is steady all the time. Just like Teterboro

Sightseeing

Alcatraz Island, San Francisco

A short ferry journey from the city’s shore, enjoy a tour around Alcatraz Island for an insight into its history and a peek into the infamous abandoned prison.



Golden Gate Bridge, San Francisco

The spot that springs to mind when thinking of San Francisco, the Golden Gate Bridge is essential to tick off on the tourist to-do list.



Yosemite National Park

At 1,200 square miles (3,100km²), Yosemite National Park is best known for its waterfalls, deep valleys and picture-perfect landscapes. Visit Glacier Point for the best view of the park.



Lake Tahoe

Famed for its natural beauty and nestled within the Sierra Nevada Mountains, Lake Tahoe straddles the California/Nevada border and is the largest alpine lake in North America. This hot spot offers year-round entertainment, from canoeing across the lake itself to skiing.



Griffith Observatory, Los Angeles

A great vantage point in LA, the Griffith Observatory boasts the best view of the Hollywood sign, stargazing, and live shows in the Samuel Oschin Planetarium.





Airport (TEB) on the East Coast, we have no airline service into the airport, so we are ideally suited to catering for business aviation operations.

"With a diverse mix of business and private owners, we have airplanes coming and going from all over the country and, really, all around the world. That said, up and down the West Coast, Bay Area, Seattle, San Diego are popular short hops, and Las Vegas is a frequent city pair. The New York metropolitan area is very frequent too, and Mexico and Hawaii are popular at certain times of year. Even Asia and Australia are not unheard of for us."

Desert Jet is a group of aircraft charter, maintenance and aircraft handling companies based in Jacqueline Cochran Regional Airport (KTRM), Palm Springs. Its private executive FBO, Desert Jet Center, is the only IS-BAH-certified FBO in the valley, staffed by NATA Safety 1st trained professionals. Its services include ground handling, ramp parking, fuel, hangar and mobile aircraft detailing services.

"Barring unforeseen outside influence, the business aviation market in California is booming and will continue to do so," says Chris Little, chief marketing officer at Desert Jet. "Confidence is high and sales of pre-owned and new aircraft are rising, which is a positive incline after so many years of slumped acquisition numbers. The level of charter activity has also increased, with a greater number of charter customers flying more. We anticipate the next five years will continue to climb upwardly with steady growth."

"KTRM could also see significant changes to its landscape in the coming years. Growth to the area and an increased level of activity at the airport will call for a greater need to have an aircraft traffic control tower, especially in peak season. With KTRM's 8,500ft [2,590m] runway, which is 117ft [36m] below sea level, the arrival of very large jets is anticipated to increase, creating the need for a larger ramp and upgrades to the fire equipment to support the growth of arriving aircraft."

KaiserAir Oakland FBO is an option for those flying into the San Francisco region, offering customers 24/7 access to the city's downtown area and Silicon Valley. Its facilities include US Customs & Border Patrol service with advanced notice, and 24-hour gourmet catering. It is also a Ronald Reagan Washington National Airport (DCA) access point. Created by the Department of Homeland Security in the wake of September 11, the DCA Access Standard Security Program (DASSP) allows business and corporate aircraft operators that have met the program requirements



"The business aviation market in California is booming and will continue to do so. Confidence is high and sales of pre-owned and new aircraft are rising"

Chris Little, chief marketing officer at Desert Jet

Above left: **Castle & Cooke** has FBOs in California, Hawaii and Washington

Above right: **The VIP lobby** at Castle & Cooke's Van Nuys FBO

Below: **The FBO offers 210,000ft² (19,500m²) of hangar space**



to use DCAs. KaiserAir is one of only a handful of independent FBOs in California to receive this qualification from the Transportation Security Administration (TSA).

"Oakland is known for its professional sports teams, including the Oakland Athletics, Oakland Raiders and Golden State Warriors, but it has so much more to offer," says Gregg Rorabaugh, KaiserAir's vice president, ground services and administration. "Located a quick 25-minute drive from downtown San Francisco, Oakland International Airport is a great location to begin a stay in the San Francisco Bay area."

"Oakland and the East Bay have natural landscapes in which to relax and reconnect with nature. Within minutes of anywhere in Oakland, you will find hundreds of miles of peaceful trails, with many offering spectacular views of the San Francisco Bay to the west and the East Bay Hills to the east. Within the boundaries of Oakland, the 450-acre Joaquin Miller Park is one of the most popular spaces."

Getting in

Everyone flying into the USA is required to provide their personal information for the APIS – the Advance Passenger Information System established by the US Customs and Border Protection (CBP). A passenger's full name, gender, date of birth and nationality are just some of the required details. For non-US charter operators, this must be filed prior to departing to the USA and before notifying the US CBP of a customs clearance request. Filing APIS does not satisfy the requirement to notify US CBP.

Passengers flying from some countries also need to apply for a TSA waiver. Information required to obtain a TSA waiver includes operator, crew and passenger details, aircraft information and projected itinerary. If



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Above: **The lobby at Desert Jet Center's facility in Palm Springs**

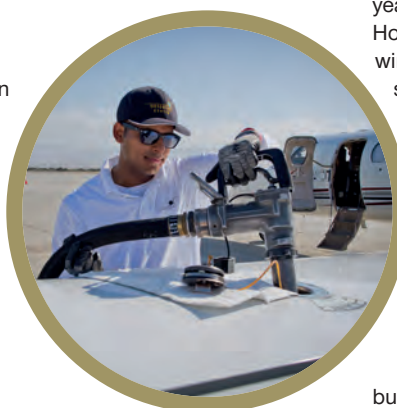
Left: **Desert Jet Center's executive FBO at the Jacqueline Cochran Regional Airport**

Below: **Fuel, parking, maintenance and hangar space are just some of the FBO's offerings**

any information is missing, operators will not be able to complete a TSA waiver request online. When applying for a 90-day TSA waiver, it is essential to note the start and end dates for it.

The TSA waiver review process includes an evaluation of the aircraft, crew, passengers and purpose of flight. A flight itinerary must be provided for fleet and single trip waivers. The first entry and last exit into or out of the USA is considered APIS-controlled, and a TSA waiver is not required. Domestic movement by non-US charter flights may require a TSA waiver, depending on aircraft weight and country of registration.

"If overflying US airspace and operating to/from countries considered portal countries – such as Canada and Mexico – and the jet is under 100,000 lb [45,360kg], you don't need a TSA waiver," says Sarah Wolf, senior manager, security and facilitation, at NBAA. "Special interest countries will require approval to operate to, from and over the USA. The TSA waiver form is online and needs to be completed in advance. It takes up to five days to process, and it's worthwhile to note that the TSA doesn't work on weekends.



"A key challenge is state taxes and their effect on business growth. It is very expensive to do business in California, and many businesses own aircraft"

Scott Owens, executive vice president and chief operating officer at Sacramento McClellan Airport

"We would recommend new operators work with trip support planners to ensure each requirement is met and all passenger documentation is correct. It is important that all passengers aboard the jet have visas in place, and operators can apply to join the visa waiver program to streamline the entire process."

Travelers seeking to enter the USA for business, tourism or in transit for less than 90 days may be eligible to travel to the USA without a visa under the Visa Waiver Program (VWP) if they meet specific requirements. The VWP cannot be used if the purpose of travel is to study for credit, employment, work as foreign press, radio, film, journalists, or other information media, or to take up permanent residence in the USA.

Tourism

Once you are safely in California, there is much to do and see. Aside from the business and technology hub that is San Francisco, globally renowned events see a flurry of business jets descending on the state every year.

"The busiest times of year are primarily due to the activities and events that take place in various locations throughout the greater Palm Springs area," says Desert Jet's Chris Little. "Desert Jet Center experiences large numbers of arrivals for the Coachella Music and Arts Festival, PGA CareerBuilder Challenge, BNP Paribas Tennis Tournament, and the Horses in the Sun equestrian event. We have seen as many as 40-50 arrivals and departures during these big events.

"California's diversity in culture, climate, landscape, beaches, mountains, deserts, cities, and everything in between, offers visitors everything they could want, and more. The Golden State, with its perfect weather almost year-round and spectacular sites, with the Bay Area, Hollywood, Pebble Beach, breathtaking coastal views, wineries and resorts, and a multitude of things to do in sports, sun, ski, outdoor concerts and museums, will leave no shortage of activities or adventures to be experienced. In the greater Palm Springs area, there are also around 126 golf courses," Little adds.

Growth forecast

Despite the wide range of activities available to enjoy, the business aviation market in California still faces challenges, with a turbulent political and economic outlook making its impact.

"A key challenge is state taxes and their effect on business growth," says Sacramento McClellan Airport's Owens. "It is very expensive to do business in California, and many businesses own aircraft."

Margheritis, from Van Nuys Airport, adds, "Business aviation seems to be growing and the industry needs to continue to address the growing pilot and mechanic shortage. Ensuring sustainability and becoming less reliant on the use of fossil fuels is also important."

Business aviation in the USA reflects the country's economic growth. It was one of the first sectors to feel the impact of the 2008 recession, and one of the first to pull away from its negative effect. With slow yet steady growth predicted over the next five years, and a booming business and tourism trade, the future looks bright for California. ○

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Data deadline

The business aviation industry is getting ready to meet the requirements of the new European General Data Protection Regulation, which comes into effect in March

Words | Keri Allan



BUSINESS AIRPORT INTERNATIONAL JANUARY 2018 | 55

"You have to think about this from employee and passenger data through to business contacts," notes Kirk Nahra, partner at law firm Wiley Rein. "You need to protect all kinds of data and think about rules around marketing, such as who you can sell and share your data with."

Keeping track

No matter where a company is located, if it deals in EU-based data it will need to comply with stringent rules regarding the collection and processing of said data and the prompt notification of any data breaches.

"Personal data is often described as 'the new oil'," explains Jamie Monck-Mason, executive director, cyber and technology, media and telecoms at UK-based advisory firm Willis Towers Watson.

"Organizations make vast sums trading and processing that data, but protection and data subject rights have lagged behind companies' exploitation for commercial gain," he says. "The GDPR is designed to provide that protection, but is also intended to assist business by harmonizing the rules across all EU member states, creating a level playing field."

"The actual principles haven't changed in terms of what companies should be doing to safeguard data," clarifies Steve Farmer, counsel at global law firm Pillsbury Winthrop Shaw Pittman. "However, there is now a higher burden on data controllers to demonstrate compliance, so you need to be very familiar with what the GDPR says, making sure you comply, but then also document how you've gone about complying with it."

One of the criticisms of current data protection laws was that European regulators didn't have the 'sharp teeth' necessary to take significant action when a company fell afoul of the law. The GDPR now gives these organizations the power to issue fines that are on par with the fines for anti-trust penalties.

"GDPR has the potential for fines of up to €20m (US\$23.3m) or 4% of global turnover per breach, so you can see the

"An archiving tool compresses the file and locks it with a password. This is a simple, effective way of sending data via email"

Pip Courcoux, sales manager, CLIQ Systems



Physical and virtual encryption

Understanding and implementing encryption solutions is an important part of complying with the upcoming GDPR. Essentially, encryption entails scrambling data stored on computer systems or being transferred, to prevent it from being accessed by anyone other than the intended recipient.

A variety of virtual and physical solutions is on offer, depending on the type of data that needs to be secured.

