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July 2012



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Editor Helen Norman

helen.norman@ukipme.com

Assistant editor Hazel Swain

hazel.swain@ukipme.com

Chief sub editor Alex Bradley

Deputy chief sub editor Nick Shepherd

Proofreaders Aubrey Jacobs-Tyson,
Frank Millard

Art director

Craig Marshall

Art editor

Nicola Turner

Design team Louise Adams, Andy Bass,
Anna Davie, Andrew Locke, James Sutcliffe,
Julie Welby, Ben White

Head of production & logistics

Ian Donovan

Deputy production manager

Lewis Hopkins

Production team Carole Doran,

Cassie Inns, Robyn Skalsky

Publication director

Simon Hughes

Project manager

Vic Reis

Editorial director

Anthony James

Managing director

Graham Johnson

CEO

Tony Robinson

Published by



Business Airport International

Abinger House, Church Street,
Dorking, Surrey, RH4 1DF, UK
tel: +44 1306 743744
email: simon.hughes@ukipme.com

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Welcome

In June I was fortunate enough to take a flight in a hot-air balloon. The experience was just amazing and it made me appreciate the opportunity to travel slowly and peacefully over the countryside – something you don't get to do when traveling in any aircraft, let alone a supersonic one.

In this issue of *BAI*, we take a closer look at the race to design the world's first supersonic business jet (p32). And if the aircraft ever becomes reality it will certainly have a major impact on the way we travel around the world. (Well, for those who can actually afford to travel supersonically!)

In our balloon, we traveled around 12 miles in an hour. In a supersonic jet, you could travel from London to New York in around an hour. That's nearly 3,500 miles. The aircraft will travel at a speed of Mach 4 and at 62,000ft, enabling passengers to see the curvature of the earth.

Of course, all these facts are just claims at the moment because the first supersonic business jet is still many years away from reality. Two of the main players in the race, Aerion Corporation with its stub-wing design and HyperMach with the SonicStar, aim

to have the first aircraft launch in 2020 and 2021 respectively. But there are many hurdles to overcome before we see the first supersonic bizjet in the skies, the main ones being noise restrictions, cost, and actual demand. After all, a supersonic bizjet could cost over US\$100 million – a bit of a stretch for most people.

However, not everyone in the industry believes this is pie-in-the-sky stuff. Chris Broyhill, an ex-USAF pilot and current corporate chief pilot, has done a lot of research into this area and believes the supersonic bizjet is inevitable. "If Gulfstream can create a market for the G-650 and sell 200 of them at US\$65 million each, purely because there were those willing to spend money to save a little more time, it seems logical that Aerion and HyperMach will be able to sell their jets. The SSBj's arrival on the market is more than just logical. It is inevitable," says Broyhill. Read more on page 32.

Time is the key issue here and saving it is business aviation's main attraction. So for this industry, maybe the demand is out there for supersonic travel, but only time will tell whether a faster future becomes reality.

Helen Norman, Editor

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Bombardier Aerospace's new service center for business aircraft at Singapore's Seletar Airport is set to open in the second quarter of 2013



New Singapore service center for Bombardier Aerospace

 Bombardier Aerospace has begun construction work on its full-scale factory-owned and operated service center for business aircraft at Singapore's Seletar Airport.

The company held a ground-breaking ceremony at the site on June 5, with Bombardier team members Herb Chahal (manager of the Regional Support Office in Singapore), Joel Davis (director of facilities development at Aircraft Service Centers), and Chris Milligan (director of Authorized Service Facilities) all on hand to mark the start of building work.

The state-of-the-art facility will feature 2,930m² of hangar space and 2,694m² for offices and

back shops, and will be used to carry out light-to-heavy maintenance work on all Bombardier Learjet, Challenger, and Global aircraft.

The new facility, which is set to open in the second quarter of 2013, will be constructed by Boustead Singapore Limited, which was awarded the general contract for the center based on its experience building various facilities within the Seletar Aerospace Park.

The service center will form the foundation of a full-service hub in the region that will eventually house Bombardier's current Singapore Regional Support Office (RSO), which opened in 2011, and will be closely networked with its RSOs in



ABOVE: Bombardier Aerospace began work on the new service center in June
LEFT & BELOW: The facility will be used to carry out light to heavy maintenance work on all Learjet, Challenger, and Global aircraft



Shanghai, Hong Kong, and Sydney as well as its parts depots in Singapore and Hong Kong.

Christina Peikert, Bombardier's director of marketing and communications, said, "We are taking significant steps to tool the facility, hire and train technicians to the highest of standards, and continue fostering continued investment in parts inventory for the region, as demand grows.

"By locating a service facility in Singapore, we are able to strategically collocate within a growing region maintenance, support, regional support staff from our existing RSO, and parts. It offers the best strategic location for access to our current and future operator base. Singapore also



features a workforce with solid language skills and knowledge of the aerospace industry," she added.

The new Service Center at the Seletar Aerospace Park in Singapore will be Bombardier's 10th wholly owned aircraft maintenance facility worldwide and its second service center outside of North America.

"We want to ensure our customers in the Asia-Pacific region have access to the full range of customer support and services in their own time zone and in their own region," explained Éric Martel, president of Bombardier Customer Services & Specialized and Amphibious Aircraft, Bombardier Aerospace. "It is a reflection of our commitment to current and future operators that no matter where they fly, they will have access to our OEM-backed support.

"By the year 2030, there could be more than 1,100 business jets in service in the Asia-Pacific region," Martel added, "and we are ready and committed to support our existing and future customers, which we expect will make up a large portion of that fleet." [✈](#)



ABOVE: Eurojet's Business Aviation Center at Birmingham Airport opened in June 2012

Eurojet opens business aviation center at Birmingham Airport

Eurojet has opened its £5 million (US\$7.7 million) Business Aviation Center at Birmingham Airport in the UK. The new facility will offer passengers a full range of services including refueling, inflight catering, hotel reservations, chauffeur-driven limousines, and self-drive car hire.

The 41,000ft² business aviation complex features VIP passenger lounges, a relaxing private crew lounge, a snooze room with three individual 'dens', and a crew kitchen with complimentary beverages.

Commenting on the opening, Graeme Campbell, managing director at Eurojet, said, "This is a milestone year for Eurojet; not only are we celebrating 25 years of operating and maintaining private jets, we are now proud to be able to provide all our services under one roof in a purpose-designed, state-of-the-art aviation facility. As part of our commitment to continually enhancing our services and client experience, Eurojet has committed significant investment in this world-class service facility and FBO."

The FBO includes its own dedicated fuel bowser offering Jet A1 fuel, as well as direct access to the apron, enabling convenient passenger transit to the aircraft. For aircraft requiring full security support, Eurojet also has its own private and discreet x-ray facilities.

Campbell explained, "There are so many standout features. The pilots will tell you it's the amount of space dedicated to crew areas – the Xbox and snooze room, and the quick and easy access to their aircraft and fuel. Passengers have told us



it's the ease with which they can access their aircraft and the view of their aircraft while starting off their trip in our gallery lounge with a G&T!"

The authorized Cessna Citation maintenance facility offers users engineering support and benefits from an experienced private jet maintenance team, seven days a week. "The vision was to provide premium aviation services from the best facilities with the best customer service. This vision is definitely now reality," added Campbell.

The announcement about the facility in partnership with Birmingham Airport was first made at EBACE 2011, and the foundations were laid in October 2011. The facility was completed in March 2012 and officially opened in June. [✈](#)



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ABOVE: The new corporate design for Jet Aviation's facilities

Jet Aviation launches global makeover for its FBO and MRO facilities

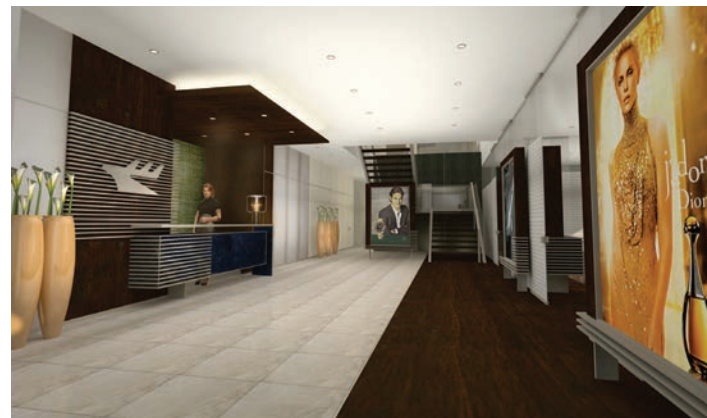
Jet Aviation has launched a global refurbishment program to renew and enhance the look and feel of its FBO and MRO facilities worldwide.

The company will begin the makeover project with its Geneva, Zurich, and Basel facilities in Switzerland, where it will focus on the lobbies and customer and crew lounges.

The revamped FBOs and major MROs will be transformed to introduce a fresh corporate look and feel, and will feature a number of customer-focused enhancements. A design style has been developed that will be used in all the lobby areas and will include identical reception desks, textures, colors, and flooring. The passenger and crew lounges will feature similar colors, furniture, and fixtures, creating a harmonized atmosphere across the entire facility.

"These facility upgrades will provide maximum style and comfort to ensure a premium customer experience," commented Heinz Aebi, senior vice president of group marketing and communications. "Regardless of which Jet Aviation facility customers visit worldwide, they'll recognize the Jet Aviation design and feel welcome and relaxed."

The refurbishment at Jet Aviation's Geneva FBO will include the construction of a stairway from the lobby to the second floor that will enable the company to create two new separate customer and crew meeting rooms, a crew lounge and amenities, a crew resting lounge, and an operations center. The main floor of the FBO will be renovated to include a new reception area and three new passenger lounges.



Construction of a new building adjacent to the current FBO, which will house Jet Aviation's own new reception area and customer lounge along with its operations center, is currently underway at the Zurich facility, and Basel's MRO facility will receive a new reception area with customer seating, new customer and crew lounges, and business center facilities on the first floor.

The Geneva and Basel facilities are scheduled for completion at the end of 2012 and the Zurich facility should be finished by spring 2013. The company will roll out the refurbishment project to its entire global network of FBOs and MROs by 2015.

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Supersonic nonsense?

“It is not the time saved on an individual flight that justifies the purchase, but rather the frequent use of the aircraft”

✧ If you ask me how fast supersonic is, my response will be: “Supersonic speed is when I switch off the light in the bedroom and I’m already in bed before it’s dark.” Imagining me in my pajamas at superfast speed speaks more to the imagination than stating it is ‘the rate of travel of an object exceeding the speed of sound’.

I am convinced that it is entirely possible to design a supersonic aircraft that overcomes fuel costs, reduces noise, and removes the supersonic boom. Computer models prove it. Yet, the processor eliminates many real-life ‘ifs and buts’. Only a prototype and test flights can prove what concerns are unfounded and what worries are unnecessary. At the same time different issues may arise and new regulations may be imposed. The question is, who really wants a supersonic aircraft?

Considering an US\$80 million plus investment for the jet, the potential owners may be in the same league as owners of mega yachts. Would a supersonic jet be found in the fleet of a corporate flight department? It is not the time saved on an individual flight that justifies the purchase, but rather the frequent use of the aircraft.

Supersonic point-to-point flying in the air undoubtedly means time savings. However, you still need to use an airport. Traffic congestion at an airport and in its airspace will not allow anything at a pace faster than common. Not to mention that scheduled commercial traffic often has higher priority than ad hoc general aviation flights; supersonic flights will be no exception. In addition, airport landing and handling fees may be considerably higher, special routes must be followed, and flying faster than the speed of sound will be allowed only over certain areas.

Governments may ban supersonic overflights in its sovereign airspace and permit only subsonic speeds. Security may also become a concern. A plane at supersonic speed that turns out to be a threat, such as one with a remote-controlled explosive device on board, could represent a true danger as air defenses may not have time to react.

One aircraft developer claims that its supersonic jet will be so fast that traveling from New York to Sydney will be cut from 20 hours on a commercial airliner to just five hours. Let’s try it: you leave the house at 10:00am on Monday, which means it is already Tuesday in Australia, to catch your 1:00pm supersonic jet from JFK to Sydney. So, your jet leaves New York at 03:00am Sydney time and arrives in Australia at 08:00am. Wow, great planning! You may be ready for your first meeting in Sydney at 09:00am. Breakfast and sleep? You just had lunch on the plane and you slept the night at home. The fact is that your flight may be 15 hours shorter, but no matter what you do, you’ll always arrive the next day due to the 14-hour time difference. At least flying back seems to be better. You depart Sydney at 07:00pm on Friday after a productive business day in Australia. And, like using a time machine, you are in New York 11 hours earlier at 08:00am that same day.

But how does the human body deal with this? Ever heard of desynchronization, the physiological condition which results from alterations to the body’s circadian rhythms resulting from fast long-distance transmeridian travel on an airplane? Does jetlag ring a bell? Will there be a regulation aimed at combating pilot fatigue caused by supersonic jetlag? How about CEO fatigue? Gaining all that extra time means that you live longer when counting the hours; chances are that because of the time stress, you may live fewer days. Those people that are fascinated by supersonic flying will insist that, ‘It will revolutionize the way we travel in the future!’ and, ‘Mankind was always inspired to do things faster!’

How about traveling even faster than supersonic, such as faster than light? How much faster is light than sound? When people appear bright until you hear them speak! ✧
Commander Bud Slabbaert is an expert in strategic communications and business aviation development. He is also the initiator and chairman of BA-Meetup.



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Play by the rules

Russia's business aviation sector is changing, but it is still essential to know the country's pertinent rules and regulations before entering its airspace

Words | **Selwyn Parker**



It can't be too different flying into and around Russia compared with Europe, can it? Yes, it can, says Sven Sulg, general director of St Petersburg-based Pulkovo Aircraft Services. "There's a really big difference," he explains. And, having considerable experience in Europe, Sulg knows what he's talking about. So what are these differences? Brace yourself.

For a start, non-Russian business jet operators can fly into the country but not around it. Cabotage rules practically forbid internal flights for international operators, even though the aviation ministry may be perfectly happy to provide clearance. Essentially, that means non-Russian operators may fly in and out only to the one named destination.

Red tape is the rule and rarely the exception. To avoid bureaucratic delays it's advisable to engage the services of local agents who know the ropes and, above all, the right people.

Expect high on-ground charges. Prices are generally higher than in Europe because of the monopolistic system that applies at international business airports. The usual arrangement is for a single FBO to be granted sole rights. The FBO then contracts out certain services to other agents. For instance at Pulkovo Airport in St Petersburg, the second most popular destination after Moscow, Pulkovo Aircraft Services has an



Premier Avia is the only FBO in Moscow Sheremetyevo Airport

arrangement with the FBO and delivers a range of assistance that the FBO doesn't, such as visa support and crew transportation.

There's only one fuel supplier and the juice is sold at one, government-fixed price. "Discounts are impossible," explains one source.

And finally, it's safer and much less time-consuming for operators to put themselves in the hands of local service providers.

Foreign-registered fleet

As business jets are a relative novelty in Russia, the tax authorities don't quite know how to handle them. Thus high taxes and import duties mean most of the 450 Russian-owned executive aircraft are registered outside the country.

One of the results of a foreign-registered aircraft fleet is that, compared with Europe and the USA, there's a dearth of business-jet facilities in Russia. About 500 aerodromes and airfields accommodate small airplanes, most of them to a very low standard. That compares with about 5,400 airfields in the USA. (Approximately 300 airports in Russia accept big commercial carriers, but not business jets.)

Russia's trying to make up for lost time [see *Out of the Cold War*, page 17], but the fact remains that Gelendzhik Airport on the Black Sea, which opened in 2010, was the first civilian airport to be built in Russia in 25 years.