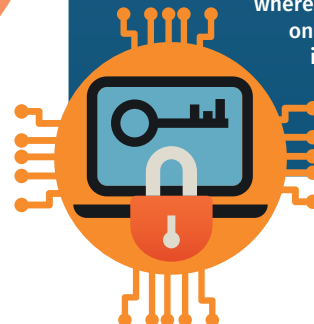
"It depends on where the data is and what it's doing, such as whether it's data in transit, moving around a network, or data at rest in a database or on your PC," says Pip Courcoux, sales and product manager, CLIQ Systems, at Abloy UK.

Most data in transit questions concern transport over the web and there are a few ways this can be encrypted. If someone is just sending files, they can use an archiving tool that requires a password. "An archiving tool compresses the files to make them smaller, using an algorithm, and then locks it with a password. This is a simple but very effective way to send data – particularly via email," Courcoux notes.

For the more regular transportation of data, such as a regular call between a client and a server, the most commonly used transport methods are SSL HTTPS protocols.

"This is not so much about encrypting the physical data, but about hiding the actual route of transportation itself, essentially creating a tunnel between the client and the server," explains Courcoux. "The information sent is also encrypted. The industry standard for this is PKI – public key infrastructure – which is like a passport system. Essentially, this allows you to authenticate the sender of the data, encrypt it and secure it from external tampering."

Physical encryption is used to secure data on hardware. Courcoux explains, "These include access control systems that use methods such as the advanced encryption standard (AES) or triple 3DES, whereby a unique 'key', known only by one device or system, is used to encrypt a message that can only be decrypted then by that element or elements within."



Above: **Expert consultancy can help determine areas of a business that are subject to the GDPR**

"GDPR has the potential for fines of up to €20m per breach, so the ramifications of getting this wrong can be truly severe"

Steve Farmer, counsel at Pillsbury Winthrop Shaw Pittman





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Left: A proactive approach that creates frameworks to manage data security is important to meet the GDPR's requirements

ramifications of getting this wrong can be truly severe for the affected companies," says Farmer.

Clever preparation

What can business aviation companies do to prepare for the arrival of the GDPR next spring? First, they need to start by understanding what EU personally identifiable information (PII) they have and where it's stored, processed or controlled. They also need to identify why they use it – a key principle in the GDPR is keeping data only for as long as required, and the minimum amount of data needed.

Next is putting together a list of who controls the data, who has access to it and how the systems or data are protected. Finally, businesses must have a plan in place that enables them to demonstrate their compliance with the GDPR before May 25, 2018.

Third-party service providers can help organizations with data mapping exercises if necessary. Many experts also recommend that organizations work with a compliance officer and legal counsel, to work out what they need to do in terms of steps toward compliance.

NTT Security's principal security consultant, Rob Bickmore, advises that in the first instance, an organization should look to create a risk assessment framework that can be updated as business requirements change. Part of the framework will be the process through which risks are assessed. "This could utilize well-known standards such as ISO 27005, ISO 3100, IRAM or OCTAVE," he says.

Defining its scope will be fundamental to the success of the risk assessment and should include all appropriate areas of the business, such as back-end IT systems, maintenance, operations and passenger-facing systems.

"Risk assessment and management is key to the GDPR and underpins many of the requirements within it," explains Bickmore. "A difference that may be new to some organizations is that the risks to be considered are not business- or IT-related, but are the risks to the rights and freedoms of the data subjects being processed.

"If the data that an organization or its supplier processes is lost, inappropriately accessed or corrupted, how will that affect customers and/or employees? To assess these risks, the GDPR requires that data protection impact assessments be carried out when processing is considered likely to be high risk to the data subjects, either through sensitivity of the data or high volumes," he says.



According to Farmer, another element that organizations should consider is the appointment of a data protection officer, as the GDPR may trigger an obligation to have such an officer in place, depending on the amount and sensitivity of data being processed.

"Given that the sector will have airports processing large volumes of data – particularly financial data and perhaps even personal data relating to a passenger's medical conditions – it's likely that obligation will be triggered. Therefore, it would be prudent to consider appointing a dedicated data protection officer, if that role doesn't already exist within the business," he advises.

Staying secure

In the current climate, the business aviation sector is already looking closely at tackling the ongoing threat of cybersecurity, and so a GDPR risk and compliance assessment could simply constitute a new element in an organization's wider cybersecurity strategy. And, with every data breach potentially leading to extensive fines, there's an even bigger desire to be as secure as possible.

This proactive approach not just to GDPR compliance but also to broader cybersecurity risks enables the business to take stock of any exposure it faces in relation to its data, while confirming that the best possible security and mitigation controls are in place.

Bickmore points out that risks don't just revolve around hackers or cyberterrorists – many incidents can be the fault of human error or weaknesses in the supply chain. He notes that the weakest areas, other than the absence of certain mitigating controls such as DDOS shields, "can be identified in the use of legacy systems, inadequate business continuity management, and lack of visibility into risks posed by the supply chain".

"Organizations should respond by considering every possible threat agent that could adversely impact the confidentiality, integrity and availability of their technology, processes and people, together with carrying out an assessment

"Risk assessment and management is key to the GDPR and underpins many of the requirements within it"

Rob Bickmore, principal security consultant, NTT Security



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of their infrastructure and supply chain's resilience to these threats," he advises.

Stuart Jubb, managing director, consulting, at Crossword Cybersecurity, adds that, despite what some companies believe, securing a business need not be an expensive venture. "We generally find a lot of companies tend to like spending money on big, shiny technology that they think will solve all their problems," says Jubb. "That's because they haven't aligned their risk management processes and cybersecurity strategy with the overall business strategy."

"Some firms are bad at understanding where to strategically invest and just tend to throw money at the problem instead of understanding what their business really needs. Look at what you need, what the different solutions provide and then go through a structured prioritization process," he advises.

Preparing for the GDPR implementation, and keeping your company secure from all cyber risks, can sound overwhelming, but there is a lot of support available and the risks – such as fines, downtime, data loss, and loss of reputation – make it worth the undertaking.

Jubb also advises that executives should take the time to gain top-level awareness and understanding of cybersecurity and data protection. This doesn't have to be in-depth technical knowledge, but enough of an understanding of the key concerns that they "know they can ask the right questions".

It is worth remembering that even the experts believe that, at this late stage, it will be very difficult for any company to fully comply with everything the GDPR requires before the implementation date.

Farmer comments, "Rather than getting overwhelmed by all these requirements, I think it's really important for companies to take a step back and really work out what the priorities are for your business, then work through them in a logical order. Otherwise the exercise could become extremely overwhelming." ○

"Personal data is often described as 'the new oil'. Organizations make vast sums trading and processing that data"

Jamie Monck-Mason,
Willis Towers Watson



Above: The GDPR places the onus on companies to secure the personal data of clients, even when remotely stored

"Some firms are bad at understanding where to strategically invest and just tend to throw money at the problem"

Stuart Jubb, managing director, consulting,
Crossword Cybersecurity



GDPR checklist

Jamie Monck-Mason, executive director, cyber and technology, media and telecoms at Willis Towers Watson, gives his 10 top tips on the things that business aviation companies should do in preparation for the GDPR:

1. Implement stress-tested response plans to ensure prompt reaction to data breaches, including notification to regulators and affected individuals
2. Install policies to prove you comply, and demonstrably promote, a culture of monitoring and reviewing data processing procedures
3. Embed privacy by design into new products and processes, at an early stage
4. Consider whether you require, or wish to appoint, a data protection officer and ensure that they are in place and have sufficient knowledge of the GDPR well before May 2018
5. Review whether consent-gathering procedures are adequate and whether data already held was obtained in accordance with the new rules
6. Check that fair processing and privacy notices and internal data protection policies are easily accessible, in plain language and inform data subjects of their rights
7. Review long-stored data to ensure that there remain legitimate grounds for retention
8. Ensure that you can respond quickly to requests for information, erasure or portability
9. If you outsource data processing, seek legal advice to clarify legal obligations
10. Ensure you have legitimate grounds for transferring personal data to countries that are not regarded by the European Data Protection Board as having adequate data protection.



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Fringe bene

Airports are increasingly using landside businesses to help boost airport income, with the likes of golf courses, schools and retail outlets all fitting the bill

Words | Paul Willis

fits



During the 2008 financial crisis, aviation was badly hit. As a main source of transportation around the world, it was inevitable that such a globally devastating event would have an impact, leading the sector to experience negative growth.

Above: Go-karting is just one of the activities on offer at Centennial Airport, Colorado
Right: The Colorado hub's non-aeronautical revenue significantly boosts income



Backup revenue

According to Robert Olislagers, Centennial Airport's executive director, the Denver general aviation hub saw its bottom line drop by 30%. He credits the airport's portfolio of non-aeronautical businesses as one of the key factors in its ability to withstand the financial hit, in particular the golf course, golf driving range, racing track and other recreational businesses, which are often busier during times of economic slowdown.

"We have found that when the economy is slow then people tend to take advantage of these recreational opportunities," says Olislagers.

Michael Hodges, who heads USA-based Airport Business Solutions, a real-estate appraisal firm dealing exclusively in aviation, says airports are increasingly aware

of the need to diversify their business away from aviation alone. He says that general aviation airports have less non-aeronautical earning potential than commercial airports, which can take advantage of passenger-related revenues such as on-site parking.

"The higher the percentage of non-aeronautical revenue, the more the airport is able to withstand fluctuations in demand and the more it is able to invest in its aviation business," says Hodges. "General aviation is limited, for the most part, to leasing and a few secondary sources such as fuel sales and concession agreements with FBOs."

Around 60% of Centennial's revenues come from non-aeronautical sources, two-thirds of which is land rent, says Olislagers. "We act as a landlord only. We don't sell a lot of property. If it's a substantial investment – more than US\$10m – we may provide a 40-year lease. In the case of the golf course, the operators make a lot of money and they pay us back a small proportion. But for me, it's US\$250,000 and that goes back to airport projects that the FAA have and will not fund."

"We do not use any tax revenue to fund the airport and there's no charge for parking. The business park really does subsidize our operations"

Shelli Swanson, director of administration and finance at Salina Airport Authority



The airport also makes money on short-term leases of land that it hopes to one day convert back to aeronautical use, a practice known as land-banking. This is the case with the race track, which occupies a site where the gradient is too steep to be used for aviation purposes.

"The cost of bringing it up to grade would be so much that the return on investment is not high enough to make it worthwhile. Therefore we are land-banking that site before we can make other use of the property," explains Olislagers.

Diversifying strategy

Another general aviation airport that has been effective in developing its site for non-aeronautical purposes is Salina Regional Airport in Kansas. According to Shelli Swanson, director of administration and finance at Salina Airport Authority, the airport has over 100 businesses in its business park, with non-aeronautical accounting for about 55% of total revenue.

"Most of that comes from building and land rental," says Swanson. "We do not use any tax revenues to fund the airport, there's no charge for parking, and car rental brings in only a small amount. The business park really does subsidize the airport operation."

Swanson credits the airport's success in part to the foresight of Salina's elected officials, who took charge of the site in the mid-1960s when the airport – formerly a US Air Force base – was transferred to the city by the federal government. She says, "The base closure was a huge blow to the city, as there were about 5,000 airmen here and the base accounted for a third of the city payroll. Our founders tried to figure out what to do and how to survive it. They created the business park to bring back jobs."

One of the airport's earliest tenants was the aircraft manufacturer Hawker Beechcraft, which employed 1,000 staff at its peak. However, in 2012 the company went bankrupt, leaving Salina with a huge drop in rental earnings.

A perfect fit

What kind of business is best suited to an airport? On the whole, airports tend to attract industrial firms, says Michael Hodges, head of Airport Business Solutions. Firms that are not noise sensitive and potentially generate a lot of noise themselves are ideal, and because of this industrial parks are the primary users of land around airports.

It is logical to think that airports would attract businesses keen to take advantage of the air transport links they offer. This is sometimes the case, but usually not a major factor.

Until 2012 the largest business on site at Salina Regional Airport in Kansas was aircraft manufacturer Hawker Beechcraft. Today none of the more than 100 firms in its business park moved there primarily because

of the airport's transport links, says Shelli Swanson, Salina's director of administration and finance.

"The airport's transport links are a factor in why businesses locate here, but I would say that they are not key," says Swanson. "More important is the solid workforce that the town offers, the strong work ethic of Midwesterners, and the fact that we're at the crossroads of two interstates, right in the middle of the country."



"Many places are operating at a loss and could benefit from the revenue of non-aviation activities, but the FAA makes it very hard to do that"

Robert Olislagers, executive director, Centennial Airport

Above left: **The exterior of Salina Regional Airport**

Below: **Salina's business park is currently operating at 70% occupancy**

"We went from 98% occupancy of our buildings to about 50%. All of a sudden we had to become real-estate developers in terms of getting our available properties leased. There was a real concerted effort to try to attract new businesses and grow and maybe diversify," adds Swanson. It was an eye-opener for us because it helped us understand that while the airport is the mainstay of our business, having a robust, diversified portfolio in the business park is a huge asset in managing changes in the aviation industry."

Salina has bounced back from this setback and the business park is now operating at around 70% occupancy. This has predominantly been achieved through the addition of small- to medium-sized businesses leasing one or two buildings at a time. Hodges says the approach of 'every little bit helps' is essential for general aviation airports hoping to expand their non-aeronautical business.

"I've seen airports that installed a little drive-through coffee stand at the site," he says. "Others have leased land for recreational vehicle storage. At airports, activity breeds activity. The businesses you attract, no matter how small-scale, could lead to other opportunities coming your way."

Playing by the rules

In order to turn over land to non-aeronautical activities, airports must work within a regulatory framework. Many



countries have rules restricting the development of airport land. In the USA, airports that engage in non-aeronautical activity risk being denied FAA grants generated from excise and ticket taxes – an essential funding apparatus in order for them to survive.

According to Olislagers, this policy is particularly tough on smaller, less commercially viable general aviation airports. “Many of those places are operating at a loss and could benefit from the extra revenues of non-aviation activities, but the FAA makes it very hard to do that,” he says. “It frowns on these activities, especially anything that generates revenue.”

US airports can obtain a waiver, but there are usually lots of conditions attached, says Olislagers. “You have to make room for aviation and make sure you have plenty of available space for future aviation development before they will even consider allowing you the waiver. With our golf course development there is a road separating it from the airport, so there was no way that land could be used for aviation. It was an easy decision for the FAA to release the land.”

Expanding appeal

Most airports also operate clearance zones around the site, where there are height restrictions in place. This, and other factors such as noise pollution, can make some non-aeronautical activities unsuitable to be located within an airport environment.

“Centennial Airport prohibits residential development on all the land in its jurisdiction, first of all because the FAA frowns on it, but also, more importantly, because eventually the noise issues become political issues,” says Olislagers. “And once the airport becomes a political football, you don’t know where it’s headed.”

He points to the example of Santa Monica Airport, a historic general aviation airport close to Los Angeles that is encroached on by residential and commercial



“We have found that when the economy is slow, people take advantage of these recreational opportunities”

Robert Olislagers, executive director, Centennial Airport

Above: **Around 60% of Centennial Airport’s revenue comes from non-aeronautical sources**

development in nearby Santa Monica. Its residential neighbors, concerned about noise and aircraft fumes, have run a long campaign to shut the airport down, resulting in an agreement to close the airport in January 2018.

Schools are also typically considered incompatible tenants on or near an airport because of the noise. However, Centennial is currently in discussions with a local high school and preparatory college to allow them to locate part of their campus at the airport, making an exception because the school’s main focus is aviation.

Salina already has an educational institution on site with Kansas State University, which operates part of its aviation program at the airport, including a fleet of 40 aircraft. In this case the airport derives no revenue from the university, which acquired the land for free, as part of the same orders that handed control of the airport to the city of Salina when the military base closed.

Other clients in the business park include light manufacturing businesses, warehouse and distribution centers, and the world’s largest frozen pizza factory. This last facility makes the popular US supermarket pizza brand Tony’s Pizza. The parent company, Schwan Food, is the largest employer in the park, with about 1,300 employees.

Swanson says the aim is to get occupancy levels up to 75% in the coming year, with an aviation business at the top of their wish list of potential tenants.

“Because of the available hangar space we have, and our long runway – 2.5 miles [4km] in length – we can accommodate pretty much any type of aeronautical activity,” she says. “We’re really pushing hard for an aeronautical business to move here. We think we’re particularly well suited for that.” ○

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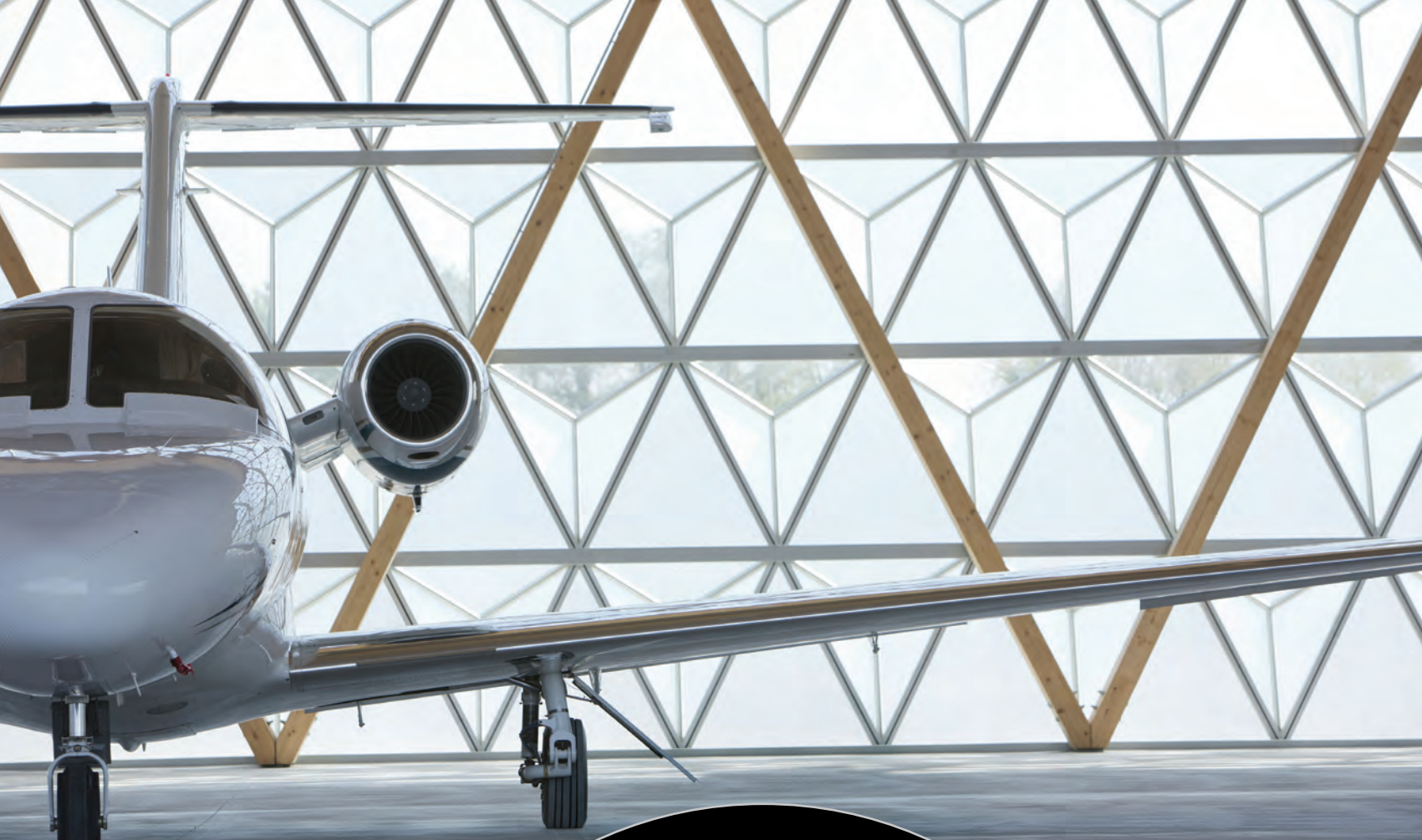
General aviation airports looking to expand their non-aeronautical business are at a competitive disadvantage compared with commercial airports. With little through-traffic, they are denied many of the revenue streams available to commercial hubs, such as parking fees and rents from retail clients.

To overcome this disadvantage, airports need to be more aggressive in touting for potential tenants, says Michael Hodges. “They need to be proactive with the local real-estate community and make sure they know what is available at the airport,” he notes. “Airports need to engage businesses and assist in marketing those properties.”

This outreach needs to extend beyond the real-estate world, however. Hodges thinks it is important for airport management to advertise itself in the community by speaking at local events, so that residents know what is going at the airport.

“For any airport this is important, but especially general aviation facilities,” he says. “This is because they are often viewed negatively, either as a noise polluter or as a place for the rich and their toys.”

Hodges would also advise general aviation airports to use the airport site itself as a marketing opportunity. “You want promotional information on site, with either stand-up banners or brochures. This will help target the clients who use the airport,” he adds.



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Business Airport International rounds up the key exhibitors and unmissable education sessions at the Schedulers & Dispatchers Conference 2018

Words | **Ben Sampson**

Long Beach



What: NBAA Schedulers & Dispatchers Conference (SDC2018)

When: February 6-9, 2018

Where: Long Beach Convention Center, California



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Exhibitor news

Real Alfa

While FBO and ground handler Real Alfa, headquartered in Toluca, Mexico, has recently launched a cargo service, it continues to provide handling services to operators, and its emphasis is still very much on satisfying customer needs.

The company provides flight and ground services, including fueling, throughout the world, although its activities are focused in Mexico, the Caribbean, and Central and South America. Real Alfa's FBO supplies private and charter aircraft ground-handling services through Servicios Aereos



Estrella (SAE) at Toluca International Airport, alongside access to VIP terminals, conference rooms, passenger and crew lounges, and snooze rooms.

SAE at Toluca Airport offers dispatch ramp and traffic 24 hours a day, 365 days a year, with a 6,300m (20,669ft) platform and 2,000 x 4,400m (6,562 x 14,436ft) roofed hangars, for security and privacy.

"We hope to meet any operators flying into Mexico at the show and to serve them as their handler," says Marcela Castellanos de la Llata, strategic, planning and quality manager for Real Alfa. "We are the best option and have the best facilities over all other airports in Mexico for passengers and cargo."

Real Alfa is also using the show to promote its new cargo and logistics service, which offers customers freight and goods consolidation, charter and courier services in Mexico.