Big five

The big five business jet airports in Russia are Vnukovo, Sheremetyevo, Domodedovo,

"It's much better to use a Russia-based company, especially for operators flying in for the first time"

Sven Sulg, general director, Pulkovo Aircraft Services

Ostafyevo (all in Moscow), and Pulkovo (St Petersburg). Others outside Moscow are becoming popular, such as Sochi International, a hub for the 2014 Winter Olympics, Yekaterinburg, Novosibirsk and Samara, Krasnodar, and Anapa.

Meanwhile, for technical stops, Khabarovsk in far eastern Russia offers advanced services for most types of aircraft flying between the USA, Canada, and the Pacific Rim. Open 24 hours a day, the facility was, like most Russian airports, originally a military installation. According to Dmitry Konovalov, Universal Aviation's representative in Russia, there are no slot restrictions at Khabarovsk. Customs and immigration clearances can be done on board. There are airside crew and passenger lounges for transit flights. Pilots can get standard weather briefings and NOTAMs, file flight plans, and make other necessary arrangements.

Red tape

The system starts with visas and Moscow is the only authority that can provide them on arrival for crews. Normally these cover a nine-day stay. For obscure reasons, like many aspects of aviation policy in Russia, earlier this year the foreign affairs ministry shut down that

right for St Petersburg, the only other location with the authority.

"In the western world, the authorities try to make these processes easier, but in Russia it sometimes seems they like to make them more difficult, for whatever reason," observes one frustrated Russian agent.

For visas allow a two-hour turnaround in regional airports, as the services of an on-ground agent are practically obligatory. Provided the airport and border control have been notified in advance – an essential prerequisite – a handler will take the crew's passports and other documents from the ramp to a local consulate for verification and approval. That's generally forthcoming, although very occasionally only after the authority has come to the airport in person to seek certain extra details.

"In 99.9% of cases, visas are granted," explains George Vardanashvili, commercial director of RusAero, Russia's biggest agent, which provides flight support and handling services at more than 190 airports in Russia and CIS member states, including Moscow's three main terminals.

A more complicated and time-consuming process is the obtaining of visas for business jet passengers. Operators should reckon on

Out of the Cold War

Russia's business jet infrastructure takes a giant step out of its Cold War origins this year with the opening of Pulkovo-3 in St Petersburg, slated for August, among other developments. Based on 24 acres, the terminal will boast apron and parking facilities for 20 business jets and the two-storey business aviation terminal will be able to process 1,500 passengers a day.

Avia Group, a subsidiary of Moscow's Sheremetyevo Airport, is also due to open the doors of its dedicated business aviation Terminal A in October. With a capacity for 35,000 movements a year, it will also include a helicopter pad, climate-controlled hangars, and a range of flight management and maintenance facilities for foreign-built aircraft. Avia Group predicts the new facility will boost business aviation flights at Sheremetyevo by 30-50%. Sheremetyevo's sole FBO, Avia, offers landing permits, slots, parking, HOTAC, and catering on a 24/7 basis.

And southeast of Moscow at Kubinka air base, Nafta Moskva plans a business-aircraft facility. It will operate the runway jointly with the defense ministry.

Some existing facilities are already high quality. Regularly named among the top FBOs in Europe, Moscow's Vnukovo-3 is one of the busiest in Europe and handles up to 70% of all of Russia's business traffic. Operated by Vipport, it has parking for some 150 jets up to B737s and 757s, and is located just 27km from central Moscow.

Moscow's only slot-less airport, Domodedovo, has a capacity for up to 55 business jets, from small Citations to BBJ size. The business terminal has heated hangars for aircraft up to G-V and Global Express size, de-icing equipment, and a full range of services including completion and maintenance.

a period of about five weeks for a one-year, multi-stay visa. These are based on an 'invitation' that comes from the foreign affairs ministry following a letter of application from the agent or supervisor on the non-Russian operator's behalf. The invitation is then sent to the operator, who in turn takes it to the nearest Russian representative, an embassy, or consulate, for final approval. As Vardanashvili explains, "The supervisor acts on behalf of the crew."

Like anywhere else, visa-less passengers are turned away – unless they are very high-ranking.

Know the rules

By comparison, flight clearances are straightforward – at least outwardly. They take at least five days in most circumstances and cover only one Russian destination at a time. In short, Paris-Moscow-Paris is fine, but Paris-Moscow-

Sochi-Paris is not. "You have to know the rules," warns Sulg. "It's much better to use a Russia-based company, especially for operators flying in for the first time."

As numerous sources confirm, the best agents have a line into the aviation authorities and can smooth the path for the operator. Officially, permission must be sought at least 72 hours in advance, but weekends and official holidays aren't counted in the 72 hours, so the process can take longer. For a price, some agents can obtain a clearance within 24 hours.

Whether it's an international or non-international airport (the tricky ones), the essential documents are the aircraft's airworthiness certificate, registration, and insurance. Among other requirements, non-international airports need a good 14 days' notice before confirming they will accept or deny a flight.



Generally, Russia's aviation ministry gets good marks from operators for trying to make their life easier. For instance, it will allow permission for internal flights into Russia's vast airspace, even into non-international airports.

The ministry's problem is a legacy of the Cold War. "A huge amount of airspace is reserved for military, restricted, and prohibited areas," Vladimir Turin, chairman of the Aircraft Owners and Pilots Association, has pointed out. Out of 720,000km² (278,000 square miles), no less than 540,000 (208,000) are very much off-limits.

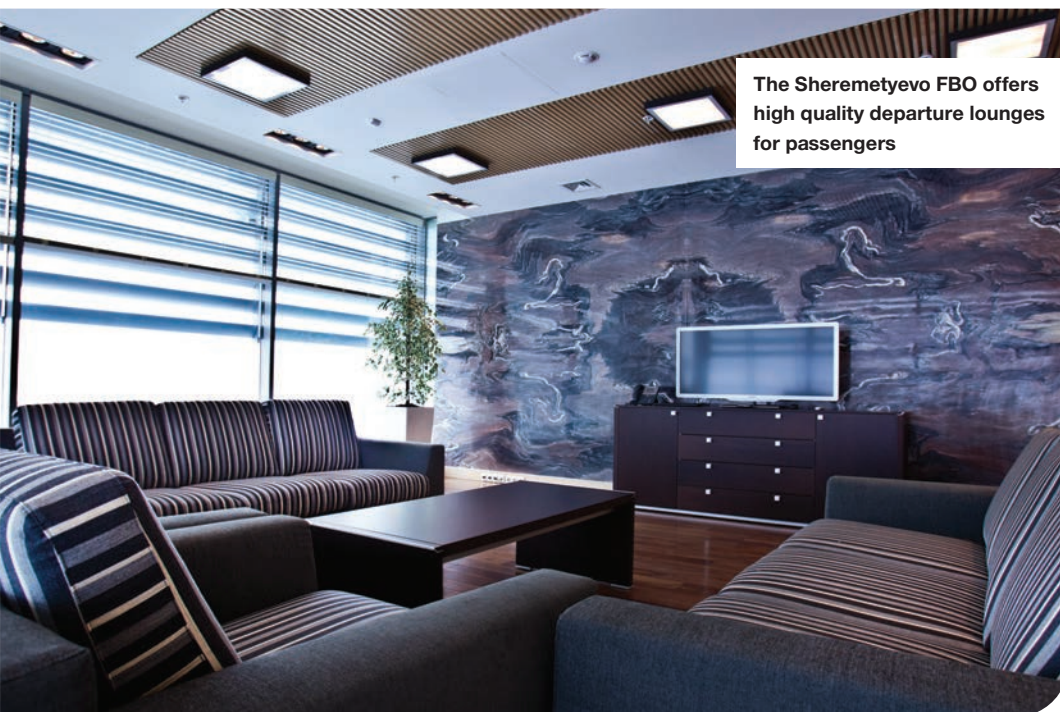
In total there are 1,200 no-fly zones, most of them around Moscow and the so-called central federal district. Plans are afoot to reduce the number by two-thirds, but in the meantime operators should not make the mistake of straying into a restricted zone. The current maximum fine for an infringement is US\$200 but that's not nearly enough for the government, which proposes lifting the penalty to US\$30,000-US\$400,000, or a maximum 15 days in a Russian jail. These penalties would be far higher than those applying in most other jurisdictions.

"Although a majority of these [no-fly zones] are NOTAM-activated, no reasonable pilot would plan a flight through a restricted area, knowing that it can be activated at any moment," explains Turin. "Sometimes they are activated even before the NOTAM is activated."

And now for cabotage

Clearances are one thing, cabotage another. Cabotage is the domain of Russian customs, a powerful department that is also responsible for sanitary, veterinary, phytosanitary, currency control, and crime prevention functions, as well as its normal duties.

Under current cabotage rules, internal flights by non-Russian business-jet operators are just about impossible, even if an airport approves them. Any breach of the rules invites the wrath of Russian officialdom. At worst, this means the arrest of the offending aircraft, plus a fine.



The Sheremetyevo FBO offers high quality departure lounges for passengers



Left: Hangar space at the Sheremetyevo FBO

Below: Vnukovo-3 is the largest business aviation center in Eastern Europe



Counting costs

"If you pay a bit more money, you can get what you want in Russia," says an industry source with long experience in Russia. That's an observation that seems to apply to everything from obtaining flight permits to parking charges. Also, it's difficult to pin down prices. What is certain is that, although the quality of service is growing fast enough, the amount invoiced is rising in tandem. As numerous sources confirm, Russia's high FBO prices originate from the monopoly system of one base per airport. Whereas a Hawker 900XP would overnight in Europe for €600-€1,500 (US\$756-US\$1,890), the cost in Russia is €2,200-€2,400 (US\$2,772-US\$3,024) – and that's before catering or government charges.

The good news is that in some airports parking fees are fixed by regional governments at European levels or lower. For instance, a Challenger could park up for US\$20-30 for 24 hours, provided there's space. There's often competition for parking.

Rates may also be levied per passenger – for instance at Domodedovo's new business aviation terminal in Moscow where they are about €159 (US\$200) each. Thus it would cost €794 (US\$1,000) for five passengers just to pass through the terminal. (Domodedovo officials did not respond to our enquiries.)

The quality of hangarage varies wildly from renovated 1950s and other Soviet-era buildings to brand-new facilities, and so do prices. A roof over the head of a Challenger in Pulkovo may cost €1,000 (US\$1,260) for 24 hours, many times the rate of €5,000 (US\$6,300) charged per month at FBOs at Helsinki some 400km (250 miles) away.

Despite monopoly fuel supply arrangements at most airports, at least the gas is fairly priced because it's set by government. Generally, say operators, it costs much the same to fill up as in Europe. "Discounts are actually impossible," explains Pulkovo Air Services' Sven Sulg. "It's one price for everybody."

Nobody can explain why customs is at loggerheads with aviation except that it's "a very delicate issue", say sources.


Leonid Koshelev, chairman of the Russian United Business Aviation Association (RUBAA) and an outspoken critic of the restrictive rules, is lobbying for reform and wants Russia to sign up to the Istanbul Convention on temporary admission rules for aircraft. As he argues, this would mean foreign aircraft entering Russia would not have to undergo time-consuming and bureaucratic customs procedure. If this were to happen, FBOs in Russia could expect something like a 20% increase in international business.

In the meantime, customs gets in the way. "Every day, people flying here suffer from stupid formalities. Nowadays you have to declare food, fuel supplies, catering, and a lot of other things – this is not needed," insists Koshelev.

Cold War

In a monopolistic environment, the quality of on-ground services varies widely. Some terminals date from the Cold War, with 1950s buildings and services to match. Others are world class. For instance, Pulkovo Aircraft Services provides clients with full billing details including invoices for services it has purchased on the client's behalf. "We make clients aware of [less expensive] alternatives and try to reduce the client's costs," explains Sulg.

RusAero also gets high marks for getting things done on the ground. "It's important for operators to know their passengers and crew are staying in good hotels in safe areas," explains Vardanashvili about just one of the provider's many duties.

And the cost also varies. RUBAA's Koshelev claims that ground operations charges may cost operators "up to five times in Moscow airports than they would pay in Paris". He wants a US-style system with competition among FBOs. This may not, however, suit president Vladimir Putin. 



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RUSAERO

Ground handling agent in Russia and CIS

Rusaero Moscow

Tel.: +7 495 755 5600

Fax: +7 495 755 5606

E-mail: info@rusaero.aero

SITA: MOWRAXH

AFTN: UUUUKLEX

Rusaero Europe

Tel: +353 61 36 4804

Fax: +353 61 70 7057

E-mail: europe@rusaero.aero

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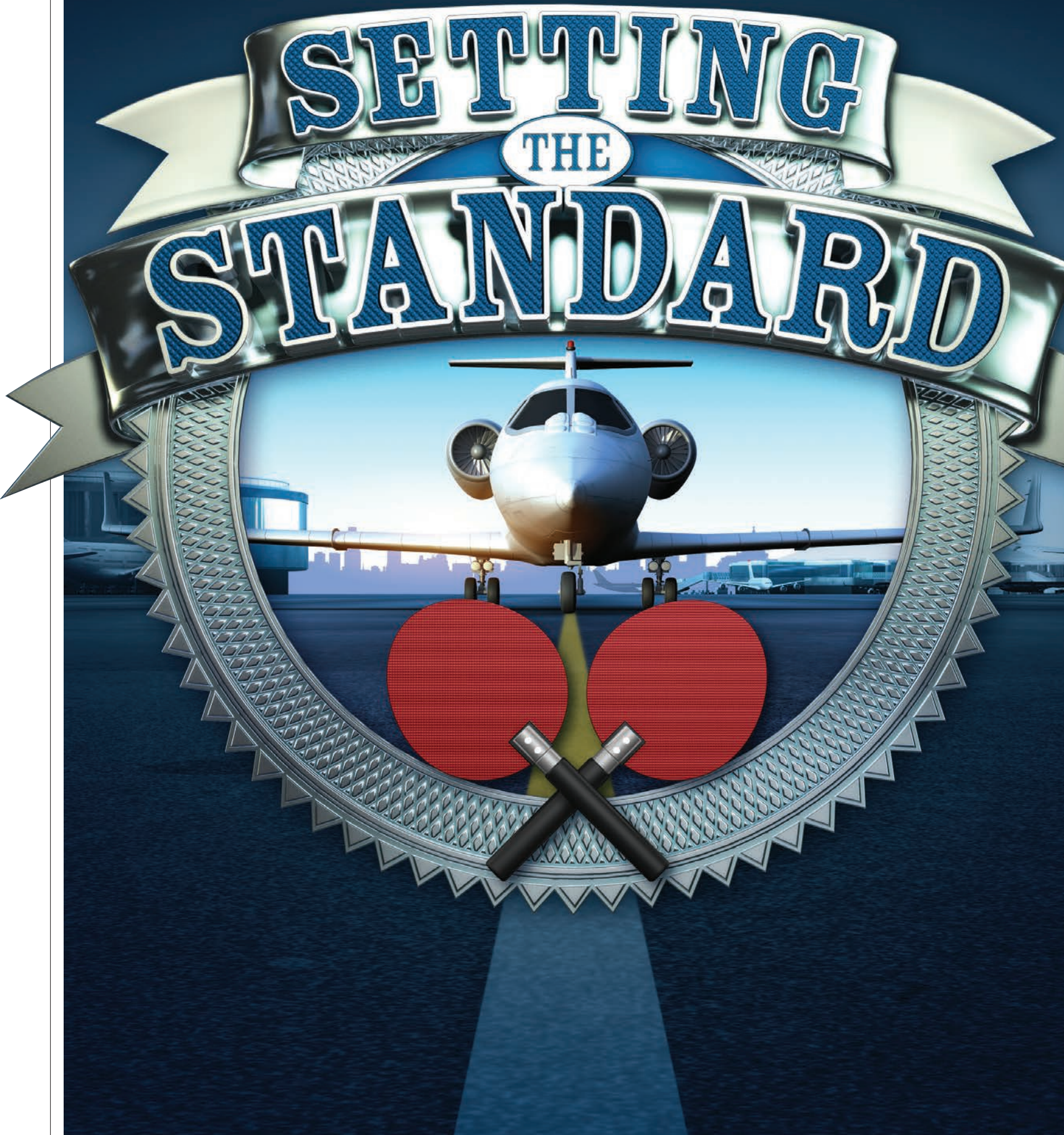
Albert Stanul, Senior navigator




RUSAERO
Ground handling agent in Russia and CIS

Rusaero Moscow
Tel.: +7 495 755 5600
Fax: +7 495 755 5606
E-mail: info@rusaero.aero
SITA: MOWRAXH
AFTN: UUUUKLEX

Rusaero Europe
Tel: +353 61 36 4804
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A new standard for aircraft handling will soon improve ease of operation and safety standards in business aviation

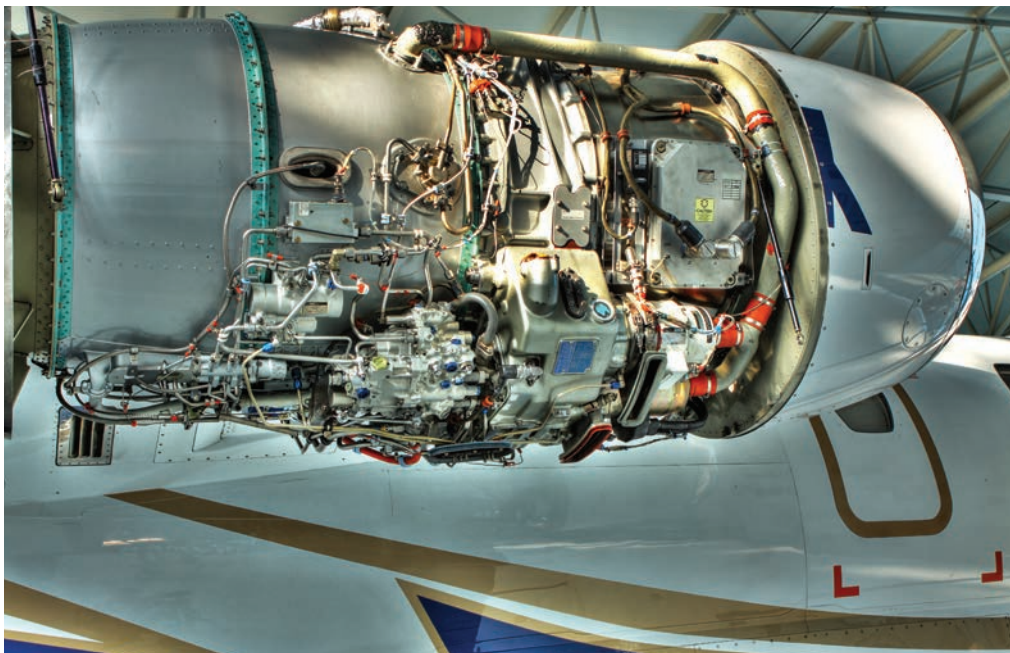
Words | **Saul Wordsworth**

Back in 2002, the European Business Aviation Association (EBAA) in conjunction with the International Business Aviation Council (IBAC) introduced the International Standard for Business Aircraft Operations (IS-BAO). This was done in an effort to improve operational safety for business aviators.

Brian Humphries, president of Brussels-based EBAA, says, "IS-BAO was developed as a standard industry best practice for use by non-commercial operators of business aircraft. At its heart was a safety management system (SMS). Many such systems are complicated. We ensured ours was simple and appropriate."

IS-BAO has been an enduring success. To date, it has received 600 registrations and sold more than 1,600 copies. An independent academic survey of 300 accidents showed that IS-BAO would "definitely" have prevented half of them, and "probably" have prevented approximately 70% of them.

"The success of IS-BAO is founded not only in its use by non-commercial operators, but also increasingly on commercial operators using it for its straightforward SMS, which they are now required by ICAO (International Civil Aviation



Organisation) rules and soon by EASA (European Aviation Safety Agency) rules to have for their operations. This led the EBAA to consider the services these operators were using, especially handling. Some of the biggest risk of accident occurs on the ramp.”

New standard

Up until now, the EBAA has had a simple standard of handling based on self-certification, but unlike IS-BAO this isn't comprehensive and is not subject to independent audit. In February, the EBAA gave a presentation to the industry recommending the development of an equivalent standard for handling known as the International Standard for Business Aircraft Handling (IS-BAH). The response from both operators and handling agents was enthusiastic.

“I believe the reason for this is two-fold,” claims Humphries. “Under SMS, an operator is required to ensure his service providers also meet his standards. In the case of handling, that's virtually impossible. The bigger operators audit their main suppliers, but they cannot audit all the peripheral ones, so they would welcome an independent certification or registration. If operators are audited against a standard, then everybody knows what they can expect and it satisfies their SMS requirements. In addition, we were conscious of the new EU regulations, which don't address airports with less than two million passengers per year. We saw an industry standard as meeting a need both from a semi-regulatory point of view, and from that of the operator and supplier. The supplier benefit is that those operating to a good standard get formally recognized, and it also reduces the number of audits. It's a classic win-win situation.”



All images: **The new International Standard for Business Aircraft Handling (IS-BAH) aims to improve relationships between aircraft operators and handlers, and increase quality and safety through the standardization of certain processes**



“We saw an industry standard as meeting a need both from a semi-regulatory point of view, and from that of the operator and supplier”

Brian Humphries, president, European Business Aviation Association



The operator's view

Mark Wilson is chief operating officer for NetJets, one of the world leaders in private aviation. Wilson has always advocated the introduction of a handling standard to the industry and was delighted when EBAA presented the idea to NetJets in February.

"The industry has lacked any form of common standard for the quality, safety, and services we can expect from handlers," he says. "That means we have a lot of operators doing a lot of audits. I believe the introduction of an international standard will be excellent for handlers who already deliver a good service. Operators will be able to recognize the handling

standard and adjust their audit programs accordingly."

Although there will be some similarities to the existing EU ground-handling regulations, Wilson points out that they were put into place for very different reasons. He believes IS-BAH will be more useful because of its specific focus on the unique needs of the business aircraft users and their operators, rather than something that is by necessity addressing aviation in its entirety.

"What can be helpful with such a standard is that it takes certain issues away from the operator/handler relationship if the handlers have agreed to attain a certain standard. Thereafter, any concerns that operators

have we can address more readily, while the more straightforward issues are looked after by the handlers' standard. That means they should have a better idea of what is to be expected. Presently, it could be that one operator has a slightly different input to the operator, meaning the handler has to make its own determination. This should be something that improves the commonality of the standard.

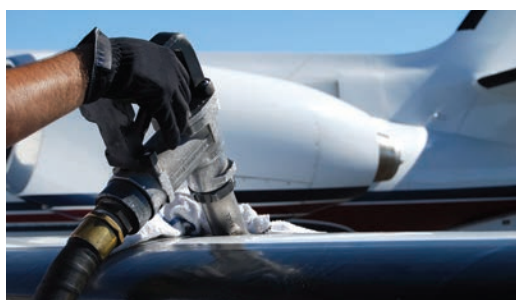
"There are a lot of excellent handlers in Europe and I think that if best practices cascade as a result of the adoption of this, it will be extremely useful. We see this as a reflection of how mature the European business aviation industry has become."

Time span

As with the operations standard, IS-BAH will be created jointly between the EBAA and IBAC. An EBAA working group has already developed the standard to quite a high level of draft. Humphries believes it will take one year in all ("these things don't happen overnight"), but with the basic standard in place, it may take less.

"IS-BAH stems from the IATA handling standard so it shouldn't come as a surprise to anyone, but we've tailored it to our particular operation," says Humphries. "Once it has received approval from the necessary bodies, training will begin. Teaching the additional skill set to IS-BAO auditors will undoubtedly take time, but we're going to give it a high priority."

One of the requirements Humphries and his colleagues are tasked with is ensuring IS-BAH meets global requirements. As with IS-BAO, the new standard may require two levels: one for Europe and the rest of the world; and another for US operations, as according to Humphries, "they do things a little differently there". In addition it must reflect the different sizes and scope of handling agents.



Above and below: IS-BAH may come under the IS-BAO banner to encourage uptake and reduce the amount of work required before it can be implemented

The ground handler's view

"It is still unclear how IS-BAH will alter any of the requirements that a handler will have to follow," says Matt York, manager of Global Vendor Relations for Jeppesen, overseer of a vast global network of business aircraft handling services. "Like an ISO [International Organisation for Standardisation] certification, if there are requirements that are put in place to ensure procedures are followed, documented properly, and archived, then this is a positive step for the industry. Most handlers that we work with in the EU have an internal document type procedure in place that we envision would likely meet the requirements of IS-BAH.

"We would welcome any enhanced quality requirements, such as IS-BAH, that would ensure

handlers are acting in a legal and ethical manner, and are meeting certain customer service satisfaction levels. It is difficult to say at this point how different IS-BAH will be from current EU regulations. As we stand today, many EU airport authorities maintain strict quality assurance requirements and we are extremely interested in seeing what potential level of change will be established through the IS-BAH standard."

The business aircraft handling market is open to competition in almost all areas of the EU and around the world. The airport authorities ultimately issue a Request for Proposal to determine the need for a dedicated handling agent or company to serve business and general aviation needs. Some airport authorities in the EU choose to dedicate a

number of staff from within their own ranks or create a separate department for executive aircraft handling.

"It is our view that airport authorities will always set a minimum quality standard for handlers to meet in order for them to be awarded a contract," says York. "These quality standards are all very important, and rigorous standards need to be met in order for the airport to award the license or contract to the handler company. Standards that we prioritize include the hiring of people (background checks), levels of insurance liability maintained, customer service training, and ground-handling equipment training. Our priority is to make certain that the handlers have met and continue to meet these standards in order for them to be part of the Jeppesen ground-handler network."



"Some are large and sophisticated like Signature and Harrods, while others are much smaller. We are likely to have a basic standard that says someone meets the basic requirements. Safety is key. We want to make sure we prevent ramp accidents and that people have a safe service. We also need to recognize that some fixed-base operators have rather more luxurious facilities and reflect this accordingly."

It is intended that IS-BAH will be produced as an annex or subset of IS-BAO, which is already registered at CEN (European Committee for Standardisation). By placing the new standard under an existing umbrella, the amount of new work required should be reduced.

Predictions

Humphries believes that, as with IS-BAO, uptake in the industry will be high. He bases this on the idea that operators are likely to inform handlers that unless they have a registration, they won't be using them. The forthcoming introduction of ICAO requirements for an SMS only heightens the drive for compliance, while the service providers themselves will wish to prevent a constant stream of auditors.

"We have the necessary policy support at IBAC and EBAA, and the necessary user support," says Humphries. "We have already prepared a substantial amount of the standard, we have a strong existing structure in place, and we look forward to reporting progress at regular intervals," he concludes. <



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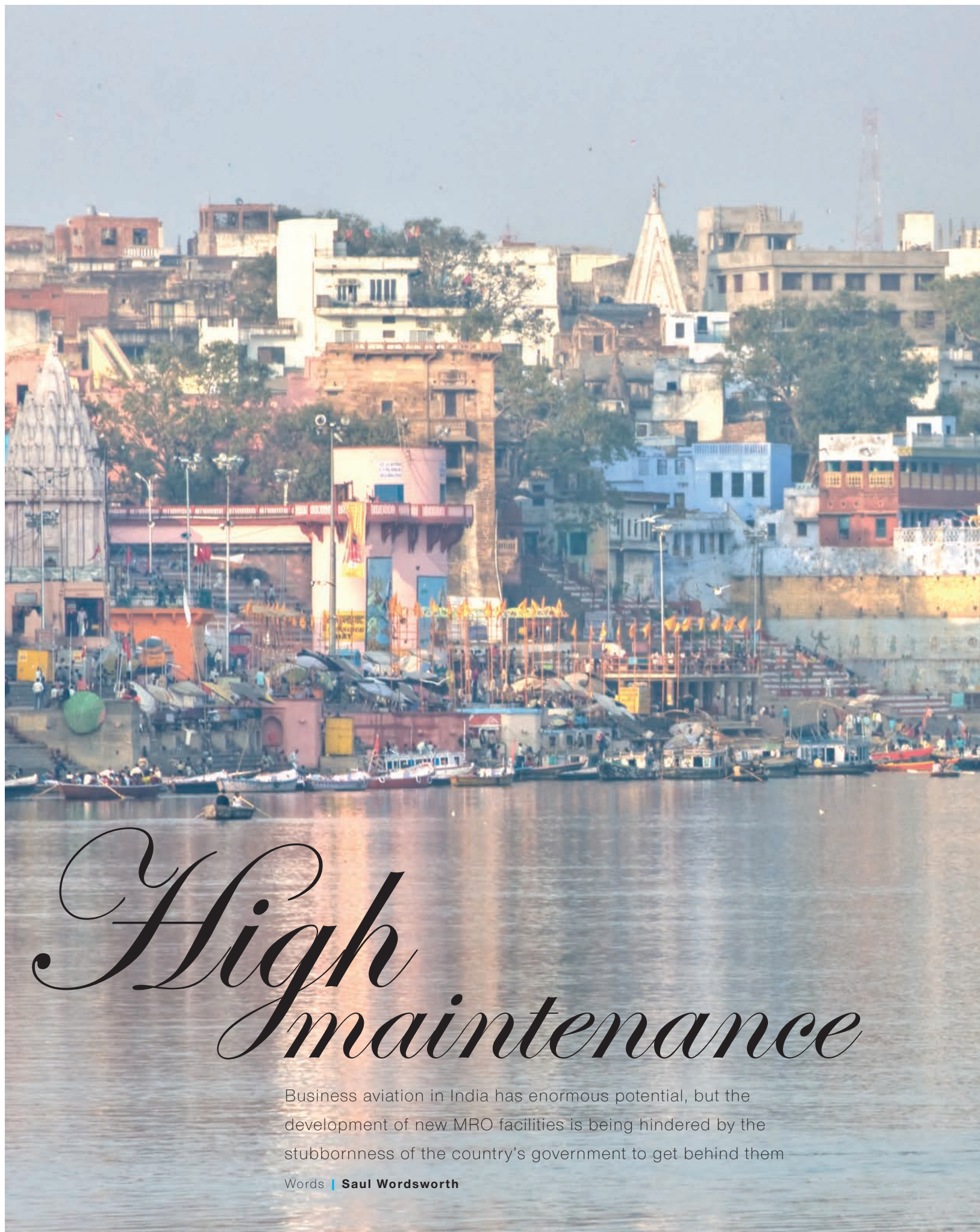
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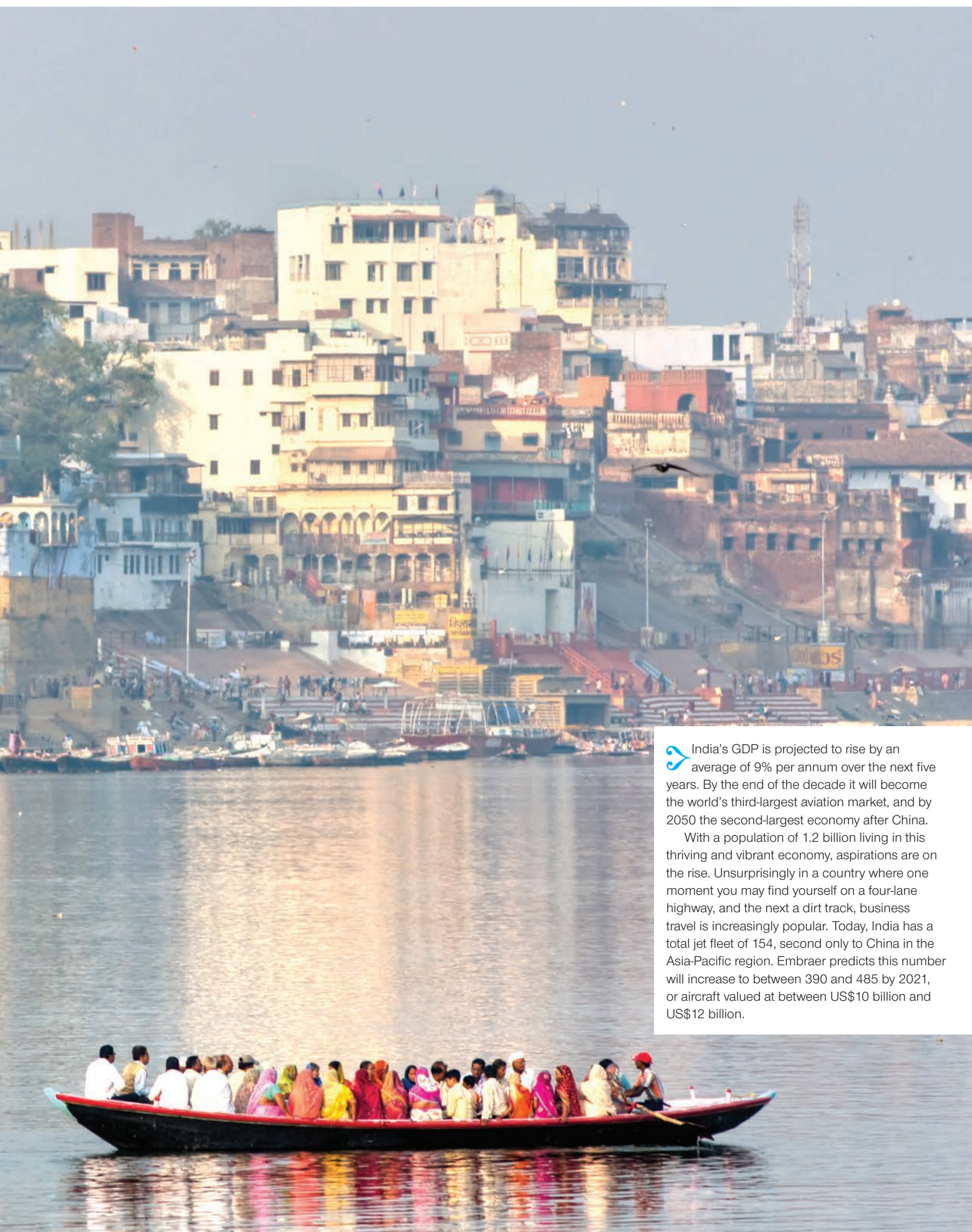
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High maintenance