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Conference highlights

SDC2018 will include around 50 training workshops, conference presentations and education sessions. *Business Airport International* picks eight sessions that visitors will not want to miss

Session: Business aviation hot topics

When: February 7, 1:00-2:30pm

NBAA staff, including regional representatives, will discuss current business aviation issues and highlight NBAA's advocacy work and local current events. The session's agenda will reflect current developments facing the industry, potentially including an update on FAA reauthorization, domestic and international environmental policy impacting business aviation, 'No plane, no gain' advocacy, security, customs, and other timely topics. Regional representatives will also discuss the benefits of being involved in a regional group and regional events, as well as local access issues, and training information available in attendees' areas.

Session: Operating in Africa/Middle East & India

When: February 7, 1:00-2:30pm

Planning business aviation trips to the rapidly developing Africa, Middle East & India regions presents unique challenges and ever-changing regulations that can potentially derail even the most experienced scheduler. This two-part session (45 minutes per session) will discuss key strategies from experienced international operators and will provide insight on regional scheduling, planning, safety and security concerns, permits, visas, cultural considerations, ground support, and more.

(1:00-1:45pm – Africa/Middle East; 1:45-2:30pm – India)

Session: Weather or Knot

When: February 7, 3:30-5:00pm

Tips and practical advice on what to do with weather and airspace overload information. How do you interpret all that data to know what your operations needs to be concerned about? The tools are on the internet, but do you know how to look them up and apply them to your operations? We will help you determine what weather and what airspace issues you need to be concerned with and what you can do to mitigate or prevent any potential delays.

Alaska Aerofuel

Alaska Aerofuel provides a full-service FBO for corporate customers flying into Fairbanks International Airport, with quick-turns on tech-stops by its experienced and friendly personnel and on-site US Customs & Border Protection.

The FBO, which celebrated 35 years of operation in 2017, has a 4,750ft² (441m²) terminal that was recently redecorated. This features a pilots' lounge, snooze room with blackout screens, shower and laundry facilities, a conference room and business center. Other facilities include a 18,000ft² (1,672m²) heated hangar, which can accommodate aircraft up to the size of a G550. It offers free de-icing for aircraft on international tech-stops up to the size of Globals, Falcon 8Xs, and G650s. The FBO is available 24/7, 365 days a year.

Booth 825



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Business Airport
INTERNATIONAL

**New
features
online!**

Avinode

The world's largest online marketplace for buying and selling private air charter, more than 7,000 aviation professionals use Avinode's system every day. There are 3,200 aircraft listed in the marketplace, and 450,000 flight requests processed per month. The marketplace features online quoting, availability reports, integrated scheduling, empty-leg reports and safety data.

At the Schedulers & Dispatchers Conference, Avinode will be introducing both new and existing clients to the latest features for sourcing and lead generation. It will also be demonstrating the latest beta and off-line clickable versions of the web and mobile apps it is developing. The company says it is

focusing development on the Search, Trips, and TripManager services the marketplace provides.

Per Marthinsson, co-founder and executive vice president, Americas, Avinode, says, "We want to talk to those across the industry who currently use Avinode, or who may like to in the future, and find out from them how we can keep improving our service. We're currently looking into adding a messaging service into TripManager, as this will be of great benefit to those who use the TripManager mobile app.

"We release new products, updates and features on a daily basis, so there are always new things to discover."

Booth 1847

DC Aviation Al-Futtaim

DC Aviation Al-Futtaim (DCAF) is a joint venture between Al-Futtaim in Dubai, UAE, and Germany's DC Aviation. It offers a maintenance facility, business offices and a VVIP reception facility at Al Maktoum International Airport.

DCAF's first hangar is 61,000ft² (5,670m²) and can accommodate four ACJ- or BBJ-type aircraft, or two ultra-long-range business jets, such as the Falcon 7X, Global Express or Gulfstream G550. DCAF opened a second hangar in December 2017. The 80,700ft² (7,480m²) structure more than doubles DCAF's hangar capacity on the site and brings its total landside plot area to 258,000ft² (24,000m²), and its apron area to 140,000ft² (13,000m²).



Holger Ostheimer, managing director of DC Aviation Al-Futtaim, says, "Since commencing operations in November 2013, we have seen our business grow steadily year-on-year. Our facility offers the shortest distance from limousine drop-off to aircraft steps and the highest levels of privacy and safety, both of which have been widely appreciated and accepted by customers and operators."

Booth 1448

**New
hangar!**

Kansas City Downtown Airport

Known locally as the Charles B Wheeler Downtown Airport, this historic airport celebrated its 90th anniversary this year. Kansas City Downtown Airport sees up to 700 aircraft per day take off or land at its 695-acre (281ha) facility. The airport and its control tower are open 24 hours a day, and there is an on-site US Customs office to process foreign nationals. FBOs at the airport, which include Atlantic Aviation and Signature Flight Support, serve nearly 300 based aircraft, as well as itinerant and

charter aircraft, offering fuel, full maintenance, aircraft rentals, and sales and flight training. The Kansas city-owned general aviation complex has hangars, a terminal, tie-downs and self-fuel avgas.

Booth 1841



Conference highlights (continued)

Session: Navigating South America/ Maneuvering Mexico

When: February 7, 3:30-5:00pm

These two 45-minute sessions will cover what attendees need to know to travel to and from South America and Mexico. The session will review cabotage laws, permit and handling requirements, local safety, security and health concerns, and region-specific processes, such as entering Mexico from the southern latitudes. Attendees will leave with knowledge on changes that may affect their travel, as well as important dates to keep in mind to avoid delays.

(3:30-4:15pm – South America; 4:15-5:00pm – Mexico)

Session: China: The unexpected is routine

When: February 8, 10:30-11:45am

More western operators are operating to China than ever before, but how is a trip to China different from other international stops? This session will explore some of the unique challenges to operators, due to government and regulatory interferences, as well as a slowly maturing aircraft services industry, that may be encountered when operating in Beijing, Shanghai or Hong Kong.

Session: Know before you go: Planning for high-traffic events

When: February 8, 1:00-2:30pm

The World Cup, Olympics, Super Bowl – all present unique and complex logistical difficulties for operators. It's critical that schedulers know all the variables to consider when planning these operations, while also managing stakeholders' expectations when attending high-profile events. A panel with vast experience planning operations at the world's largest events will discuss the strategies that helped them succeed in these challenging circumstances.

Session: Being a good neighbor: Advocacy and outreach on the homefront

When: February 8, 4:00-5:00pm

Schedulers and dispatchers have a key role to play in engaging with other aviation stakeholders at the local level. Join us for an interactive discussion about how to successfully establish and strengthen relationships with state aeronautics staff, airports and elected officials, and help create a better level of understanding about our vital segment of the aviation industry.

Session: S&D best practices

When: February 9, 1:30-3:00pm

Every scheduler and licensed dispatcher has its own tricks of the trade. Hear from some of our industry's best, representing flight departments of all sizes, as they hit on key issues regarding managing S&D coverage after hours, flight following, time management, working solo, and many more. Attendees will have the opportunity to submit questions and are encouraged to share their own experiences and solutions.

Air BP

**New
app!**

Air BP will be showcasing its RocketRoute MarketPlace app, which has been enhanced to enable dispatchers, operators and pilots to request, plan and purchase services and fuel via the platform.

The company will also be highlighting to its Sterling Card holders that, from 2018, they will be able to refuel at over 100 Signature Flight Support FBO locations in the USA. Sterling Card customers will also be able to have their carbon emissions offset, via the company's BP Target Neutral voluntary scheme, when purchasing jet fuel from a participating Signature location.

Julio Casas, North America general aviation director, Air BP, says, "S&D is always well worth attending. It attracts almost 3,000 industry professionals and is a great networking opportunity.

"We'll be offering demos of our MarketPlace app and it will be an opportunity to find out more about our Environmental Solutions offer.

"Additionally, we will be reaching out to fuel farm managers at the show to let them know how they could benefit from our technical expertise and support in relation to bulk fuel supply."

Booth 1030

Four things to do in Long Beach

A tour of the Queen Mary

This historic 20th century ocean liner has been docked at Long Beach since 1967 and is both a hotel and a museum. The steamship offers a glimpse into old Hollywood glamour with its authentic 1930s Art Deco furnishings, special event salons and 346 staterooms. Allow 30 minutes to walk from the Convention Center to the ship via the Queensway Bridge.



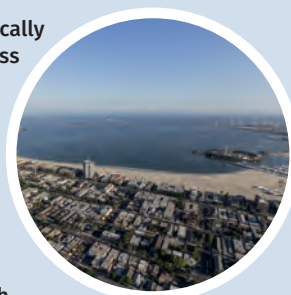
Visit the Aquarium of the Pacific

A short 10-minute walk from the Long Beach Convention Center, the aquarium has more than 11,000 animals, representing over 500 different species. The Pacific Ocean is the focus of three major permanent galleries and the aquarium's shark lagoon is home to more than 150 sharks and rays.



Gondola ride

Perhaps for the more romantically inclined, a one-hour ride across Alamitos Bay with Gondola Getaway is a relaxing way to see the Naples Canals. Trips leave from East Ocean Avenue in Belmont Shore, around four miles from the Convention Center. A gondola costs US\$100 for the first two guests and US\$30 for each additional person, with up to six guests allowed per boat.



Helicopter tour

An opportunity to see Tinseltown from above should not be missed, with several companies offering flights over Los Angeles, from downtown LA to Hollywood Boulevard and the world-famous Hollywood sign. The nearest to the convention center is Island Express Helicopters, around 35 minutes' walk away, which can organize tours of Catalina Island or bespoke flights over the city. ○



Jeppesen

**Mapping
updates!**

Jeppesen provides navigation services, scheduling and flight-planning software, and international trip-planning services. The company is a subsidiary of Boeing and is part of the Digital Aviation and Analytics business unit within Boeing Global Services.

The company has recently announced partnerships to open up its high-fidelity Airport Mapping Database. An agreement with Universal Avionics will see Jeppesen's Database information available through Universal's InSight Display system.



The Airport Mapping Database also supports Honeywell's Airport Moving Map capabilities, to enhance situational awareness within the companies' shared Integrated Navigation Data Services (INDS).

INDS is used with installed Honeywell Primus Apex and Epic Inav flight-deck avionics.

Booth 1915

Castle & Cooke Aviation

**IS-BAH
certified**

The company is a wholly owned subsidiary of Castle & Cooke, and takes pride in upholding the highest standards in service and quality set by its founders more than 150 years ago.

At SDC2018, Castle & Cooke Aviation will be showcasing its FBOs at Honolulu, Hawaii; Van Nuys, Los Angeles; and Paine Field in Everett, Seattle. Tony Marlow, vice president of aviation operations and business development at Castle and Cooke Aviation, says, "We are expert at handling large-cabin business aircraft at all three locations – Globals, Gulfstreams and Falcons in particular. We provide excellent service and elegant facilities.

"We will promote our partnership with Avfuel at the show as well as our new

front-end customer service-centric software X-1FBO."

Castle & Cooke has recently joined NATA as a member company and is launching its IS-BAH certification program in 2018. The FBO has already begun its analysis and evaluation and is preparing for its initial audit.

Marlow says, "We will have an amazing team of full-time employees in the booth at SDC to explain in detail exactly the level of service and assistance we can provide. We have some fun giveaways that are unique to us and of course we are a part of the Avfuel row, which always has exciting promotions and items of great interest."