Business aviation in India has enormous potential, but the development of new MRO facilities is being hindered by the stubbornness of the country's government to get behind them

Words | **Saul Wordsworth**



India's GDP is projected to rise by an average of 9% per annum over the next five years. By the end of the decade it will become the world's third-largest aviation market, and by 2050 the second-largest economy after China.

With a population of 1.2 billion living in this thriving and vibrant economy, aspirations are on the rise. Unsurprisingly in a country where one moment you may find yourself on a four-lane highway, and the next a dirt track, business travel is increasingly popular. Today, India has a total jet fleet of 154, second only to China in the Asia-Pacific region. Embraer predicts this number will increase to between 390 and 485 by 2021, or aircraft valued at between US\$10 billion and US\$12 billion.

The annual MRO market in India is poised to grow to around US\$2.6 billion by 2020

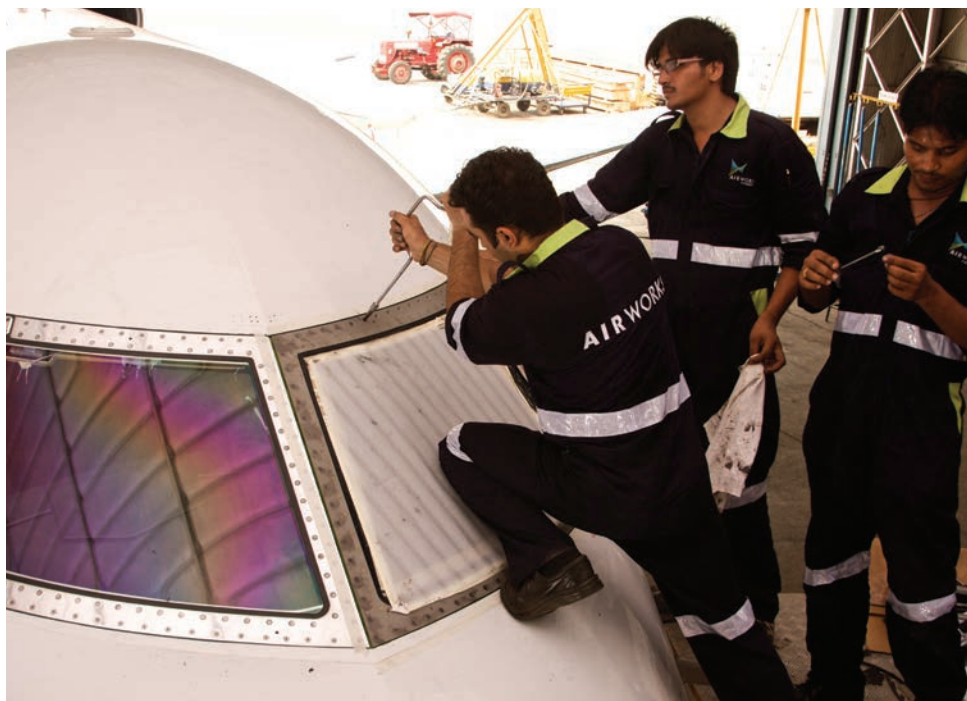


"General aviation in India has good growth and enormous potential, but the maintenance, repair, and overhaul (MRO) segment is extremely nascent and hasn't kept pace," says Karan Singh, CEO of KuBase Aviation, one of India's leading full-service corporate aviation providers, and managing director of the Business Aircraft Operators Association (BAOA) of India. "Truth be told, we don't really have an MRO industry to speak of."

Dearth of facilities

Today less than 5% of MRO work for Indian carriers is done inside the country. The bulk flies to Europe, especially for heavy overhauls.

"Considering India's standing as one of the BRIC countries (Brazil, Russia, India, and China) leading the world into the next century we have few facilities and little infrastructure of which we can be proud," says Singh. "Most operators outsource overseas, from the small firms to the likes of Jet Airways, which still has maintenance hangars in India but doesn't use them so much. Even the C-checks [extensive maintenance checks] go to the UAE, Jordan, or Southeast Asia."



Air Works has a 30% share of India's MRO market



The USA boasts 18,000 airstrips and Brazil 4,000. By contrast, India serves its massive population with only 140 aerodromes, of which perhaps only 25 have proper hangar facilities.

"So much of this is a problem of mind-set," says Singh. "The corporate aviation sector is looked upon by the government as a luxury. They don't understand the efficiency, productivity, and flexibility provided by business travel. All our customers would happily fly Gulfstream even if it had economy-class seats, but those in power don't appreciate this."

Such a viewpoint is echoed by Nick White, vice president of business and general aviation at Air Works, which has a 30% share of India's MRO market. "I'm not actually sure the Indian government truly recognizes the importance of aviation to its GDP," he says. "That may sound strange, but a lot of the penalties on aviation in India are not actually imposed on those flying into the country. There are huge taxes on fuel, making it difficult for Indian airlines to compete on routes with other airlines. There is also a policy paralysis, all of which contributes to a historical and current absence of MROs."



A work of art

Air Works recently announced a partnership with internationally acclaimed designer Dilip Chhabria (aka 'DC'). DC, who helped develop the prototype for the Aston Martin Vanquish for the James Bond film *Die Another Day*, has agreed to work

in league with Air Works to provide its clients with bespoke interiors for their private jets.

"DC will sit with our clients and get a sense of the look, the feel, the touch, and colors they require," says Nick White of Air Works. "He will create a

design and we will turn that design into an interior to plug into the aircraft. We see a growing market for bespoke interiors in India and we will be the first to provide such a service here."

DC has also designed bespoke automotive interiors for Bollywood stars.

"The tax systems are being overhauled here, but there is still some way to go"

Nick White, vice president of business and general aviation, Air Works

Barriers to business

The lack of appreciation of the benefits of business flying makes the establishment of India as a world-class MRO hub virtually impossible at the present time. High taxes, the lack of an industry regulator, a near-total absence of infrastructure, and the shortage of skilled manpower explain why nearly all Indian aircraft, both commercial and private, seek maintenance solutions from outside India.

"Anyone who has tried to set up here has come up against a wall," says White. "Lufthansa tried to establish a base in Hyderabad, but in the end walked away. The tax systems are being overhauled here, but there is still some way to go. High taxes reduce competitiveness and force potential clients to look elsewhere. It remains highly problematic to build hangars in India. With the exception of the armed forces, probably only 30 hangars have been built since the 1950s. It is a struggle to find land at airports and reach an agreement to build, and even if you lease the land, build the hanger, and pay the rents and the rates, the airport still expects to gain something from your revenue."

Mumbai Airport

The Center for Asia Pacific Aviation (CAPA) recently highlighted a "complete lack of



India has a total jet fleet of more than 150

recognition of the business aviation sector" in Indian government policy. A prime example of this is in Mumbai, India's commercial capital and potentially its largest business aviation market. Despite Mumbai accounting for nearly half of the country's corporate revenues, the airport slots remain constrained and the imposition of a peak-hour curfew looks like an attempt to actively curtail business aviation. Parking bays are full up and the situation is unlikely to improve until a second airport opens five years from now.

The issues do not confine themselves to Indian companies, as many obstacles block the paths of foreign firms wanting to fly privately into the country and invest there. Requirements for landing and overflight approvals remain drawn out and complex, and clearances rarely take place in a timely fashion. Much of this means India's MRO companies are unlikely to see much business from overseas.

"Not only do we have a high tax regime and the absence of an industry regulator, the process of trying to get MRO approval is extremely tedious and cumbersome," says Singh. "There may be places that are as tough, but there is nowhere tougher. You could drown in administration. Because we don't have any big players here, the government views the smaller players with suspicion and the whole thing becomes a vicious circle."

If one adds into the mix the fact that getting anything through customs may take up to three days, and that some kind of 'luxury' import duty on the purchase price of a jet will bump the price from US\$10 million to US\$12.5 million, the picture of a government not exactly hell-bent on

improving the conditions for general aviation, and therefore the MRO sector, is complete.

Cause for optimism

Against this problematic backdrop, many companies still recognize the future potential of business aviation in India and have lately shown commitment toward establishing themselves in the MRO space.

Airbus, Boeing, and the Government of Singapore are hoping to set up a facility in the western state of Gujarat, possibly to be located in a 2,500-acre Special Economic Zone. Cochin International Airport, the first of five greenfield airports in India developed under a public-private partnership, has been looking to source a partner for a new maintenance joint venture. The first phase will provide all-encompassing maintenance facilities. Meanwhile, India's first state-of-the-art aircraft-painting facility, equipped to handle both wide- and narrow-body jets, became operational this year at Air Works' MRO facility in Hosur.

"We will take advantage of the repainting, interior repair, and refurbishment expertise of UK-based Air Livery, in which we hold a controlling stake," says White (see *A Work of Art*, page 29). "Our biggest focus and revenue generator is the general aviation business sector. We have 60 customers, which equates to 100 aircraft under maintenance. This facility should preclude the need for Indian carriers to send their aircraft overseas for repainting. We recently completed the first Challenger 300 96-month inspection ever done in India, and are currently engaged in a skin change on a Cessna Citation. For now, all our clients are from India, but we are working on

Investment required

According to the BAOA, India must develop 100 additional airfields in order to accommodate growing general aviation activity by 2020. To make this viable, each must include a 5,000ft runway able to receive aircraft of up to 100,000 lb (45,000kg), along with a 5,000ft² terminal building and basic landing aids.

BAOA also believes that the country requires a minimum of 20 new FBOs to cover its principal airports, plus five new large-scale MRO facilities across the country to maintain the growing business aviation fleet of aircraft and helicopters. Overall, the investment required is estimated to be US\$3 billion.




becoming wholesale IATA compliant. Our Delhi facility already is, and Mumbai soon will be. Once this is complete, we hope to attract maintenance out of Europe, too."

Advantageous factors

Despite the difficulties associated with general aviation in India, people continue to purchase jets. This brings pressure to bear on the Indian government to do something about the questionable state of the MRO sector. Those in the industry hope that one day the government may promote it in the way it has the country's IT and telecommunications verticals, or at least push the MROs toward achieving globally recognized certification.

"India has all that it takes to develop as an MRO hub in the region," says Air Works' CEO, Vivek Gour. "A great geographic location, a technically orientated and educated talent pool, and competitive labor costs are some of the advantages enjoyed by India."

Recent analysis by the Aeronautical Society of India estimates that the annual MRO market in India is poised to grow from less than US\$1 billion today to around US\$2.6 billion by 2020, making it a genuine competitor to the US and European markets.

"The Indian MRO issue is not really a general aviation issue at all," says White. "It is an issue facing all aviation. The government is only just beginning to wake up to its importance." 

"India has all that it takes to develop as an MRO hub in the region"

Vivek Gour, chief executive officer, Air Works

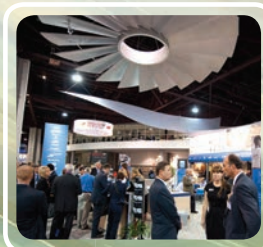
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Up to speed?

As a number of manufacturers busy themselves hatching plans to get their supersonic business jets airborne, the next big 'boom' may be quieter than you would expect

Words | **Mark Huber**

Some years ago, I was having a conversation with US business jet icon Clay Lacy at his office in California. "The most amazing thing to me about aviation is how slowly we are going," he told me. "We are basically flying at the same speed we did in 1959 when the [Boeing] 707 came out."

Ironically, 1959 was also the year the International Civil Aviation Organization (ICAO) began pondering what civil supersonic would look like and what the implications would be for airports. ICAO envisioned an aircraft that would fly at maximum speeds between 1,700 and 2,000mph and climb steeply to 65,000ft.

Over the next few years, ICAO continued to study the implications of supersonic and to set goals for its integration into the international airspace system. At its 1962 Assembly in Rome, ICAO noted that governments and other developers of civil supersonic 'are urged to make sure those aircraft will be able to operate at a level of safety at least equal to that of commercial

aircraft in service at the time supersonic aircraft are introduced. These aircraft should also fit traffic patterns existing at the time, so that no special ground services and facilities will be needed; they should be able to operate at aerodromes designed for the operation of subsonic jets'.

Feel the noise

Then ICAO got to supersonic's traditional Achilles' heel. Presciently, it noted, 'Other requirements cover the problems of noise: supersonic transports, when introduced, should not create noise exceeding the level accepted for the operation of subsonic jets, and should be able to operate without creating intolerable conditions for people on the ground due to sonic boom.'

When the supersonic Anglo-French Concorde entered airline service in 1976, its solution to the sonic boom problem was to stay subsonic over land. It didn't have much choice; the USA and many other countries ban civil supersonic flight over land. That prohibition remains in force today

No supersonic business jets are currently available, but several manufacturers are working on designs, including Aerion Corporation (pictured) and HyperMach Aerospace



The Aerion
supersonic
business jet

"So why will both of these aircraft make it to the market in spite of the skeptics? Simply because they save even more time for those who own them"

Christopher M. Broyhill, CAM,
corporate chief pilot and PhD Student

Expert opinion: Christopher M. Broyhill, CAM, corporate chief pilot and PhD Student



Supersonic business jets: inevitable because time rules

"There is substantial skepticism in the aviation industry about the future of supersonic business jets (SSBJs) these days. Some of the skeptics focus on the supposed regulatory obstacles, some talk about cost-effectiveness, and others debate whether or not there is a real 'need' for a jet that can travel faster than the speed of sound. All of them miss the big picture.

"Although the regulatory issues might be a consideration, business jet ownership has never been about need or cost; instead it has been about only one thing – time. Time is truly the only irreplaceable commodity, and for those who place a premium on the value of it, business jets are indispensable tools to save it.

"But how does this desire to save time translate into fiscal action? Consider that even as the world's economic conditions deteriorated in 2008, Gulfstream announced it would be adding a new flagship to its fleet – the G-650. Aside from a new wider cabin, the primary quality that differentiated the G-650 from the competition was its unprecedented combination of speed and range – it is able to travel 7,000 nautical miles at Mach .85 and 5,000 miles at Mach .92. As of early 2012, Gulfstream had 200 orders for the G-650, almost exclusively from current jet owners who wanted to 'trade up' to save more time.

"If at least 200 buyers lined up to buy the G-650 because it was a little faster, consider the possibilities offered by the Aerion SSBJ and the HyperMach SonicStar. The Aerion SSBJ uses present-day technology and can cruise at speeds as fast as Mach 1.6 – nearly twice as fast as the long-range cruise speed of the G-650. Using a phenomenon called 'Mach cut-off', the Aerion SSBJ can even cruise over the continental USA at speeds up to Mach 1.3 without violating regulatory constraints. These speeds would enable a traveler to cross the USA in two-thirds of the time required by the G-650. If Mach 1.3-1.6 isn't fast enough, the SonicStar will cruise at Mach 4.0 and will use plasma energy generated by its engines to neutralize the supersonic shock wave.

"So why will both of these aircraft make it to the market in spite of the skeptics? Simply because they save even more time for those who own them. If Gulfstream can create a market for the G-650 and sell 200 of them at US\$65 million each, purely because there were those who were willing to spend money to save more time, it seems logical that Aerion and HyperMach will be able to sell their jets for approximately US\$80 and US\$180 million respectively to the same crowd. Given the economic history, which shows the preference for faster modes of travel by those who can afford them, the SSBJ's arrival on the market is more than merely logical. It is inevitable."

and is a major obstacle to the development of a new generation of civil supersonic passenger jets, as well as long-envisioned supersonic business jets. The environmental lobby's objection to civil supersonic is credited with sinking the Supersonic Transport (SST) program in the USA in 1972 and limiting the Concorde on US routes. (Due to its high cost of operation, only 14 of those aircraft were delivered to customers and SST ended commercial service in 2003.) It has also stalled any potential supersonic business jet. In the eyes of the OEMs, the prohibition entails an unacceptable commercial risk – the supersonic prohibition must be lifted before it makes sense to start development.

However, it has not stopped the research, a large chunk of which is government funded. Big business jet players such as Gulfstream and Dassault have ongoing supersonic research programs, even as they launch new aircraft that are barely subsonic. And there are relative newcomers to the party such as Aerion and HyperMach that also have stacks of patent filings for concept aircraft.

At all costs

One of the main issues preventing supersonic really taking off is funding. A supersonic business jet could cost anywhere from US\$120 million to US\$180 million per unit, and that excludes the estimated US\$3 billion to US\$5 billion development and certification costs. That price makes a supersonic jet two to three times the cost of a near-supersonic aircraft such as the new Gulfstream G650. Few observers think any one company can foot the bill of a supersonic business jet program and believe that when it happens it will probably be a consortium with

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Top: Interior view of the Aerion SSBJ. Right: Aerion uses natural laminar flow technology

a funding component from, perhaps, multiple different governments.

In 1989, Gulfstream teamed with Russia's Sukhoi to jointly develop a business supersonic jet – the S-21. Sukhoi was to build the airframe, and Gulfstream was supposed to integrate the systems, including avionics and engines. But, when Gulfstream was sold later that year, its new investment bank owner scuttled the program in favor of developing a new, long-range conventional business jet – the Gulfstream GV.

However, research into supersonic continued, some of it based on the Seebass-George algorithm first postulated in 1964 by the two scientists from Cornell University in New York. Seebass-George maintains that an aircraft's sonic boom can be minimized by changing its shape and that the mathematical model can accurately predict the boom signature of any given design. NASA validated the theory during wind tunnel testing in 1972, and the US Defense Advanced Research Projects Agency (DARPA – the people who gave us the internet) confirmed it under actual conditions by flying aerodynamic shapes attached to supersonic military aircraft in 2003.

Research into supersonic natural laminar flow – the idea that unswept wings produce less turbulence and therefore greater aerodynamic efficiencies – also continued during these four decades. The fruits of both theories came together in 2004, when a pair of supersonic business jet designs were unveiled at the National Business Aviation Association's (NBAA) annual convention.

Future designs

Aerion, led by natural laminar flow scientist Dr Richard Tracy, unveiled a stub-wing design that could use conventional powerplants, seat 12, and have a range of 4,000 miles. A competing design, crafted by engineers from Lockheed's famous 'Skunk Works' under contract to SAI (Supersonic Aerospace International) was also unveiled that year. The Quiet Supersonic Transport (QSST)



employed shaped technology designed to mitigate boom signature and therefore, unlike the Aerion, could probably be flown supersonic over land after the appropriate testing. To date, neither company has raised sufficient capital to produce an aircraft on their own. SAI was funded by the estate of the late Allen Paulson, a former Gulfstream CEO. Aerion continues to actively pursue commercial opportunities and research, some of it with NASA.

According to Aerion chief operating officer Doug Nichols, the company has received letters of intent backed by refundable deposits from approximately 50 customers based on an US\$80 million unit cost in 2007. Nichols says it would likely take six years to develop the aircraft once Aerion found a joint-venture partner, and says Aerion's reliance on proven shapes and technologies gives it a leg-up on the competition. "Its design makes more use of proven engines, systems, and materials technologies than other designs that have come and gone, largely because they were predicated on a major technological and/or regulatory leap. Neither is likely in the foreseeable future," he says.

Aerion will be conducting a major new design test this summer, when it again flies a test article on a NASA F-15B supersonic research aircraft. Nichols says the test is "designed to look at issues of surface quality robustness, which are



Viewpoint:
Doug Nichols,
chief operating
officer, Aerion
Corporation

What are the benefits of supersonic travel?

The supersonic business jet (SSBJ) has the potential to be a real time machine, enabling passengers to save hours on a variety of medium- to long-distance routes. For these individuals and corporations, time truly is money and the return on investment will easily offset the acquisition and operation costs.

Is there much demand on the market for such an aircraft?

Two consecutive marketing surveys, which were commissioned by Aerion in recent years, and other independent studies, show a potential market exceeding 400 SSBJs during the first 15 years of service. A relatively stable order book throughout the recent recession and anecdotal evidence collected at major industry events confirm the demand for speed is real and sustained. Aerion Corporation believes full compliance with all relevant emissions and other regulations will inoculate the SSBJ against opposition.

How does the Aerion SSBJ compare to Concorde?

Concorde attracted time-conscious customers through its final flight, despite the use of aging technology and a limited operational envelope dictated by its highly swept 'double delta' wing design. The fact that no supersonic jet was in service upon Concorde's retirement not only represents a step away from progress, it created a gap in a valued service. Aerion's design will use state-of-the-art and proven systems and materials to create a flexible business jet, one that can travel efficiently more than 4,000nm at a variety of speeds, from high subsonic through transonic to supersonic. Concorde was not engineered for such varied missions and was thus largely limited to transatlantic flight.

What does the future hold?

The benefits of the SSBJ are compelling, but given the challenging macroeconomic climate, it will take the enthusiastic commitment of all sectors in the aviation industry to bring this potential to fruition. We encourage business airports and other industry participants to speak up in favor of progress that will ultimately benefit all parties.

"It will take the enthusiastic commitment of all sectors in the aviation industry to bring this potential to fruition"

Doug Nichols, chief operating officer, Aerion Corporation

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The HyperMach
SonicStar



"It's hard to envision the impact of supersonic aircraft on airport environments without knowing a lot more about the aircraft"

Sean Broderick, spokesman, American Association of Airport Executives (AAAE)

Top: **The SonicStar uses hybrid engine technology**
Below: **A drawing of the technology behind the SonicStar aircraft**

associated with manufacturing and operational tolerances to ensure that large extents of natural laminar flow can be achieved and maintained in normal flight operations".

In 2008, a third player, HyperMach, emerged in the supersonic business jet market with a design it has named the SonicStar. That design relies on a new engine design combined with shaped 'no boom' technology, will seat 15 to 34 passengers, and will cruise at Mach 4 – significantly faster than Concorde. At Mach 4, London to New York takes about an hour.

HyperMach CEO Richard Lugg says the new engines being developed for the SonicStar are "10 times quieter than anything that is

flying today. We have done the science and the engineering on the noise and the acoustic profile, so we know that will work".


Challenges ahead

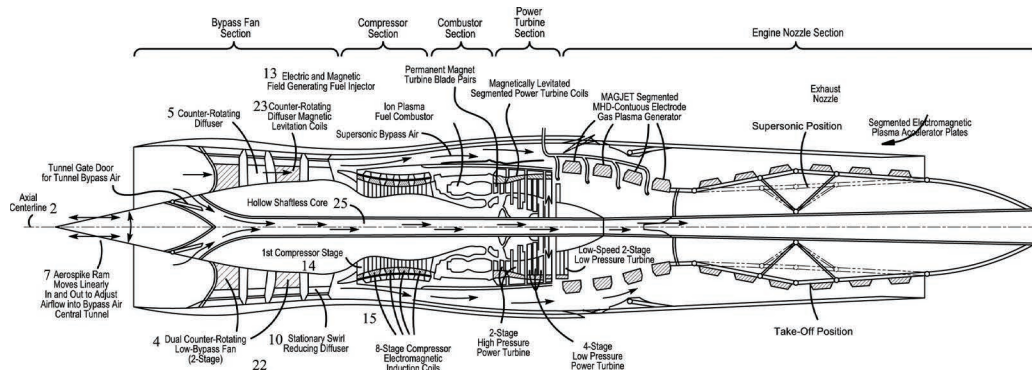
Supersonic aircraft, however, have traditionally been runway pigs: although swept wings cheat drag at high speeds, they are lousy at yielding low-speed lift. A fully loaded Concorde needed nearly 12,000ft of runway to safely take off. Lugg says that SonicStar is also likely to be a pavement-muncher. "A supersonic aircraft needs a considerable length of runway for take-off and landing," he admits, but nevertheless says that there are "several hundred" private airports where the SonicStar could operate, including Teterboro (just outside New York City) and Miami (Homestead – a former US Air Force base). HyperMach currently estimates that the SonicStar will need 9,000ft of runway for take-off.

However, the appeal of business jets has typically been that they can land at thousands of different general aviation (non-commercial) airports and easily utilize runways under 6,000ft. Until a design flies, airport executives will have a difficult time assessing if a particular supersonic design will work at their location. Sean Broderick, a spokesman for the American Association of Airport Executives (AAAE), says he doesn't think there would be much difference than what can be expected of subsonic operations.

"It's hard to envision the impact of supersonic aircraft on airport environments without knowing a lot more about the aircraft and, among other things, the ATM [air traffic management] system in place. Supersonic airplanes aren't that much different from 'normal' airplanes in the terminal environment, after all. Things like ground support may change, of course, but without knowing specifics, I think it would be hard for anyone to offer informed input," he says.

One thing that is known, based on current designs, is that supersonic business jets will need much larger hangars. The SonicStar will be over 180ft long; almost twice the length of a new Gulfstream G650.

And then there is the not-so-small matter of price. HyperMach estimates that its design will carry a unit price of US\$120 million – US\$180 million, and that could mean a rather small, albeit rarefied, market. Is the market for supersonic business jets big enough to support a successful commercial development? This question has yet to be answered. 



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The life expectancy of a typical business aircraft is longer than imagined, mainly due to their under-utilization, but the older they get, the more expensive they are to keep in the air

Words | **Selwyn Parker**

Coming of age



A paradox of business jets is that they're too good for the job. They are so ruggedly built that many of them will outlast their owners. Even so, some passengers are nervous of aircraft that aren't new or almost new.

"Around 40% of business people ask about the age of the aircraft before they fly," says Alexis Grabar, founder and chief executive of London, Monaco, and Moscow-based Avolus, a charter broker. "We have a lot of Russian clients and most of them refuse to sit down in an aircraft more than two years old. And about 80% of our 480 clients will simply not use an aircraft more than 10 years old."

Despite some passengers' fears, nearly all business jets are under-used, spending most of the year parked up and waiting for passengers. Few of them spend more than 400 hours a year in the air, and most a lot less. This means that even a 15-year-old aircraft flying 400 hours will have only 6,000 hours on its log. In business jets 14,000 hours is considered high time, and 30,000 hours is extremely rare.



Above & Left: **The costs of owning a business jet increase as it ages due to essential maintenance expenses**

This means that, taken as a whole, the world's business jet fleet is practically idle. The average total in-time service, reports Orleans-based aviation consultant Conklin & de Decker, for most of the active fleet is just 4,115 hours. Given the extremely high standards of construction, this is far below what today's business jets can do.

Maintenance

This lack of in-time service is an obvious advantage as running older aircraft comes with challenges. When the FAA established its Aging Systems Task Force in August 1988, after a series of crashes attributed mainly to metal fatigue, it found several main areas requiring much more attention than had been given until then. There were cracks from wear and tear, corrosion, bonding failures, breakdown of insulation in electrical wiring, and weaknesses resulting from structural modifications and



The world's oldest FBO?

The USA's Cutter Aviation has seen just about every development in the aircraft industry. Opening long before the era of business jets, it was established 84 years ago by William P. Cutter and claims to be the oldest continuously family-owned FBO in the USA. In that time, Cutter Aviation has spread from its original base in Albuquerque, over much of southwestern USA into Colorado Springs, Dallas, El Paso, Phoenix, and Scottsdale. Much more than an FBO, its range of services has expanded far beyond what the founder could have envisaged back in 1928.

Originally named Cutter Flying Services, the FBO (the term 'fixed-base operator' was used for the first time in the 1926 Air Commerce Act) flew people and goods across the

rugged terrain of New Mexico, Arizona, and Texas. Having survived the Great Depression, unlike most other fledgling FBOs, the company learned to adapt quickly to outside circumstances. For instance, it trained pilots for World War II and later for civilian flying. Always a dealer in aircraft, it sold Beechcraft models for 62 years, while steadily adding other manufacturers including, most recently, the advanced light HondaJet.

Cutter Aviation is now headquartered on the south side of Phoenix Sky Harbor International Airport and offers a full array of services – the usual arrival and departure services, plus maintenance and avionics, new and used aircraft sales, air charter services with its fleet of jets, and turboprops.



repairs. Of these, the last was found to cause the most serious problems in aging airframes.

The result for commercial and business aircraft alike: much more downtime in maintenance. And the effect? Rising costs in older aircraft, as David Wyndham, instructor, pilot, and vice president at Conklin & de Decker, pointed out earlier this year in a detailed analysis. His conclusion is that maintenance becomes more expensive as the aircraft accumulates hours in the air.