Booth 1741

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Johan Emmoth

THE CEO OF **GRAFAIR FLIGHT MANAGEMENT** DISCUSSES
THE COMPANY'S BRAND-NEW FBO AT STOCKHOLM ARLANDA
AIRPORT AND HIS ROLE AT THE HELM

What was your career path prior to becoming Grafair's CEO?

From a young age I worked with travel agencies around the world, seeing new places and experiencing different cultures along the way. I enjoyed that element of exploration so much that I decided to get my pilot's license and was soon qualified and based in the US Midwest.

I later returned to Sweden to work at the flying school at Bromma Airport, Stockholm, and I saw a job advertisement posted by Grafair's owner, who was based at the same airport. I could drive lorries, fly planes, had extensive experience in customer relations and so on, so I put myself forward. He soon got in touch, and after I had done him a favor by fueling a jet out of hours, I started work at Grafair in 2004. At this point there was nothing for visiting non-scheduled traffic in Stockholm, and we got the opportunity to build an FBO at Bromma. I was made CEO in 2015, a moment that made me very proud.

What is your favorite part of your role?

I enjoy the variety of work my job creates, as I'm not someone who likes to sit still for long. We are constantly building and developing on what we already have, with our brand-new FBO at Stockholm Arlanda being the perfect example.

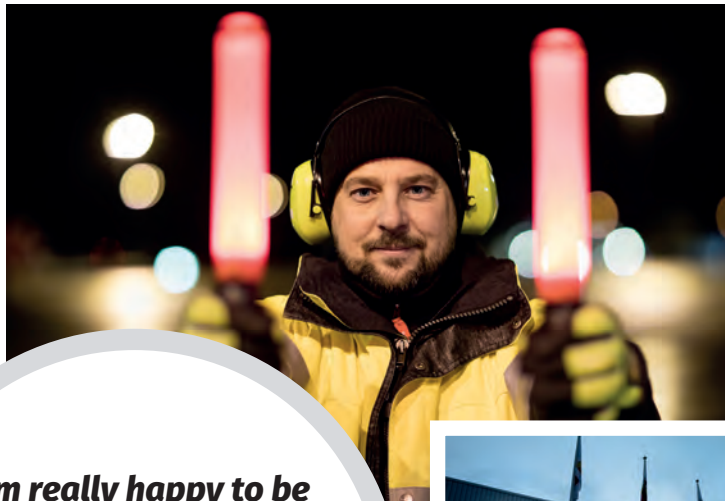
My mission is to know what customers want before they even ask for it. For example, if a flight is coming in on a turnaround from Hong Kong, the pilot will obviously require fuel, so we ensure it is ready for their arrival. Many FBOs are constantly thinking of cutting costs, but if you provide an excellent customer service, the money will come to you.

How did your new full-service FBO at Stockholm Arlanda Airport come to be?

Our excellent reputation from Bromma helped our case for Arlanda. In November 2014 we opened a small-scale FBO there with a tiny office, license, a single bus and so on but, like the other handlers, couldn't offer clients a full-service experience. I'm really happy to say that now we can.

What does the new site offer customers?

Arlanda has long had a problem with its general aviation capabilities, as it is a huge, spread out hub. Due to fencing around ramps, it was a lengthy process for pilots to even get to a lavatory once they landed, as they had to pass through security and then get a car to the terminal.



Left: Johan Emmoth, CEO, looks forward to welcoming passengers to Grafair's new FBO at Stockholm Arlanda

"I'm really happy to be able to say we can now offer customers a full-service FBO experience at Stockholm Arlanda"



Now Grafair has its own ramp, hangar and terminal with our very own gate next to it, much like at our Bromma site. We have on-site customs, so it now takes just one minute to process passengers before they can leave, unlike 30 minutes previously.

We offer customers heated hangar space that can house plenty of the biggest private jets, and a lounge with grand piano, fire place, huge fish tank and a multitude of amenities such as a pilot snooze room, massage chairs, ice cream bar, catering, games consoles and more. We are approaching our new FBO in much the same way as we did with Bromma, repeating its success.

What does 2018 hold for Grafair Flight Management?

I want Grafair to become the natural choice for anyone flying into Arlanda. We provide a renowned service that looks after both crew and passengers. Opening the new FBO is a wonderful feeling, and I always believed we could do it. The happy customer faces I see makes all the hard work worthwhile. ○

Below: The lounge offers a cosy environment overlooking the aircraft taxiing by



Laurent Peretti

THE NEWLY APPOINTED CHIEF OPERATING OFFICER AT INTERNATIONAL FBO NETWORK **SKY VALET** DESCRIBES HIS CAREER TO DATE AND HIS BUSINESS AMBITIONS

What is your background prior to being appointed COO of Sky Valet?

I hold a master's degree in finance, and my first job was at Euronext – the Paris Stock Exchange – as a financial analyst, but I quickly switched to mergers and acquisitions (M&A). After 10 years of M&A at different companies, I wanted to move to a management position and lead an innovative business.

The opportunity at Nice Côte d'Azur Airport group for a chief financial officer for its general aviation business unit was perfect. At this time, the group was managing Nice and Cannes airports, and Dominique Thillaud, chairman of the executive board of Nice Côte d'Azur Airport, was planning a strong development strategy based on fast external growth and that was very exciting to be a part of.

What was the strategy and where do you stand now?

Nice Côte d'Azur Airport is a pioneer in the industry, and we have served VIP customers since 1930. We knew that most business jet operators were complaining about the lack of synergy in Europe and the difficulties in dealing with multiple FBOs. The operator market was clearly moving toward stronger integration.

We perceived the issue as an opportunity, and decided to create an integrated FBO network that would provide operational synergies, cost optimization and facilitate the operations of our customers. The starting point was the acquisition of St Tropez Airport in 2013 and the creation of Sky Valet, the FBO brand of the group. During the next four years, we purchased Unijet Handling at Paris Le Bourget, Gestair FBO in Spain and JetBase in Portugal. Our expansion



“We are a service-oriented business, and the key success factor is how our team interacts with customers”

focused on forming a simplified route network, as the connections between our FBOs are among the most popular. We are still looking to expand, but the priority is to reinforce the operational synergies and make sure that we will always deliver white glove service within the entire Sky Valet network.

How do you make the transition from CFO to COO?

As a CFO, I managed finance and Sky Valet acquisitions, so looked at operations in detail and worked closely with local management teams. I also developed an expertise regarding the specific business model of each entity. As a COO, I now take care of the operational integration within the group. I will continue to be heavily involved in all future company acquisitions.

What does your working day involve?

My main goal is to deliver the expected high-level service to our VIP passengers across all Sky Valet FBOs and facilitate the roles of teams including crew, procurement, operations and accounting.

I am working on switching from several independent FBOs to a single integrated FBO network that delivers added value to our customers. This has already been achieved on a commercial level by our chief commercial officer, Jerome Ferasin, who can provide competitive, clear and harmonized commercial offers and negotiate one single agreement that encompasses the 22 FBOs.

My focus is to reach the same harmonization on the operational side, taking into account the history behind each entity but, at the same time, moving forward quickly to reach our common goals.

What success have you had to date regarding this ambition?

Within just a few months, we managed to rebrand all the different locations under the Sky Valet name and to receive IS-BAH certification at Cannes (stage 2) and Lisbon (stage 1). We also deployed common operating software, MyHandling, across most of our FBOs, which is now fully operational and has received positive feedback from customers. We are a service-oriented business, and the key success factor is how our team interacts with customers. I visit our FBOs as much as I can, and I am very proud of Sky Valet employees who share an entrepreneurial spirit and spare no effort to satisfy our customers. ○

Left: Sky Valet has 22 FBOs in France, Spain and Portugal

Below: Its services include VIP lounges and helicopter connections for onward travel



2012 Cessna Citation Sovereign

s/n 680-0325 ■ N708BG



1157 TT, One Owner and Maintained by Cessna, WAAS, Engines on Power Advantage+, APU on Aux Adv., ProParts and Protech, Navigational Operational NZ 7.1.2 Capability, Honeywell Primus EPIC System, 9 Passenger Configuration..... **CALL FOR PRICE • +1 (561) 747-2223**

2016 Bombardier Global 6000

s/n 9744 ■ N17JS



232 TT, Meticulously Serviced & Maintained, Part 135 Compliant, Venue Cabin Mgmt. Sys., Int'l (HD-710) & Domestic (ATG-5000 GoGo Biz) Internet, Engines on Rolls-Royce CC, Full Mfg. Warranty Until December 2021, 13 Passenger Configuration..... **CALL FOR PRICE • +1 (410) 626-6162**

2002 Hawker 800XP

s/n 258585 ■ N585VC



7213 TT, Collins Proline 21 Suite, Winglets, JSSI 100% Coverage, FlightDocs Maintenance Tracking Program, 15-Year Structural Inspection c/w 09/2017, Landing Gear Overhaul 07/2014, New Paint July 2015, 3 Crew + 9 Passenger Configuration..... **CALL FOR PRICE • +1 (562) 989-8800**

2012 Dassault Falcon 900LX

s/n 261 ■ N261CH



1135 TT, One Owner Since New, EASy II Avionics, Enrolled on FalconCare, Engines and APU on MSP Gold, Part 135 Maintained, TCAS 7.1, Honeywell MCS-7120 Satcom WiFi, High Definition Audio/Video System, 13 Passenger Configuration..... **CALL FOR PRICE • +1 (410) 573-1515**

2001 Gulfstream G200

s/n 056 ■ XA-PCO



3326 TT, Two Owners Since New, Engines on ESP Gold, APU on MSP Gold, Enrolled on Gulfstream Plane Parts, JAR OPS Ready, RVSM, 5 Tube Collins Proline IV EFIS, 1C c/w 07/2017, Restriped in 2014, 10 Passenger Configuration..... **CALL FOR PRICE • +1 (201) 365-6080**

2010 Embraer Phenom 100

s/n 50000122 ■ N991CA



1542 TT, Enrolled on EEC Enhanced, Engines on ESP Gold, Maintenance is all Up To Date, Garmin Prodigy G1000 – Triple 12.4 LCD Displays, WAAS, TAWS, Garmin Flite Charts, Premium Passenger Door, LED Lighting, 6 Passenger Configuration..... **CALL FOR PRICE • +1 (941) 201-1211**

2011 Bell 429

s/n 57056 ■ HC-CMR



170 TT, GNS-530W Nav/Comm/GPS, Avidyne TAS 620 Traffic Advisory System, Dual Pilot Control Equipment, Skid Gear, Emergency Float Provisions (Electrical & Fixed) For Floats w/Life Rafts, 6 Passenger Configuration with Cabin Soundproofing..... **CALL FOR PRICE • +1 (410) 573-1515**

2008 Learjet 40XR

s/n 45-2101 ■ N725BH



3193 TT, Airframe on Smart Parts, CAMP, Operated on Part 135, Engines on MSP, Honeywell Primus 1000 IFCS, Dual UNS-1E's, Honeywell DU-870 4 Tube 8x7 EFIS, Flight Data Recorder, Extended Range Fuel System, 7 Passenger Configuration..... **CALL FOR PRICE • +1 (561) 747-2223**

Voice of experience

BAI talks to Ed Bolen, president and CEO of the NBAA, about his views on the year ahead, ATC privatization, the need to attract talent into the sector and supersonic jets

Words | **Ben Sampson**

Ed Bolen CV

Ed Bolen became president and CEO of the NBAA in 2004. Prior to joining the NBAA, he was president and CEO of the General Aviation Manufacturers Association for eight years. In 2001 Bolen was nominated by President Bush to serve as a member of the Commission on the Future of the US Aerospace Industry. He was nominated by President Clinton and confirmed by the US Senate to serve as a member of the Management Advisory Council to the FAA. He chaired the council from 2000 to 2004.