"The early years when aircraft are young and warranties are in effect show very low maintenance costs – less than half what they are at year five," he explains. "However, when the aircraft is 30 years old, and wear and tear is taking its toll, maintenance costs are typically more than double what they were at year five." Most of this extra cost comes down to unscheduled maintenance arising from routine, scheduled inspections. "During the scheduled check, an item is found [to be] out of tolerance and is repaired, replaced, or overhauled." Unsurprisingly, aircraft with efficient back-up in

Above & below: **A refurbished Dornier 328 jet can cost roughly a quarter of the cost of a new jet**



the form of maintenance endure longer service than with 'orphans' whose manufacturer has shut down, according to AV-DATA, the source for industry standards.

For Grabar of Avolus, the maintenance check list on veteran aircraft (between 10-25 years old) should start with the engines, cabin, and brakes. "These are the first three things we look it," he explains. As a matter of routine, Avolus also verifies operators' safety record, maintenance schedules ("we look to see if they've taken any

"The early years when aircraft are young and warranties are in effect show very low maintenance costs – less than half what they are at year five"

David Wyndham, instructor, pilot, and vice president at Conklin & de Decker

shortcuts"), pilots' CVs, and how busy the aircraft has been. "The number of take-offs and landings is important," he explains. "It's better if the jet has been used mainly for longer flights."

Turboprops, however, appear to be different from jets. For the first 25 years of their life, they require more maintenance. That's probably because two turboprop manufacturers are no longer in business, and two that are still operating no longer make twin-engine turboprops. However, turboprops are nothing if not durable, and after 30 years of age they are up in the air longer than jets of equivalent age. "This is probably due to the fact that there are no environmental or fuel consumption issues facing older turboprops," concludes Bill de Decker of Conklin & de Decker.

But whether turboprop or jet, there's more downtime in old aircraft because they spend more time under repair. "Our data suggests that availability of the aircraft drops from the 95% range for aircraft up to 15-20 years of age, to an average of 75% at age 25, and 55% at age 30," adds Wyndham. "Looking at it another way, it typically takes two older aircraft to have the same availability as one new one."

Bucking the trend

A common bugbear with older aircraft is spare parts, or lack of. This is especially the case with aircraft that came off limited production runs because suppliers do not enjoy the economies of scale to continue manufacturing critical parts, and with aircraft whose original manufacturers are no longer in existence.

The Dornier 328 jet is an exception. Although the manufacturer has ceased trading, Germany-based 328 Support Services, which holds the type certificate for the jet and turboprop aircraft, has established a thriving completion business that has given a new life to the rugged, short-haul aircraft. The company has several orders for VIP completions in the 10m-long cabin, working with Robin Dunlop's UK-based CTM Design studio (its credits include an Airbus A318 for a member of Saudi's royal family and a Fokker 70 for a European head of state). At a cost of US\$11-12 million with a bespoke interior, the aircraft costs roughly a quarter the cost of new jets. "It's a value proposition," explains Ray Mosses, head of sales for 328 SSG, which is based at Oberpfaffenhofen Airport near Munich.



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The 328s may lack the range of a Global Express, but as Mosses points out, most of them have a lot of life left in them. The limit of a 328 is about 60,000 hours. In short, the owner will probably die before the airplane does.

Time's up

Even so, the bell tolls even for business jets. There's no simple rule for knowing when to replace an aircraft, but aviation analysts agree it comes down to three main things: dispatch reliability (the capacity of the aircraft to leave within a specific number of minutes of its scheduled departure); availability (mainly a function of unscheduled periods of maintenance); and the rising cost of parts and labor. (Eventually, the cost of labor is higher than the cost of parts.) For charter operators, the math eventually reduces to opportunity cost – that is, when revenue lost from downtime exceeds the expense of keeping the aircraft alive.

Still, as with classic cars, many owners appear not to begrudge the cost of keeping their object of beauty in the air. About 400 business jets are over 40 years old, according to latest research by Hawker Beechcraft – that's almost 25 years older than the average age of the global fleet. The bulk of the oldest business jets still flying are 1964 Rockwell Sabreliner 40s; several Hawker 1As dating back to 1965; several Dassault Falcon 20s with a maximum vintage of 1965; a 1967 Lockheed Jetstar TFE731; a number of 1968 Jetstar 8s; and two 1965 Learjet 23s (see box).



Making a comeback

Newly wealthy eastern Europeans, especially in Russia and Romania, are single-handedly increasing the average age of Europe's fleet of business jets by buying up aircraft that are in some cases long past their use-by date and giving them a new lease of life, often with retro interiors to match.

For example, a Romanian entrepreneur has completely rebuilt a Rolls Royce-engined BAC 1-11 and put it to use as his personal working tool. And a Russian businessman has acquired a 737-200, Boeing's highly successful, short-range small-capacity jet, the last of which came off the assembly line in 1988, and kitted it out as a VIP aircraft even though it probably won't get permission to land at many urban airports because its engines exceed mandated noise levels. Another Russian businessman, a mining magnate, has gone one better by restoring

a triple-engined, 25-year-old Tupolev Tu-154M. Few, if any, of these restorations make commercial sense.

"Some owners are spending US\$1 million on the cabin of an aircraft worth perhaps US\$500,000, but they don't care. It's a labor of love," says an unnamed source. However, the Tupolev's owner may get his money's worth. Famously durable, fast with a cruising speed of 975kph, and capable of 5,280km non-stop, the Tu-154M has a service life of 45,000 hours but can achieve 80,000 hours with upgrades. Owners are also turning the clock back with retro or at least classic interiors. "We see it especially with American, German, and Middle Eastern owners. It's a growing trend," explains Avolus chief executive Alexis Grabar. "We generally find that owners with retro houses and vintage cars also like aircraft with retro interiors."


Above: **A Tupolev Tu-154M in Russia**

Below: **A Dornier 328 can fly up to 60,000 hours**



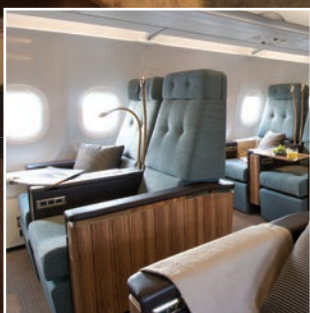
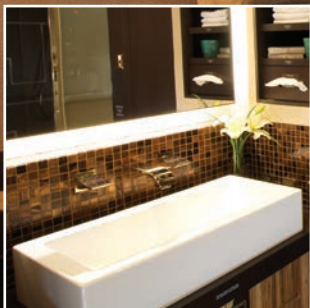
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Unlike vintage cars, however, old jets are not good investments. Most of the once-popular aircraft – Lear 20s, first-generation Citations, Challengers, Hawkers, Gulfstreams, and Falcons – have long inventories and will wait a long time for buyers. According to Amstat, prices of pre-1990 aircraft are low and likely to stay there. According to Conklin & de Decker, a large business jet costing US\$25 million new in 1991 is worth about US\$8 million today – and will cost about US\$35 million to replace.

In the meantime, some jets are reborn. Nextant Aerospace, founded in 2007 as an aircraft-modernization facility, has developed a new kind of aircraft – the remanufactured business jet. Last October, the Nextant 400XT received FAA certification and deliveries began almost immediately of a 40-aircraft order to fractional jet group Flight Options. The Nextant 400XT is based on a remanufactured airframe from the Beechjet 400A/XP, but with late-model engines (the Williams FJ44-3AP turbofan) and latest-model avionics, electronics, and rebuilt interiors. All 'life-limited components' are restored or replaced to 'zero-time status' in what could be a revolutionary development. 

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How can FBOs and business airports best cash in on the sponsorship and advertising opportunities offered by the luxury goods sector?

Words | **Dave Howell**

Despite the economic downturn, luxury brands continue to consistently report high levels of sales, with record incomes year-on-year. The luxury brands market currently stands at around US\$210 billion, and with growth rates of over 6%, its market value could hit US\$250 billion by this time next year.


One of the major drivers behind this lust for luxury has been the emerging economic power of the BRIC nations, which has created a new generation of multimillionaires eager to display their wealth and status. Major airports have been quick to cash in – with 50% of business travelers earning more than US\$155,000 and nearly three-quarters of airport users choosing to make high-value purchases, it's easy to see why luxury retail is very much in evidence in most modern passenger terminals.

Leading advertising company JCDecaux is at the forefront of persuading airport passengers to part with their cash to buy luxury goods: "Our luxury client portfolio includes names such as Chanel, Estée Lauder, Dior, Burberry, TAG, Gucci, Mulberry, and Harrods," says Liz Ross Martyn, head of marketing communications at JCDecaux's Airport division. "Advertiser spending in the luxury category has, for JCDecaux Airport, increased 40% year-on-year," she continues.

Captive audience

Beyond the major commercial airports, FBOs and business airports have also been looking to cash in. One company leading the way in terms of maximizing potential advertising and sponsorship opportunities is Rizon Jet, which provides a number of specialist services via its FBOs in London Biggin Hill and Doha.

Hassan Al-Mousawi, CEO, Rizon Jet, says FBOs need to see themselves as luxury brands in their own right, and that they should therefore select the brands they work with carefully,



Facilities such as Rizon Jet's Doha FBO (pictured) provide great advertising opportunities for luxury brands



"The difficulty in reaching this ultra-elite audience cannot be underestimated"

Danielle Klein, international sales director, Adlux

BAI talks to Danielle Klein, international sales director at Adlux, a Swiss company that develops digital signage networks within premium locations in EMEA

What are the opportunities for FBOs and operators in terms of sponsorship, advertising, and digital signage?

Adlux is a unique media contractor in that it has created the first fully digital advertising platform that targets ultra-elite private jet passengers via placement of screens in FBOs. Our digital media consists of single screens and video walls, each a different size and format, which is created specifically to fit with the individual requirements of each FBO. For example, in Tag Farnborough we have a three-screen video wall with a white high-gloss bezel, which fits in perfectly with the high-gloss white furniture that has been designed for Tag Aviation Farnborough. The content is a mixture of editorial and advertising.

We are currently working on two new media platforms. The first is an entertainment tablet that will be distributed on board private jets. It will carry an interesting mix of entertainment including books, music, pre-released DVDs, and internet. Advertisers will have the opportunity to sponsor the content and create apps that will deliver an interactive experience for consumers.

Our other new launch, which is scheduled for later in 2012 or early 2013, is an interactive touchscreen that will be placed in tables and positioned within the lounges of FBOs.

Where does the line lie between added value and annoying oversell?

Screens are soundless and non-intrusive in the lounges. Unlike commercial airports, we are very careful to limit the number of advertisers (no more than six per campaign period) and combine it with an interesting mix of editorial to ensure that it is of interest to passengers sitting in the lounge. By having only digital media and not an annoying mix of brochures and signage, we feel we are offering added value to the private jet airports. Equally important for us is that we are offering excellent added value to luxury advertisers by ensuring that advertising is not saturated, but limited to an exclusive number.

How is new technology increasing the effectiveness of advertising campaigns at FBOs and business airports?

The entire media industry is looking at

to ensure they compliment each other: "We are selective about who we work with and offer certain luxury brands the opportunity to showcase items in our luxurious FBO lounges," says Al-Mousawi.

For example, Rizon's Biggin Hill facility recently showcased a top London jeweller's stunning diamond and sapphire necklace, and according to Al-Mousawi it "created a lot of interest". "We are also currently talking to top brands who might like to sponsor a floor at one of our facilities and showcase their goods exclusively," Al-Mousawi continues. "Brands choose us because we are number one in the world for luxury and they want the affiliation."

London's business aviation facilities are a popular choice for luxury branded events and joint ventures. In May 2011, a partnership was forged between Barclays and London Heliport for the newly-named Barclays London Heliport under a multi-year branding and naming rights deal. The VIP lounge at the heliport is now known as the Barclays VIP lounge. London's only commercially licensed heliport, which is used regularly by entrepreneurs, time-conscious business travelers, heads of state, and celebrities, provides Barclays with a unique showcase to promote its range of financial services.

James Rolls, global director at Travelling Media International (TMIL) was part of the team that arranged the renaming rights for Barclays. Rolls says, "TMIL is recognized as a non-aviation revenue innovator within the private jet industry.



multiplatform media, as a solution to their advertisers' needs. The new technology we are launching will be at the forefront of this digital revolution by creating a unique way for advertisers to interact with their potential consumers. Our new touchscreens and onboard tablets will deliver branding and advertising in a non-intrusive manner by having content that is entertaining and, more importantly, relevant to this target audience.

What does the future look like for luxury brand advertising at FBOs and business airports?

As seen in the business press, it appears that the luxury market is reversing the trend that other retailers are experiencing in this recession. I would not go so far as to say that luxury brands are recession-proof, but the huge growth in the BRIC market, plus strong performances in the UK, show that there is a huge market for luxury brands.

The difficulty in reaching this ultra-elite audience cannot be underestimated. There is little if any media that is strong enough to cut through and deliver an experiential or interactive media for high-net-worth consumers across EMEA.

We believe, therefore, that the future for luxury brand advertising at FBOs and business airports looks promising in 2012.



Top: **A digital advertising wall at TAG Farnborough Airport**

Below: **In May 2011, a partnership was forged between Barclays and London Heliport for the newly-named Barclays London Heliport under a multi-year branding and naming rights deal**

later this year. Traditionally, we have looked at aviation industry events, but a good way to reach aircraft owners or high-net-worth individuals is through other luxury brand events."

Message board

The tried and tested methods of display advertising also remains highly lucrative. The trick for FBOs looking to copy the example of larger airports is to provide added value: "As well as delivering an additional revenue stream, the campaigns we have used for airports enhance the passenger experience," explains JCDecaux's Martyn.

It is also vital in the business aviation sector to ensure that the promotional activity is targeted in the right environment. "The premium aviation advertising opportunity is phenomenal," says Niall McBain, chief executive at Spafax, a leading agency specializing in IFE, travel media sales, and branded content. "How else can brands have a direct line to the world's rich and powerful? However, it is crucial to use a credible agency with a wide portfolio of advertising opportunities that understands premium branding and the advertising environment. A first class lounge in Dubai is very different from a tatty and neglected FBO café somewhat off the beaten track!"

Therefore, care needs to be taken when using promotional activity at an FBO, as Al-Mousawi explains: "One of the big sells of business aviation is discretion, so it is important not to be too obvious and in someone's face. I think the trick is to focus on brand awareness and the benefits rather than features. It is also important in any market to ensure the delivery matches the advertising. Having a strong advertising strategy is good, but ensuring that product delivery and service excellence match and exceed the marketing message is just as important."

Elaine Turner, events and marketing manager at TAG Farnborough, agrees with Al-Mousawi's point on discretion and says that TAG doesn't oversell: "We try to keep the FBO quite

In addition to its work with Barclays, the company has executed long-term product placements in global FBO terminals, including London Oxford and the ExecuJet footprint for Rolex and Breitling, and placed poster advertising for the likes of ABB and Accenture." TMIL is also working on developing the first retail outlet at Al Bateen Executive Airport in Abu Dhabi.

Meet and greet

In addition to sponsorship and product placement, hosting events is another way for FBOs to generate revenue. Rizon Jet holds events at its facilities in order to showcase what it has to offer. "At Rizon Jet, we have worked with a number of luxury car suppliers and event managers and hosted luxury car events at our facilities. The backdrop of the cars, the jets, and the runway make for a visual treat for potential customers," says Al-Mousawi.

As an example, Rizon's Biggin Hill FBO recently hosted the Dodgeball Supercar Rally pre-run meeting and static displays, as well as driving experiences on the apron and within the hangar itself. "This gives us a chance to network with high net worth individuals at our facility and allows us an opportunity to speak to and showcase our services to aircraft owners and potential aircraft owners," adds Al-Mousawi.

And the relationship is often two-way: "We are also looking at sponsorship of non-aviation-led events, for example the Salon Privé event [luxury and supercar event] at Syon house in London





Above & Right: **Advertising is kept minimalistic at Rizon Jet's facilities in order to meet its clients' specific needs**

Below: **High-quality digital screens in use at ExecuJet Zurich**



minimalistic and neutral in terms of brands but we do have two sets of digital screens in the lounges. These were organized by Adlux and a selection of companies advertise on them, including Chanel."

In fact, the majority of the FBOs that *BAI* spoke with offered luxury display advertising from digital platform provider Adlux. Air Service Basel (ASB) in Switzerland is also working with the company. Uwe Paukner, deputy CEO and quality and safety manager, says, "ASB is currently partnering with Adlux, who are providing large scale screens for the positioning of animated adverts via online access in a very exclusive and innovative environment. Several other advertisers are placing brochures and flyers on a regular basis within our FBO." Rizon Jet also works with Adlux to provide a luxury band channel on its terminals' televisions and plasma screens. "This channel is available to passengers at all times," says Al-Mousawi.

"We predict that the sector will grow over the next few years once the advertising and branding market understands the reach and exclusivity of the audience"

James Rolls, global director, Travelling Media International (TMIL)

What does the future hold?

Luxury brands offer an obvious synergy with the world of FBOs: "It appears that besides adverts placed by operators and flight support providers, only luxury brands are of interest," says ASB's Paukner. However, Al-Mousawi argues there are some other key support services that are also relevant: "Not everyone who flies on a business jet is doing so purely for luxury reasons, many people fly for convenience and privacy, and brands that align themselves to these messages are of potential interest to us," he says.

Clearly, brands have to match the lifestyle of the passengers passing through: "What we find is that often people have a private jet in order to serve a need or to make their lifestyle easier," continues Al-Mousawi. "Often the people who own private jets are not necessarily passionate about aviation per se, so by developing relationships with brands and events outside the aviation sector we help to increase our focus and are able to talk to a much wider pool of potential customers."

Could FBOs and business airports make as much money from sponsorship and advertising as their commercial airport cousins? A spokesperson from Swiss-based RUAG, which has FBOs in Geneva, Lugano, and Munich, thinks so: "This is an area that will gather more attention in the years to come. It offers attractive win-win solutions and great opportunities to reach a very exclusive group of clients." TMIL's Rolls agrees: "We predict that the sector will grow over the next few years once the advertising and branding market understands the reach and exclusivity of the audience." 



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Business Airport International talks to French ground-handling service provider G-OPS about its current operations, its growth opportunities, and the future of business aviation

Established in 2004 at Paris-Charles de Gaulle (CDG) Airport, G-OPS provides a range of ground-handling services to business aviation operators throughout France. The company mainly operates from Nice Côte d'Azur and Cannes-Mandelieu airports on the south coast, at the ski airports in Chambéry, Lyon-Saint Exupéry, and Grenoble, and also at CDG, where its head office is located.

G-OPS has also established a strong relationship with the French Civil Aviation Authority (CAA) and the slot coordinator in order to organize slot bookings and arrange landing permits, and the company works with some of the biggest operators in Europe.

"G-OPS provides ground service support at every airport in France, and everything is managed from our head office in Paris," says G-OPS general manager Karim Berrandou. "We have permanent supervision staff at the major airports at which we operate in order to make sure everything runs smoothly. For diplomatic

and state flights, we are able to send our staff from Paris to wherever the flight is operating."

Seasonal business

G-OPS provides business aviation services in France all year round, but with many passengers flying to the country to enjoy the leisure activities it offers, the company finds itself operating from two main areas during the peak seasons.

"In winter we mostly cover the ski airports – Chambéry, Lyon and Grenoble – in the French Alps," Berrandou explains. "This runs from December to April every year and is a very busy period for us. After these months, the Alps area is very quiet and all the traffic moves to the south coast from May until September/October; the most popular airports are Nice, Cannes, and Toulon. These flights are mainly leisure flights, with customers coming to stay in their second homes during the summer period, and the market mainly consists of Russians, Arabs, and the English."

G-OPS also operates all year round from Paris-Le Bourget, the first European airport, which sees around 110 movements per day. The airport does experience some busy periods as well, Berrandou says, such as the biannual Paris Air Show and some business expo events, but it generally provides the ground handler with stable business all year long.

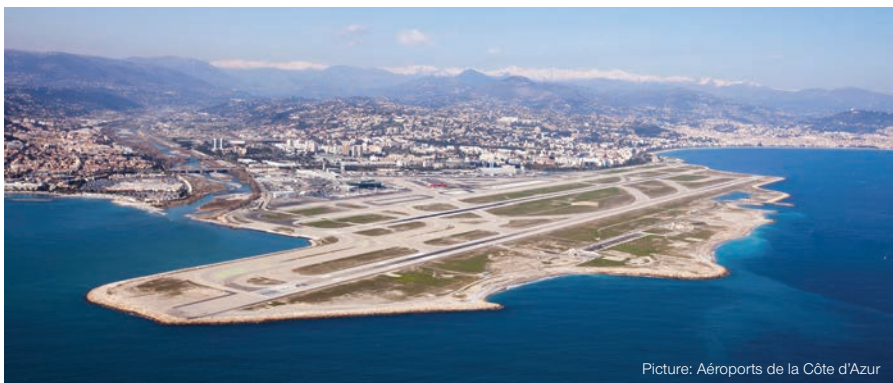
Areas of growth

Operators at these French airports have provided G-OPS with a strong level of growth over the last eight years; the company has achieved 20% growth every year and Berrandou predicts this will continue. The company is therefore looking to expand into new areas to keep up with its clients demands as well as achieve this double-digit growth rate. "We are going to set up in Italy and Switzerland, within the next six months, due to the high demand of our current customers," Berrandou comments.

"These operators mainly use us when they fly in France and we have developed a very strong relationship with our clients, so they would like us to provide the same service in places where they have encountered difficulties, such as in Italy; they would like us to support them in this country, where there is a high volume of traffic."



Picture: Aéroports de la Côte d'Azur



Picture: Aéroports de la Côte d'Azur

Main image: Cannes-Mandelieu Airport is very busy during the summer months

Top: Nice Côte d'Azur Airport is used mainly for leisure flights from May until September

Above: The French south coast is especially popular with Russians, Arabs, and the English

G-OPS's first Italian branch should be open in Milan by the end of 2012, with Rome and Florence following soon after, and the Swiss assistance in Geneva will be opened in time for this year's ski season.

Despite this move into other European countries, G-OPS is still dedicated to where it first began, and is working especially hard to reinforce its presence in Nice by adding more staff and additional services to improve the overall experience for its clients. The airport is one of the company's busiest destinations for six months of the year but it has a number of operational problems that can make things difficult.

Berrandou says, "Nice is a difficult airport because it has a lack of space for aircraft parking. This is a problem every season from May until the end of August, and year after year we are noticing more big-body aircraft, which is having an impact on the ground in terms of space. This is especially noticeable over the weekend period from Thursday to Monday, when some aircraft can be refused a space. Although G-OPS cannot work miracles, the difference between our company and other handling agents is that we always suggest a plan B for our customers. This might involve positioning the aircraft at the nearest available airport in, say, Marseille or Nimes, but we will continue to try to get parking at Nice and in 95% of cases we make it happen."

Another issue that affects operations at Nice Côte d'Azur is an ongoing fuel shortage problem that once again affects mainly the weekend traffic. "There is a law in place that does not allow fuel trucks to deliver at the weekend, which means the last delivery is on a Friday and then over the weekend the airport has to use the stock it has," Berrandou explains. "Once again the role of G-OPS is to be proactive and inform operators of the fuel situation. We help to find solutions during a period of fuel depletion because our field knowledge enables us to know which



Picture: Aéroports de la Côte d'Azur

G-OPS provides ground-handling services to business aviation operators throughout France



Karim Berrandou, general manager of G-OPS

supplier is able to provide the precious liquid. Our job is to communicate as best as possible to provide all operational information necessary to make the customer feel comfortable and safe when they operate in France."

Wider issues

The restricted parking space and fuel shortages are limited to Nice, Berrandou says, but there are a number of issues affecting the French business aviation sector as a whole. One that is really affecting the industry is an enforced night ban that restricts operators' hours of business.

"The night ban is getting more and more strict in European cities," says Berrandou. "You cannot depart from Paris at night anymore, which is unbelievable for such an important city. Nice is still 24 hours but very few airports in France are and the legislation will soon make it so no airport operates for 24 hours. For example, at Paris-Le Bourget arrivals are permitted 24 hours but departure is restricted between 10:15pm and 6:00am, which means that business customers who are dining in Paris who want to depart later than 10:15pm cannot, they have to rush in order to meet the legislation."

The night ban is one of the biggest issues affecting business aviation, but unfortunately G-OPS does not expect any improvements and Berrandou believes the situation is actually getting worse. Therefore the company's job

Revamped image

G-OPS has recently revamped its image and website to better reflect the company's current offerings and international reach. It has changed its old Greenpeace-inspired logo for a more corporate one designed by French creative team Distillateur Graphik.

The new look encapsulates the company's dedication to the aviation industry. The new logo is inspired by G-OPS's Paris-Charles de Gaulle Airport's roots and pays tribute to an updated version of the old-fashioned arrival and departure boards. The bold and rounded font is an added design element that showcases strength, clarity, and capacity to change. The website's new look and feel evokes a cool, friendly, and easy-to-use atmosphere, and has been relaunched with

new features that offer an enhanced experience.

"We have always been a company that is dedicated to offering responsiveness to our fellow clients in a friendly way. But, in light of G-OPS's recent internal expansion, we felt like it was time for an updated look that reflects who we are today," says Philippe Rouin, sales and marketing manager at G-OPS.

The website includes a new navigation system and homepage layout that enables operators and flight dispatchers to quickly send a handling request online. Visitors will also enjoy a short movie created by the Distillateur Graphik team that fully immerses customers into the world of ground services support for VIP flights.

In line with the commitment to build an

experience fully tailored to the needs of its most demanding customers, the website provides an option for setting up all services online, with a guarantee of quick responses from the 24/7 professional ops team.

Karim Berrandou says, "With the relaunch of the G-OPS website, we are capitalizing on the tremendous opportunities that exist for our customers all year long. One of our greatest strengths is that we provide support on a daily basis for all major airports. This experience gained in general aviation and diplomatic flights is reflected in the new-look G-OPS website."



is to obtain some exemptions for its clients, and its close relationship with the French CAA helps. Political flights always receive clearance to operate at night but G-OPS is finding it increasingly difficult to get approval for high-profile personalities such as music stars or footballers, Berrandou explains.

"This does not have much of an impact on our business, though, as the more restrictions and problems there are in France, the better it is for G-OPS as we have to solve the problems and respond to the difficulties to find solutions," he says. "That is why we are successful in France – it

can be a difficult country to operate from and we bring our expertise to the operators."

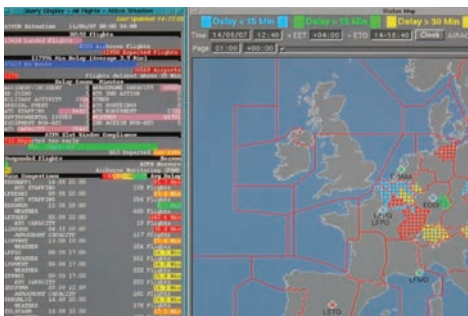
Predicting the future

Despite these operational issues, Berrandou is positive about the future of business aviation in France and believes the company will continue to thrive. "The future is very bright, I think. We are expecting the Chinese market to increase slowly over the coming years and although US operators are also important to Paris, I think it will be Asia that provides the most growth."

The London 2012 Olympic Games, which commence on July 27, is also an event that may provide G-OPS with opportunities. "We are not present in the UK and we are not planning on attending the event," says Berrandou, "but we want to let operators know that if they cannot park in London or in the south of England, then they can park in the north of France, and we can assist them with this. We are always around when things are difficult, even if we are not directly involved with a big event like the Olympics."

The future also looks promising for G-OPS, which is investing in software and technology that will help it to make its dispatch operations more efficient. It will also introduce a new internal quality report that will analyze each flight's dispatch process in order to identify any problems. "Today G-OPS has a strong reputation mostly because we are flexible, reactive, and reliable. But growing means we need more tools and to be more strict with ourselves so that we don't lose this reputation, and so we maintain the high-quality services we provide our customers," Berrandou adds.

www.G-OPS.fr



G-OPS is installing new technology to improve the efficiency of its operations.



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Swiss success

A newly refurbished FBO at Geneva Airport is providing business aviators with luxury surroundings and top-class service from start to finish



L-R: RUAG's Bernd Heinrich and ExecuJet's Cedric Migeon open the new facility in Geneva

First impressions are key to creating the right image for a company and this is especially important when it comes to business aviation, where customers expect quality surroundings and first-class service from start to finish. And it is this need to provide the very best for its customers that prompted RUAG to refurbish its FBO building at Geneva Airport.

Officially opened at this year's European Business Aviation Convention and Exhibition (EBACE) on May 14, the 53-year-old building has received a complete makeover inside and out, boasting plush furniture and modern private rooms that can accommodate both passengers and crew.

"The building is 53 years old, and it was really old fashioned, outdated, and needed renovation, so we decided to invest the money," says Bernd Heinrich, general manager of RUAG's Geneva FBO. "We selected some partners who

supported us there. We just had to do it to make it modern, to make it classy, to give it some fresh touches, and also because we see the possibility that, even in the saturated market here in Geneva, we can gain some additional market share."

Project planning began two and a half years ago, with the refurbishment finally kicking off in January 2012. RUAG partnered on the project with building owners Aéroport International de Genève, which funded the work on refurbishing the walls and floors of the building, and also shared some of the workload. The company also partnered with established companies and designers who have worked with its own architects on previous projects to complete the Geneva project. Heinrich explains, "For the equipment in the customer offices, we chose our own interior refurbishment subcontractors, namely Geneva-based Burnet Interiors and E&G Création d'intérieurs, and List Components & Furnitures from Edlitz, Austria. They have all worked with RUAG on different refurbishment and modification projects, and so they built furniture that resembled aircraft furniture for the customer offices."

Five months and CHF2.8 million (US\$2.9 million) later and the 280m² FBO offers its customers an exclusive atmosphere that



Left: **The corridor leading to separate offices and lounges promotes privacy throughout the FBO**

Above: **Furniture in the facility was built to resemble aircraft seating**

promotes privacy and allows passengers and staff to relax before their journey.

"We have created rooms for the customers where they can be discreet and private. There is a corridor with offices and lounges on the left- and right-hand sides, computer working areas, and rest areas where customers can just sit and relax and close the doors, have conferences, or just be by themselves while they are waiting for the airplane. This privacy and discretion is something we wanted to implement – they don't have to sit in an open lounge like at the airport, they really can be by themselves," Heinrich comments.

"We have the same for the crew – at the end of the corridor is a slightly larger room for the crew and staff where they can take their official breaks. It is all very comfortable, with modern furniture and a modern style. Everything is fully equipped with wireless LAN, computer stations, and printers; all office equipment is available, as well as refreshments and shower facilities as standard. But the main thing is that customers can be by themselves, private, discreet, and nobody sees them if they don't want to be seen."