Bolen is a recreational pilot and a competitive tennis player.



How would you describe the health of business aviation as we start 2018?

Business aviation had a sharp drop in 2009, but since then the overall trend has been moving forward, which is encouraging. There is an inherent value in business aviation. It enables face-to-face communication and can quickly move teams of people to where the challenges and opportunities are. It turns travel time into work time, and enables people to travel to more places in less time. It's a very relevant business tool for a very demanding business place. Its long-term fundamentals are good.

Where do you think growth is for business aviation firms in 2018?

There are opportunities all over. We have always operated in a global marketplace, but companies are operating more internationally. That means ultra-long-range aircraft that can connect business centers around the world will become very important.

We are also seeing the US economy strengthen. There is more opportunity on a state, regional and national level, which bodes well for the lighter end of business aviation – the turboprops, the Cirrus pistons, the entry-level business jets. That's reflected in new aircraft like the Cirrus Vision Jet, the HondaJet, Cessna's Denali – even investment and innovation in rotorcraft.

The USA has the single-largest general aviation market and it's encouraging that the economy here is growing faster than it has for some time. Plus, the growth in international business means there are opportunities across the board. When economies grow, transportation across all modes grows and we follow that trend.

What does the NBAA do to help facilitate the use of business aviation internationally?

We try to ensure that people understand the business airplane as a business tool. We promote studies showing that companies that have business aircraft return more to shareholders than those that don't. We also do a lot of profiles of companies that use their aircraft in ways that might not be intuitive. For example, a company can use its aircraft to move medical specialists to rural areas for short periods, or move measuring equipment that uses lasers.

We try to make sure people consider business aircraft as a productivity tool, as a time machine and to show how others are harnessing that power to make their businesses more efficient, productive and successful.

How is the business aviation sector changing in 2018?

Business aviation is evolving to bring in more people. We are seeing the spectrum of products evolve and adapt, like the single-engine business jet market, which a year ago didn't really exist. The diversity of offerings available continues to expand.

There are also lots of new and different ways to use aircraft. For decades you could only own or charter an airplane. Then there were fractional ownership, jet cards and now membership subscriptions. If you combine the way that aircraft are evolving with the developments in use opportunities, you can see that there are a lot more

Scholarships support skills development

The NBAA's Charities Scholarship Program is an important way in which the organization attracts and supports the development of business aviation professionals. The program, which is supported by donations from members, offers almost US\$100,000 every year for tuition reimbursement, and around the same amount to pay for training people already working in business aviation.

Recently launched scholarships include the Fred and Diane Fitts Aviation Scholarship, which offers funds of up to US\$2,500 for four individuals looking for a career as a scheduler, dispatcher, maintenance professional, pilot or flight attendant.

The NBAA also awarded a record nine scholarships to current and aspiring Certified Aviation Managers (CAMs) in 2017. The scholarships promote professional development in business aviation by providing financial support for qualified CAM exam candidates.

"It's very rewarding to see where these professionals have started and where they are today," says the NBAA's director of professional development, Jay Evans, who coordinates the scholarships. "Helping one another in this industry is what a career in business aviation is all about."

Below: Cirrus has more than 600 orders for the 7-seater SF50 Vision Jet

"The benefits of business aviation are that it stimulates jobs and economic development, and helps companies be more competitive"

Ed Bolen, CEO, NBAA





companies of all sizes that can match the right strategy to the right aircraft, so they can get the benefits of business aviation and be more successful in their marketplace.

Why is the NBAA so against ATC privatization?

Privatization of the air traffic control system is important to everyone, because the benefits of business aviation are shared by everyone. It's good for companies, communities – even entire countries. We think privatization of the ATC system could inhibit growth of, and even destroy, the industry by denying some of its most valuable aspects, such as rural airports and access to major metropolitan areas.

The benefits of business aviation – which are shared by everyone – are that it stimulates jobs and economic development and helps companies be more competitive. Another thing we don't talk about a lot, but should, is that business aviation firms often volunteer their aircraft for things like moving cancer patients to treatment centers, or responding to natural disasters.

Above: **Commercial use of drones will impact the way airports operate**

Below: **Deliveries of light aircraft such as the HondaJet are increasing**



You've called ATC privatization a "power grab" by airlines, which is very strong language. Is that really the case?

We use those words because they are accurate. Airlines are driving the push for privatization. There is no other reason to do this. The Next-Gen ATC system is coming online. It's on time and on budget. The US air transport system is the largest, safest, most diverse and most efficient in the world. It's not broken and it's getting better all the time. Why should we turn that system over to the airlines? These are companies that suffer from major computer glitches that leave passengers stranded and mismanage pilots' holidays.

The fight against this power grab isn't just opposed by us. Mayors from all over the country, consumer groups, passengers' rights organizations, and conservative and liberal think-tanks also oppose it.

This is an important time for everyone who cares about the state of aviation. Our members in the thousands are reaching out to their members of Congress personally, which indicates how urgent this issue is.

Why are we seeing reports of skills shortages in the sector within the USA and Europe, and what can be done to attract more young people into the sector?

A skills shortage is something that people have been talking about for a long time, but is being felt more acutely now than any time previously. Part of the problem is that aviation is growing worldwide, which is good, but it also means we need to more consistently attract talent and retain talent into the whole aviation community.

A lot of young people want to make a positive difference with their lives and do something meaningful. Business aviation helps connect people face to face, connect different cultures, communities and helps companies grow. We think this is a meaningful industry, and if people want to make a difference in the world, it is a viable industry to do that in.

What do you think has changed the most in business aviation since you became involved in it?

The aircraft are constantly evolving, in terms of the engines, the materials they are built from, the electronics used for the avionics and the connectivity that is expected and needed in the back of the airplane. In addition, the overall operating environment is changing, with drones and space launch vehicles. There is a lot going on in aviation and aerospace.

For example, there's a lot of attention on supersonic jets at the moment. The business models that are being put forward suggest there is market demand. Business aviation is global, people are doing business across multiple time zones. The use of an airplane to shrink the time it takes to travel between people has always been a fundamental part of business aviation and supersonic jets could continue that by flying faster. Like those that are investing in it, we think there is a role for supersonic travel. It's great to see the ideas coming forward. It's an exciting time in our industry. ○

Decades of delight

After 50 years of service, **Air Service Basel** is reflecting on its achievements to date and considering what the future may hold, including further expansion and an extended customer offering

The year has got off to an exciting start for Swiss FBO Air Service Basel, which celebrated its 50th anniversary in December 2017. The company started life as a six-person team in 1967, established to cater for the private pilot population in Basel. Over the course of the next 20 years, Air Service Basel was acquired by Helica and rebranded as Farnair Technical Services to reflect its focus on Switzerland's popular Farner Air Transport.

Under new leadership in 2004, the Air Service Basel name was restored and the new CEO, Claudio Lasagni, saw the potential of expanding the business into an FBO and full-service organization for business jets and private aviation. With help from private investment, the vision of the new site, at the southwest entrance to EuroAirport Basel-Mulhouse-Freiburg, became a reality.

Reflecting, Lasagni says, "We were very fortunate to be able to build the site exactly as we envisioned it. We knew that moving from the back of the airport with very little space to nearly 7,500m² [80,729ft²] of hangar space and 9,000m² [96,875ft²] apron space could only impact our business positively."

Perfectly placed

Today, as an internationally certified full-service FBO, the company has not only expanded in square meters – it also provides services including aircraft and helicopter parking, fueling, maintenance, sales, support and CAMO (Continuing Airworthiness Management Organization) management. Air Service Basel has over 1,000 clients, just under 40 highly skilled employees, and established presence in the local community.

Lasagni claims that the success of the business over the past 50 years is due to the unique location of Air Service Basel at EuroAirport Basel-Mulhouse-Freiburg. It is one of the only airports in the world to be operated by two countries – France and Switzerland – with the French and Swiss border running through the territory. The German region of Freiburg is also only a 10-minute drive from the airport, so

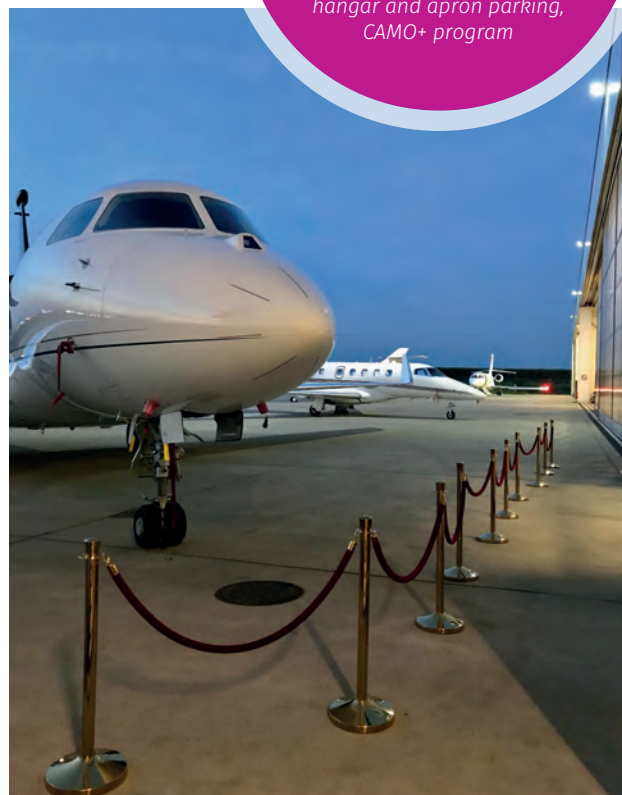
Air Service Basel's private terminal is an ideal stop for passengers traveling to nearby events and attractions.

Basel itself is an attractive place to visit for both business and leisure. It is a business hub for the pharmaceutical industry in Europe and only a short drive – or helicopter transfer – to some of the most famous international ski resorts, such as Davos and Zermatt.

FBO manager Sandrine Schmidlin, commenting on the most popular attractions in the year for Air Service Basel's customers, says, "In January, we look forward to serving operators and clients for the World Economic Forum in Davos.

"In March, we will have the pleasure of welcoming the jewelry and watch industry and high-society clients during the Baselworld 2018 trade fair.

"Then, in June, there is the busiest week of the year, with the modern and contemporary international art exhibition Art Basel. This is when the entire company pulls together to handle the increasing demand in movements and needs for the fair."



Above: **The private terminal is ideal for visitors to the region's many events and attractions**

Left and below: **The EuroAirport Basel-Mulhouse-Freiburg site before and after construction**

Vital statistics

Airport: Basel Airport, Switzerland
Operating hours: 6:00am-10:00pm
(extended upon request)

Services: Maintenance, snooze room, conference facilities, hangar and apron parking, CAMO+ program

In 2014, Air Service Basel recognized an opportunity to develop a similar experience in neighboring Zurich Airport, as a joint venture with air charter firm Cat Aviation. Cat Air Service provides luxury service, and is the only FBO in Zurich with an airside lounge. It now has more than 20% of the share in business aviation at the airport.

So, what does the future hold for Air Service Basel? Schmidlin says, "We want to continue to give clients a feeling of personality from us as a company and also in the tailor-made experiences we aim to provide."

Lasagni adds, "We are also invested in a new project that involves converting the current airfield at Dübendorf Airport, a military airfield just outside of Zurich, into a business aviation facility." ○

AIR SERVICE BASEL

To learn more about this advertiser, visit www.ukimediaevents.com/info/bai

Reader Inquiry Number 101

Whatever the weather

Come rain, shine or – as in the case of **South Air** – snow, an FBO must be ready to service incoming and outgoing flights in all eventualities, and also offer customers the comforts of its lounge

In Iceland, the odds the weather will be brought into any conversation are good. It is certainly not just an Icelandic thing, but it is a huge part of the culture, given the ever-changing climate and the harsh, unforgiving environment.

It is worth noting that the Icelandic language has dozens of words for snow, wind and rain and other variable mixes of these conditions, but fewer for sunshine and calm winds. One could even get the feeling that there is a certain matter of pride among the natives when talking about the weather, and it is at the least a great conversation starter.

Preparation is key

That is not to say that the weather is constantly bad, but is rather always changing. With that in mind, the staff at South Air at Keflavik International Airport (BIKF) have to be constantly prepared for just about every variable in the weather, all year-round. With over 40 years of experience, the company is well aware that it needs to be ready for all eventualities, and as early as late summer the staff starts preparing for the coming winter by going over all vehicles and equipment and continuing their ongoing training of personnel.

The snow removal department at BIKF is widely considered one of the best in the world, and that means the airport rarely closes except during the most extreme weather. This means the South Air team has to be prepared to service all who arrive, no matter the time or weather.

Contingency plans

One of the big issues is having enough de-icing fluid in stock, as it must be

shipped from overseas. This means South Air must ensure that enough is available at all times because it can take several weeks to ship stock from Europe. With the currently limited hangar availability at BIKF airport and the increase in traffic, having de-icing on standby 24/7 is crucial to South Air's operations, servicing all customers as fast and safely as possible with a team that is highly qualified and ready to service everything from

Main: **South Air keeps de-icing facilities on standby 24/7**

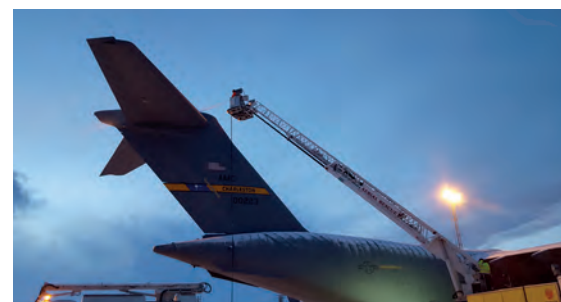
Above left: **Renowned for its snow, Iceland still experiences warmer months**

Above right: **De-icing a Boeing C-17 jet**

Left: **South Air has to be ready for the all weather types**

Vital statistics

Airports: Keflavik International Airport
Opening hours: 24/7
Facilities: Weather briefings, customs and immigration, de-icing, flight planning, large ramp space



the smallest of jets up to the towering Lockheed C-5 Galaxy.

Icelandic hospitality is at its finest during the winter months, as residents know what it means to be offered a place to rest and warm refreshments after a long journey. South Air's new facilities offer several comfortable lounges where crew and passengers can sit and enjoy a warm drink and cookies in a relaxing environment, pick a book from the free library in the recreation room, or watch a movie while their aircraft is being serviced or made ready for flight.

South Air will be at stand 1738 at the 2018 NBAA Schedulers and Dispatchers conference in Long Beach, California, February 6-9, 2018. ○

SOUTH AIR

To learn more about this advertiser, visit
www.ukimediaevents.com/info/bai

Reader Inquiry Number 102

Smarter fueling

Customers have an abundance of choices for where to purchase fuel.

Avfuel's CEO shares some of his top tips on making the right investment while being mindful of hidden regulations

With the 2018 NBAA Schedulers & Dispatchers Conference (SDC) in February looming, now is a perfect time for flight departments to reassess the best way to buy fuel. Those going to the show will be faced with row upon row of FBO options from around the world, including big chains and unique independents.

As president and CEO of Avfuel Corporation, in addition to being an ATP pilot, Craig R Sincock is often asked, "How should I choose where to buy fuel?" Although it seems straightforward, he admits it's a rather complex question and one that, in order to be properly answered, requires a comprehensive understanding of what the fuel-buying landscape entails.

Attention to detail

Historically, companies that provided fuel and its related branding at airports also supplied automotive fuel at corner gas stations. Pilots would purchase fuel directly from oil companies at a posted price. However, the services required to support the underlying infrastructure of delivering fuel and services to aircraft are people and capital intensive, requiring 24/7 attention, 365 days a year.

This substantial resource investment has shifted the landscape, causing many oil companies to examine their return on investment and refocus on pipeline and exploration. This leaves the heavy lifting of downstream activities – oil and gas operations that take place after the production phase through the point of sale – to companies specializing in aviation fuel distribution, with the flexibility to proactively provide solutions.

Smart purchases

Avfuel continues to see various movements in the present landscape, including: private investments in fueling facilities in Europe; FBO and chain consolidation – providing fewer fuel options; the formation of a few buying associations or clubs covering a limited number of airports; and a few established global fuel suppliers that provide contract fuel and cover the largest amount of



Above: **Avfuel** is available around the world, such as at **Banyan Air Service's** FBO in Florida

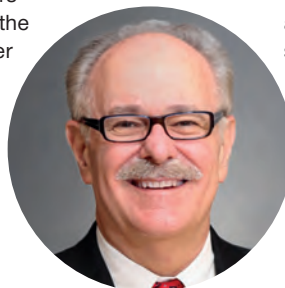
Left: **Avfuel** cards simplify the fuel buying process

Below: **Craig R Sincock**, president and CEO

different locations. With such a diverse fuel buying climate, Sincock believes there is no one solution – or one company – that could provide fuel at every location around the world at the best price.

How should fuel be bought? Most fuel providers have supplies available at the same airports. Sincock suggests taking the logical approach and choosing two or three fuel suppliers to work with, as that will cover 98% of global fueling needs. As active participants in aviation, buyers already know which companies are at the top. When at SDC, visit the fuel supplier aisles and get acquainted with their network locations, taking time to discover what the independent options on airport fields can offer – they are often competitively priced and provide excellent service.

Sincock recommends choosing companies that are invested in the



Vital statistics

Fueling locations: 3,000+
FBOs: More than 650 branded FBOs in Europe and North America
Services: Less-than-retail rates on jet fuel through Avfuel Contract Fuel, international flight support and trip-planning through Avplan Trip Support, and AVTRIP loyalty rewards

industry and will be around for the long term. These are likely the same fuel suppliers that offer the most comprehensive services, the widest range of locations, and the highest service levels. In addition, many family-owned FBOs have been around for decades, making their business their passion. This shows in their level of customer service.

Sincock also advises considering hidden costs. Companies committed to aviation and consumers will be similar in price. A customer's evaluation should include a review of personalized services and additional charges, such as card processing fees, interest rates on late payments, and credit extensions. Two areas that are often misunderstood and can create risk for a company and flight department are proper tax exemption and compliance, and appropriate product liability insurance.

Take full advantage of conferences and tradeshows to learn more about fuel suppliers and their respective network locations. With two or three major fuel suppliers on a customer's radar, there are a lot of FBO gems that are waiting to provide excellent service. ○

AVFUEL

To learn more about this advertiser, visit www.ukimediaevents.com/info/bai

Reader Inquiry Number 103



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Expanding horizons

Extending its operational reach across the emirate, **Jet Aviation** opens a VIP fixed-based operations terminal at Dubai South, adding to its existing offering at Dubai International Airport

Jet Aviation took its commitment to Dubai and the region one step further during the 2017 Dubai Airshow, when it launched an FBO facility in the VIP terminal at Dubai South (DWC). Built with customers' needs in mind, it is a premium 600m² (6,460ft²) FBO with three customer lounges, a conference room, a crew lounge, two prayer rooms and more.

The company celebrated the opening of the FBO, together with its joint venture partner the Al Mulla Business Group, by hosting a grand opening and ribbon-cutting event at the FBO following the second day of business at the Dubai Airshow on November 13, 2017.

New beginnings

With 150 guests, including His Excellency Khalifa Al Zaffin, executive chairman of Dubai Aviation City Corporation, and his team from Dubai South, OEM executives, the airport authority, customers and industry members, it was a wonderful celebration that drew key leaders from the industry.

Hardy Bütschi, vice president and general manager of Jet Aviation's MRO and FBO operations in Dubai, says that the opening gives business aviation customers two Jet Aviation facilities to choose from, ensuring greater flexibility as they travel into and out of Dubai.

"We are delighted to begin operations at Dubai South," says Bütschi. "We will also continue operating our award-winning MRO and FBO facilities at Dubai International Airport (DXB), and are extending our maintenance approvals there to support line maintenance services through the Dubai South FBO."

Setting the standard

Jet Aviation opened its MRO and FBO facilities at Dubai International Airport in 2005 and, at the time, was the first business aviation service provider to establish a maintenance facility at Dubai International Airport.

Since opening, the company has handled more than 25,000 aircraft and received numerous awards for its 24/7 domestic and international handling



services. In the 2017 Professional Pilot PRASE Survey, it was voted – for the seventh time – the best FBO in the Middle East and Africa.

Both Jet Aviation FBOs in Dubai have been audited and approved for registration to the IS-BAH standard.

Certified excellence

Jet Aviation strives to work closely with OEMs and authorizing agencies to ensure that a broad array of quality services for multiple aircraft types is available to its customers. As an authorized service center for multiple OEMs, including Airbus, Boeing Business Jets, Dassault Falcon and Gulfstream Aerospace Corporation, Jet Aviation announced at the Dubai Airshow that its Dubai maintenance facility had been awarded EN9110 certification.

In addition the company has gained EASA, FAA and GCCA approvals for the Airbus Corporate Jet (ACJ) family, as well

Vital statistics

Airports: Dubai South, Dubai International

Operating hours: 24/7

Services: Handling, private lounge, aircraft parking on ramp, newspapers, food and beverages, on-site customs and immigration

Above: **Jet Aviation's Dubai International Airport hub**

Left: The new FBO is a joint venture with **Al Mulla Business Group**

as EASA approval for the Bombardier Global BD700 series.

EN9110 certification encompasses a series of standards developed by the International Aerospace Quality Group, and serves as a clear indication of a company's demonstrated ability to meet maintenance quality assurance requirements of both OEMs and customers for aircraft and their parts and services. OEMs require their suppliers and subcontractors to comply with the certification, and customers it represents increased assurance for reliability and satisfaction.

For Jet Aviation, the EN9110 certification, coupled with the EASA, FAA and GCCA approvals, secured its ACJ Service Centre Network status, which was awarded at MEBAA 2016.

"We are firmly committed to our customers in Dubai and the region, which these service expansions and new FBO demonstrate," adds Bütschi. "We look forward to beginning our next chapter here and to welcoming customers at both our premium handling facilities." ○

JET AVIATION

To learn more about this advertiser, visit www.ukimediaevents.com/info/bai

Reader Inquiry Number 104

Major player

Air Total offers some of the highest-quality aviation fuels and associated services in the world, with safety, customer loyalty and innovation all playing a part

Part of France's supermajor oil company, Air Total is a global provider of jet fuel, operating at more than 300 airports across five continents. The company has been developing and marketing aviation fuels for more than 60 years, catering to everything from light aircraft to large commercial passenger airplanes. Its customer base has grown over the years, and today includes major airlines, the military, the aerospace industry, and business and general aviation.