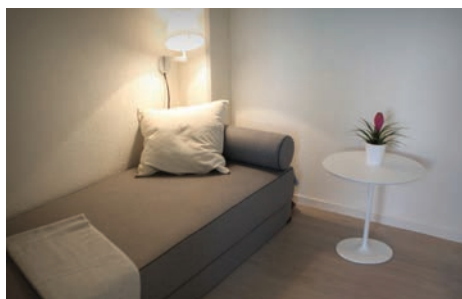
Official opening

The Geneva FBO is the first of RUAG's locations to feature its new modern style using colors and

designs from the company's corporate branding, and it seems this new direction has been a popular choice.

"The reaction from the public and the press at the FBO opening at EBACE was very positive – everybody said it is a nice, open, bright, and free atmosphere, plus they all liked the privacy aspect of the design – the style and the arrangement of the rooms was praised," says Heinrich.

The opening was celebrated with a ribbon cutting ceremony and drinks reception. The company erected a marquee outside the front of the building to accommodate the influx of visitors both from EBACE and the airport, and tours of the FBO were given to enable visitors to



Geneva is the first of RUAG's FBOs to feature its new modern style and corporate colors


experience the luxury redesign for themselves. RUAG sales and management teams were also on hand to answer questions and discuss the project with interested participants.

The opening was also the location for an important announcement by RUAG and ExecuJet, who have agreed a partnership deal to offer services to both companies' customers. Heinrich and Cedric Migeon, the managing director of ExecuJet Europe, made the announcement during a speech at the opening event. "We will offer ExecuJet the use of our facilities here in Geneva and they will bring us their aircraft and bring us into their network of FBOs so it is a win-win situation for the two companies. Each company profits from the services that the other can already offer," enthuses Heinrich.

Future plans

Despite the refurbishment of its Geneva FBO and the partnership with ExecuJet, RUAG hasn't finished with its development projects just yet says Heinrich. "Our Geneva location still needs some more work on the hangar and we are working on a project to modernize it a bit, to give it a fresh paint because it's as old as the FBO. Some things have been done over the years such as installing a new floor, but the hangar doors need a fresh paint, the ceiling may need some work, and equipment might need to be installed, so a big project is being developed right now.

"We are also working on a common project with the airport to improve the tarmac in front of the hangar so we can have parking for the customers' aircraft; this renovation is going to start during this year and should be finished by January 2013," he says.

In the meantime, the refurbished Geneva FBO is proving popular with new and existing customers, who have already been in contact to say they'd like to try the new facility, proving that creating a good first impression will always be important to the company's success. 


www.ruag.com

Right: **Saudia Private Aviation** operates a number of aircraft including the Hawker 400XP



Traveling in style

Boasting one of the world's largest fleets of luxury private jets, passengers flying with Saudia Private Aviation can expect first class service and exceptional surroundings

 Saudia Private Aviation (SPA) – the private aviation arm of Saudi Arabian Airlines – offers a range of services that meet and exceed standards in private aviation and, with more than 30 years of experience in this industry, SPA promises customers a first class, luxury experience from the moment a destination has been chosen. As well as offering single trips, SPA can also provide customers with a series of services to meet their demands throughout the year, including direct leasing, annual leasing (contracts), ground services, aircraft management, and advisory services.

Luxurious jets

SPA has a number of the most luxurious private business jets in the world – including the Falcon 7X Dassault. Falcon recently delivered its fourth business jet to SPA earlier this year, making the company the largest single customer/operator of the 7X worldwide. The four-aircraft order was first announced at the 2007 Dubai Air Show.

SPA now owns and operates the most advanced three-engine Falcon 7X for long-range flights, offering the utmost in technology and comfort. In 2011, SPA's Falcon 7X fleet achieved an increase of more than 25.5% in actual flying hours, as well an 80% increase in client numbers compared with 2010. SPA's domestic operations

increased by 73% and international operations increased by 27%, reflecting the continuing growth in the Kingdom of Saudi Arabia.

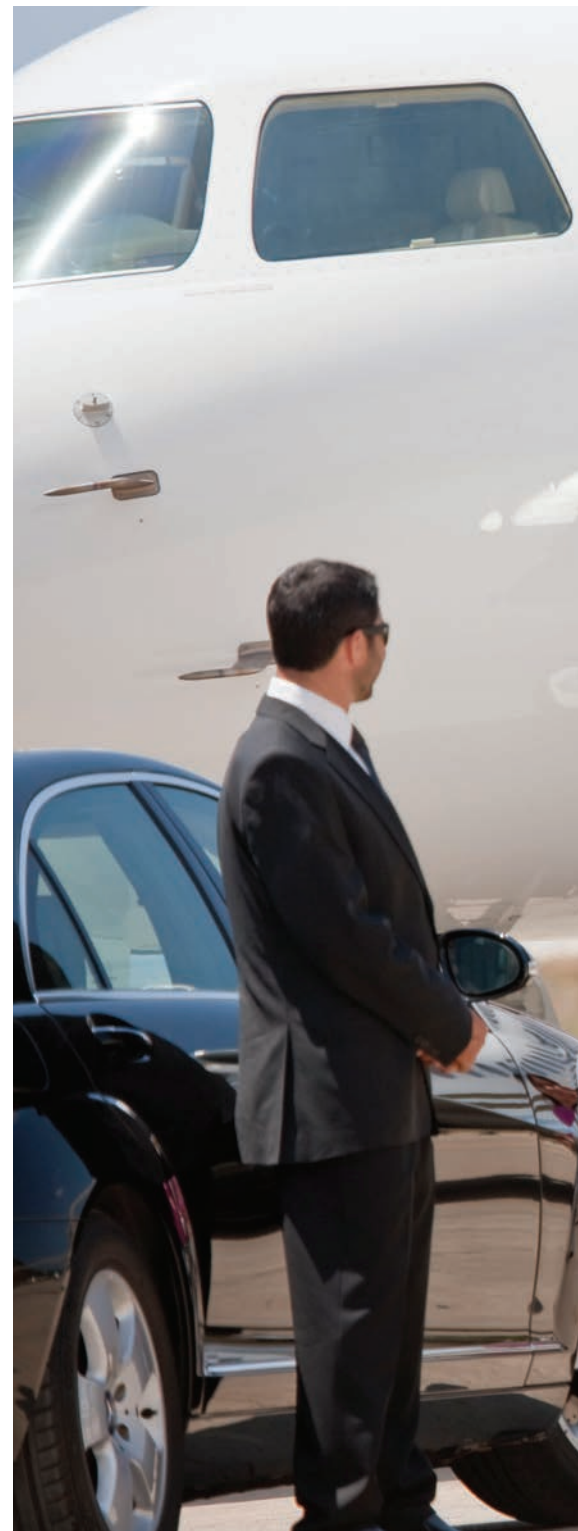
Commenting on this achievement, Wajdi Abdullah Al-Idrissi, managing director of Saudia Private Aviation, says, "The Falcon 7X is a great addition to our fleet of business jets and is in great demand for charter flights worldwide. The Falcon 7X has received high marks from our customers in regard to its advanced technology and its exceptional cabin comfort.

"Combined with the highest standards in terms of finishing and onboard equipment, the cabin meets the most demanding requirements of passengers in terms of high levels of comfort, especially on very long, non-stop flights of up to 13 hours," he adds.

The 16-seat Falcon 7X is also in demand for rental services. According to SPA, this aircraft has great appeal to its customers because of its advanced technology and exceptional comfort and privacy in the cabin, and SPA is the only company in the world to have a fleet of this kind.

Industry expos

SPA is always keeping an eye on developments within the private aviation industry and participates in the most important expos across the world. Recently, SPA attended the Business



Airport World Expo 2012 for the second year in a row, held this year in Cannes, France, on February 22-23, 2012. SPA also participated in the successful Al Bateen Executive Airport Expo on March 6-8, 2012, located in the heart of Abu Dhabi city.

As well as aviation expos, the company also participates in shows such as the Arabian Travel Market (ATM), held in Dubai on April 30-May 3, 2012. ATM is described as the travel and tourism event that unlocks business potential within the Middle East for inbound and outbound tourism professionals. SPA has also attended EBACE – one of the most important events in Europe – four times. This year EBACE was held in Geneva,



Switzerland, on May 14-16, 2012, and the show opened up more opportunities for SPA to expand its services.

SPA is always seeking to raise the level of services it provides to its customers to ensure it maintains the highest levels of excellence that they have come to expect. The company also works hard to provide competitive prices and exclusive services, and SPA wants its customers to immerse themselves in genuine luxury and leave everything to the professionals. The company promises that its customers' every need will be catered for, from shuttle services, to cabin configuration, and more. 🌐

www.saudiaspa.com

Above: **Passengers can expect a first class luxury service from the moment they arrive**

Right: **Saudia Private Aviation's stand at the 2012 Al Bateen Executive Airport Expo in Abu Dhabi**





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Special import

RusJet can now perform domestic flights in Russia with its new Embraer aircraft

Founded in 2005, RusJet Aircompany is one of the biggest business aviation operators in Russia. It is based at the Vnukovo-3 Business Aviation Center in Moscow and operates a fleet of 11 jets. The company is also a strategic partner of Irish operator VipJet, which manages 12 private aircraft including five Global Expresses.

RusJet was presented with the Wings of Russia Award in 2010 and 2011, which recognizes the best business aviation operator in the country, and its most recent success is receipt of the first fully imported Embraer-135BJ Legacy 600 aircraft, which was presented to the company on June 7, 2012.

The new aircraft was imported into the Russian Federation with all the proper customs procedures and will be used to perform commercial flights within the territory of Russia and the common Customs Union, which includes Kazakhstan and Belarus.

The opportunity to perform such flights on this aircraft, operated by RusJet, will partially satisfy the huge demand in the Russian market and this is why the company plans to import four more Embraers by the end of 2013, thus meeting its target of operating a fleet of five EMB-135BJ Legacy 600 aircraft. "We have been arranging everything for almost one year," said Mikhail Titov, the company's general director. "A lot of work has been carried out so that we can live up to the market changes and demands, and meet the needs of our customers."

From June 8, 2012, the EMB-135BJ Legacy 600 aircraft is available for charters via direct request to RusJet or through Avianode. This aircraft will perform all the domestic flights in accordance with all the customs and civil aviation regulations in Russia, thus making clear and legal any grey area of domestic flights that can cause problems for foreign operators. <

www.rusjet.aero



Keep talking
Regular communication with customers is the key to success
for one of Russia's busiest business aviation airports

As part of one of the biggest and busiest business aviation airports in Europe, Moscow's Vnukovo-3 Business Aviation Center works hard to ensure it keeps up to date with developments in the industry. As part of this effort, Vnukovo-3 has recently played host to a number of exhibitions and presentations. The airport was chosen by Gulfstream Aerospace and Embraer as the location for the companies to show off their latest developments to Russian clients.

The airport also hosts the annual international business aviation exhibition, JetExpo, which enables guests and customers to gain insight into the current trends in the industry, as well as the latest products on offer. This year, Canadian manufacturer Bombardier demonstrated its newest turboprop aircraft for regional transportation, the Q400 NextGen, to visitors at Vnukovo-3. Embraer also supplied its EMB-135 Legacy 600 aircraft to RusJet, the leading airline based at the Russian airport.

Vipport, which operates the FBO at Vnukovo-3 Business Aviation Center, also believes it is important to keep in touch with its customers through regular conferences and meetings. The company held a conference on April 11, 2012, which was organized for the managers of the operations departments. Representatives from 27 of the world's leading business aviation operators attended the conference, including Qatar Executive, JetAlliance, Avcon Jet, Airfix Aviation, TAG Aviation, Global Jet Concept, Fair Jets, Luxaviation, Net Jets, Perfect Aviation, PrivateJet International, Vista Jet, Linxair, Amira



Moscow's Vnukovo-3 is one of the biggest business aviation airports in Europe

Air, and Imperial Jet. During the conference, the attendees were able to discuss important business aviation issues and view the airport's apron, technical facilities, and hangars.

As well as hosting its own events, Vipport also attends numerous trade shows around the world, the most recent of which was the European Business Aviation Convention and Exhibition (EBACE), which took place in Geneva, Switzerland, on May 14-16, 2012. According to the company and exhibition organizers, EBACE was a great success, with many of the leading business aviation companies attending the event.

New services

Vipport has been in operation at Vnukovo-3 since 2004 and offers a number of services, including de-icing, airport slot coordination, handling and supervision, refueling, crew hotel accommodation

at special rates, crew and passenger transfer, crew visa support, and catering services.

Most recently, the company has introduced its Vipport Information Service (VIS), which enables users to track aircraft ground handling status in real-time mode within Vnukovo-3 facilities, including flight status, ground handling, passengers, and baggage handling. VIS offers customers three options: access to track (in real-time mode) aircraft ground-handling status within Vnukovo-3's facilities; VIS.SMS, which enables clients to receive SMS notifications with the flight status and all additional information to their cell phones; and VIS.SMS + VIS, which provides access to both of the above services.

Clients interested in this opportunity can send an email request to vis@vipport.ru and the company will provide a trial account application. www.vipport.ru

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On July 20-22, 2012, Formula 1 enthusiasts from around the world will travel to Germany for the Hockenheim Grand Prix. *BAI* takes a look at the general and business aviation services in the area

Words | **Hazel Swain**

The Hockenheim circuit is situated in Hockenheim, southeast Germany, and was built in 1939 as a high-speed test track for Mercedes-Benz, which needed a venue to practice for the Tripoli Grand Prix. Following World War II and a number of fatal and near-fatal accidents at the original track, the circuit was modified, and since 2002 has formed part of the annual Formula 1 race calendar.

For business and general aviation passengers wishing to travel to the German city for the race, there are four main airports situated within 55 miles of the circuit, and a helicopter service provided by Heli Transair is available on site.

The largest of the airports in the surrounding area is Frankfurt, 54 miles from Hockenheim, which offers FBO facilities courtesy of GAT, Signature Flight Support, and Execujet. The airport itself offers a number of VIP services, including car parking reservations, a VIP lounge, transfer from aeroplane to lounge, and transfer


of baggage to waiting cars, at a cost of €298 (US\$393) for one passenger and €110 (US\$145) for each accompanying passenger.

Landing and take-off charges at Frankfurt Airport are charged at €0.87 (US\$1.14) per 1,000kg of maximum take-off mass (MTOM) for passenger flights; and €2.50 (US\$3.29) per 1,000kg MTOM for ferry and helicopter flights. Parking is charged depending on time of parking, duration, and size of aircraft – rates range from €9.50 to €57 (US\$12.50 to US\$75) per hour. The airport operates 24 hours a day.

Situated approximately 50 miles from the Hockenheim race circuit is Baden-Airpark. The airport operates from 6:00am-10:00pm Monday-Saturday and 9:00am-8:00pm on Sundays and public holidays for aircraft with a MTOM of up to 5.7 tons. For aircraft with a MTOM over 5.7 tons, Baden-Airpark operates 6:00am-11:00pm every day, however prior permission is required for these aircraft.

ACM Air Charter offers a handling service at Baden-Airpark, which includes a limousine service, VIP and crew lounge, catering, customs and immigration assistance, parking/hangarage and a fueling service from Air BP. The facility is open 7:00am-10:00pm on weekdays, 6:00am-10:00pm on Saturdays, and 9:00am-8:00pm on Sundays; other operating times are available.

Closer to the race circuit is City Airport Mannheim (12.6 miles) and Speyer/Ludwigshafen (10 miles). Mannheim operates 6:00am-9:00pm on weekdays and 8:00am-8:00pm on weekends, with 24-hour services available on request. The airport has fuel tankers providing Jet A1 and avgas fuel.

Speyer/Ludwigshafen airport is open 7:00am-8:00pm on weekdays and 9:00am-8:00pm at weekends, with the fuel station closing 30 minutes earlier. Take-off and landing charges cost between €0.70 (US\$14) and €330.90 (US\$437) depending on MTOM. 

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