Air Total's fuels are manufactured under the strictest quality controls and to the highest international standards. Each is specially formulated to meet the needs of the aircraft, from small prop-driven airplanes and high-performance helicopters to commercial jets.

The fuels on offer include Jet A-1, suitable for most jet aircraft and meeting stringent international requirements; Avgas 100LL, specially designed for piston aircraft; UL 91 Avgas, an unleaded fuel for the general aviation market; and Biojet, a certified sustainable aviation fuel made from renewable raw materials, tested by several airlines, and already in use in commercial flights.

Total is involved in activity that spans the entire energy chain, from the exploration and production of crude oil and gas, solar energy, energy trading and retailing, to the manufacture and marketing of petrochemicals. The company sold 11 million metric tons of commercial aviation fuel in 2015, with 2,500 refueling operations involving Air Total products happening daily – one every 30 seconds.

High standards

Safety and quality are two key motivators for Air Total, both of which it looks to maintain at every step of the supply chain, from the refinery to the customer's aircraft. Such is the company's expertise and knowledge in these areas that it was one of the founders of JIG (Joint Inspection Group), and is also a member of other key international technical committees, such as IATA-TFG (Technical

Fuel Group), the Energy Institute, and the American Society for Testing and Materials (ASTM). This enables Air Total to participate in the extension of standards that are shaping the industry.

An important element of this is the company's technical department, which employs a team of 10 highly qualified and experienced specialists, with eight JIG-accredited inspectors performing checks on the 500 facilities operated by Air Total and its partners in more than 100 countries. Companies are welcome to talk to Air Total about utilizing these resources for their own operations, arranging JIG and local inspections, training and other bespoke services.

Business aviation

Companies specializing in business aviation can become part of the Air Total Fuel Card network, already accepted at more than 180 airports. Benefits include competitive pricing, online pricing, and accurate invoices, sent by email or available online.

Air Total plans to extend its network through a new long-term partnership with Avignon-Provence Airport. New services have been made available to regional airlines, business aviation operators and flying clubs, with a self-service station and wide choice of fuel. This new market illustrates the European aviation refueling leader's expertise in terms of support for airport managers.



Vital statistics

Established: 1955

Fueling locations: 300+

Products: Global network, bulk fuel supply, contract fuel, JIG inspections, training, card services

Customers: FBOs, airports, airlines, freight/cargo, military, general and business aviation



Above: **Each Air Total fuel is formulated to meet the needs of the aircraft**

Below: **The Air Total Fuel Card is already accepted at more than 180 airports**

Air Total is pressing ahead with the development of more sustainable and environmentally friendly fuels. Pascale Garcia, head of supply at Air Total, which operates at more than 300 airports across five continents, says, "In the coming months we plan to transform one of our existing refineries in the South of France into a biofuels refinery, with the capacity to produce biojet and UL 91 Avgas. We are engaged in long-term programs to make the development, production and sales of Jet A-1 as sustainable as possible."

The company is also involved in the development of the four jet-fuel pathways so far certified by the International fuel standards body ASTM. Biojet, which is made from sugar, has been used by several commercial airlines, among them Air France-KLM and Cathay Pacific. Environmental considerations also affect investment and technology development in Air Total's infrastructure and supply chain. ○

AIR TOTAL

To learn more about this advertiser, visit www.ukimediaevents.com/info/bai

Reader Inquiry Number **105**

With its extensive product offering for a variety of jet types, **Mototok** is a chosen provider of towbarless tugs at London Heathrow Airport

Airport pollution does not only come from airplanes. Thousands of vehicles used for the movement and upkeep of aircraft, such as maintenance trucks and shuttle buses, are sources of chemical and noise pollution.

As part of its airport 2.0 program, London Heathrow Airport has recently honored innovative companies and partners in its air operations for their commitment to a greener airport and, above all, their remarkable technological innovations that treat environmental considerations with more respect.

Mototok International was named by Heathrow as the most innovative company of 2017 as part of its Clean Vehicle Partnership (CVP) Innovator Award. The German company, which produces a range of radio-controlled electric tugs, will, with its 28 Spacer 8600 model at Heathrow Terminal 5, contribute to



Above: **The Spacer 8600 pushes back aircraft for British Airways' medium-haul flights**

saving 7,400 tons of carbon dioxide per year and 27 tons of nitrogen oxide. The use of a fully electric pushback vehicle that is operable by one person also completely eradicates noise for teams working

around the aircraft, creating a silent operating environment.

British Airways is currently using the Mototok Spacer 8600 to serve medium-haul flights, and plans to extend this ground

support equipment solution to other terminals. The operator also plans to use the solution to manage its long-haul aircraft in the future.

Mototok is a provider of towbarless tugs, which cater for uses that range from ground handling to military use, special force assignments and offshore services. Mototok's offerings range in capabilities – some come with pushback capabilities or are explosion proof, while others guide vehicles automatically with high levels of precision.

From small Cessna Citation Excel jets, Falcon Dassaults, Airbus A320s and even the Boeing 777 family, there's a Mototok tug for almost any type of machine. ○

MOTOTOK

To learn more about this advertiser, visit www.ukimediaevents.com/info/bai

Reader Inquiry Number **106**

The top news and industry opinion on **BusinessAirportInternational.com**

Have you visited our website? That's where we round up the latest news from the business aviation sector each week, sharing exclusive insights and opinions from industry specialists in addition to interviews, monthly polls and videos.

The most-read stories over the past three months show the breadth of topics covered on the site. The most popular article over the period was the news that supersonic jet developer Spike Aerospace had successfully flown its SX-1.2 demonstrator aircraft for the first time. The aircraft, which the company aims to have flying by 2021, is an unmanned subsonic, smaller scale prototype of Spike's 18-passenger S-512 Quiet Supersonic Jet.

The opening of new FBOs always proves a hit with readers, as was the case with the news of Gary

Jet Center (GJC) at Gary/Chicago International and Stobart Aviation at London Southend Airport. Both airports are looking forward to welcoming more private aviation clients to their updated locations.

GJC's new corporate flight center features a glass-walled lobby with seating for more than 45 people, an espresso bar, three crew lounges and more. Stobart Aviation's expanded FBO will enable it to handle seven times the number of flights it currently does.

Updates on the controversy surrounding aircraft operators using Santa Monica Airport and World Fuel Services' European growth also caught the attention of readers in recent months.

Visit the website to find out more, and stay up-to-date with the latest news by subscribing to our weekly newsletter. ○




Top 5 web stories

September-December

1. *Supersonic business jet demonstrator makes debut real-world flight*
2. *World Fuel Services continues European growth*
3. *Stobart Aviation set to open expanded FBO at London Southend Airport*
4. *Judge terminates temporary restraining order at Santa Monica Airport*
5. *Gary Jet Center opens new FBO at Gary/Chicago International*






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* ABC audited circulation, average net figure Jan-Dec 2016



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Index to advertisers

Aerolux.....	59, 61	DC Aviation Al-Futtaim LLC.....	21	MTS Aviation.....	76
Aéroports de la Côte d'Azur.....	67	Finavia Business Flight Center.....	43	Real Alfa Flight Aviation Services.....	15
Advanced Air Support.....	36	Flight Assist.....	72	Signature Flight Support.....	70
Air Service Basel GmbH.....	87	Grafair Jet Center.....	23	Sky Valet.....	67
Air Total.....	Inside Back Cover	IAM Jet Centre.....	Inside Front Cover	Sky Vector.....	75
Alaska Aerofuel.....	35	IGS Ground Services.....	75	Skylink Services Ltd.....	13
Avfuel Corporation.....	9	Jeppesen GmbH.....	30	Southair Iceland.....	3
Bangor International Airport.....	Outside Back Cover	Jet Aviation.....	7	Sundt Air Executive Handling.....	57
Business Air.....	79	KaiserAir.....	51	The Future of Transportation World Conference 2018.....	44
Business Airport International Online Reader Inquiry Service.....	72	LimousinesWorldwide.com.....	76	XLR Executive Jet Centres.....	25
Castle & Cooke Aviation.....	53	Luxaviation Group.....	33		
		Mototok International GmbH.....	87		

SHOULD **FBO FEES** IN THE USA BE REGULATED BY THE GOVERNMENT TO CREATE TRANSPARENCY AND FAIR PRICING?



The conversation around FBO pricing is a subject of contention, with operators arguing their right to price as they see fit, and pilots protesting at the obscure pricing systems some FBOs seem to adopt.

A review conducted by the Aircraft Owners and Pilots Association (AOPA) found that some FBOs are charging excessive fees for fuel and other services. Under US federal law, prices and services at airports that receive funds under the Airport Improvement Program (AIP) must be “fair, reasonable and non-discriminatory”, but AOPA members have

reported issues with landing fees, ramp fees and fuel pricing.

Business Airport International asked readers if they think FBO pricing should be regulated. Should the US government intervene in the market to ensure reasonable public access and transparent pricing? Or should it always be up to individual FBOs to set their own tariffs?

The results of our online survey (below) show that most readers believe change is required in the US market, but fall short of calling for the government to start regulating prices directly. ○

Your views

FBO pricing is as individual as the FBO itself, and depends on your customers, how their aircraft are operated, the facility and services provided, the man-hours needed, and so on. All these elements are the base for price setting and should be relevant to the quality and standard level provided.

FBOs not living up to their pricing in regard to services, safety, security and management are ripping off their clients and in those cases governmental authorities should intervene – or in the worst cases, simply shut them down.

Helmut Gross, owner, MTS Aviation

If an FBO is to survive, it must not only offer good facilities and excellent service, but its staff must also be highly trained. All this costs money, so FBOs have

to find a way to recover the costs of the services they provide and make a profit. It is necessary to have a set of fees that are transparent and reasonable.

FBOs have to be careful to ensure that they get paid, because they are often held responsible for paying all the providers of services to their customer aircraft. Handling fees are the only way for them to cover the cost of their operation if they are not supplying their own fuel.

Graham Stephenson, senior aviation consultant

FBO fees are ridiculous. At Midland International Airport (MAF), Texas, one FBO tried to charge US\$850 for my aircraft to spend less than five minutes on its ramp.

Bill Larkin, owner, PASS Charters

I don't have a problem with fees, as long as they are reasonable and the service received is comparable, but the notion that taxiing up to an FBO is carte blanche to hammer your credit card has gotten out of control. What FBOs have to realize is that I can select a competing facility or airport without any inconvenience to our passengers.

Greg West, pilot, Cherokee Aviation

I think the government should stay out of this discussion. The internet and passengers will drive the industry toward eliminating any overhead that hides under the rocks of price discovery.

FBOs can prepare for this trend by automating information flow, optimizing their in-house service portfolio, and enabling real-time,

bidirectional communication channels with the passenger.

Ries Vriend, CEO of Amsterdam Software – FBO One

Your comments

What do you think? Does FBO pricing need to be regulated by an external body? Should pilots just accept the prices that are served to them?

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.

LinkedIn

www.linkedin.com

Results taken from the monthly poll section on our website*

*at time of going to press

SHOULD THE GOVERNMENT INTERVENE TO ENSURE REASONABLE PUBLIC ACCESS AND PRICING AT FBOs?

Yes 27%

No 18%

Changes are needed but I'm not sure if they should be set by the government

55%



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