

#exvipav

# EVA

**High Net  
Worth Profile:**  
QUEEN OF GOLF  
Annika  
Sörenstam

EXECUTIVE AND VIP AVIATION INTERNATIONAL

AUTUMN 2016

## Jorge Colindres

Chairman, The Registry of Aruba

**Company profiles include:** Gulfstream; GE Honda; Jormac Aerospace;  
Mountfitchet Risk Solutions; Textron Aviation; SmartSky Networks

**Special features:** EVA's Completions Special Report; Future of the industry: Q&A

[www.exvipaviationint.com](http://www.exvipaviationint.com)

A photograph of a baby in a blue and white striped shirt looking at their reflection in a mirror. The baby is on the right side of the frame, and their reflection is on the left. The mirror is mounted on a white wall. The text is overlaid on the right side of the image.

The youngest  
*generation*  
of our  
glass  
mirrors.

**AIR-CRAFTGLASS™**

premium glass solutions for the aircraft industry

The original innovators of light weight and real glass solutions for mirrors, dust panels and real wood veneers in the aircraft industry. Visit us at booth no. 3663 during the NBAA show from November 1-3 in Orlando to see how we can also make a difference for you.

---

[www.air-craftglass.com](http://www.air-craftglass.com) - [info@air-craftglass.com](mailto:info@air-craftglass.com)



first thought

Last time I sat down to write the *EVA* editorial was a few weeks before EBACE. The Brexit vote was some way off. Very few people who are even remotely connected with business in general or business aviation, for that matter, thought there was the smallest chance that it would turn out to be anything other than a fairly cynical political manoeuvre by the then-Prime Minister, David Cameron, and that the 'Remain' camp would prevail. However, that was then, and this is now. Cameron is out of a job and the UK is irrevocably on its way out of the European Union.

This, of course, is a very big deal, since the UK has in effect torn up all its trade agreements with Europe. The UK government is waking up to the idea that actually, since writing trade agreements became the province of the EU, not the UK civil service, it - the government - has not been forging trade agreements for the last 40 years and has very little expertise left in this area. Add to that the fact that trade agreements take anything from three years to a decade to bring to fruition, and the disruption to trade that lies ahead could be profound.

However, business (and business aviation) is currently living through what looks like a phony war period, where Brexit remains a threat for the day after tomorrow, not today. As Avinode Managing Director Oliver King, and WINGX Advance Joint Managing Director Richard Koe point out in *EVA's* interview with them, for now aircraft movements and charter bookings are both turning in a fairly robust performance and on the face of it, all looks well enough. None of this gets away from the fact that we are in for a protracted period of heightened uncertainty, which the industry certainly does not like.

On a happier note, our cover story features the innovation and entrepreneurship of Jorge Colindres, who manages the Registry of Aruba, and who has managed to propel that registry into the spotlight by the sheer quality of the outstanding services it provides to its customers.

In our *HNWI* interview this issue, Margie Goldsmith talks to the queen of golf, Annika Sörenstam. We also feature interviews with Derek Zimmerman, who heads up Gulfstream's support services, and Textron's Kriya Shortt, Vice President of Sales and Marketing and one of the leading female figures and role models in business aviation.

Steve Shakhnaitis, CEO of GE Honda, talks about the H120 engine and GE Honda's plans to become a multi-product house, and our Completions Special Report takes a look at the sheer range of companies and products involved in fitting out a business jet to a client's dream spec.

With *NBAA 2016* now just weeks away, we're all looking forward to another sensational exhibition. We hope to see many of you there!

ANTHONY HARRINGTON  
**Editor** | anthony@evaint.com  
 Tel: +44 (0)1292 591385

Cover image:  
**JORGE COLINDRES**  
 See cover story, p4



PARVEEN RAJA  
**Publisher**  
 & Business Development Director  
 parveen@evaint.com

MAX RAJA  
**Founder & CEO of EVAA**  
 max@evaint.com

MO BANKS  
**Sales Executive**  
 mo@evaint.com

SOHAIL AHMAD  
**Sales Executive & IT Technician**  
 sohail@evaint.com

GEMMA KEEN  
**Events Coordinator**  
 gemma@evaint.com

YASMIN LYDON  
**Events Coordinator**  
 yasmin@evaint.com

SHOBHANA PATEL  
**Head of Finance**  
 finance@evaint.com

CHARLOTTE WILLIS  
**Events Administrator**  
 charlotte@evaint.com

SHELDON PINK  
**Creative Director**  
 sheldon@evaint.com

EDITORIAL CONTRIBUTORS  
 Rick Adams, Margie Goldsmith  
 and Megan Ramsay

Address changes and subscription orders to:  
 circulation@evaint.com  
 ISSN 1754-1166

PUBLISHED FOUR TIMES A YEAR BY  
**EVA International Media Ltd**  
 Boswell Cottage, 19 South End  
 Croydon, CR0 1BE, UK  
 Tel: + 44 (0)208 253 4000  
 Fax: + 44 (0)208 603 7369  
 Website: www.evaint.com

PRINTED BY  
**Headley Brothers**  
 The Invicta Press, Lower Queens Road  
 Ashford, Kent, TN24 8HH, UK

DISTRIBUTED BY  
**Asendia**  
 9-12, The Heathrow Estate, Silver Jubilee Way,  
 Hounslow TW4 6NF



Issue 35 © 2016 | www.evaint.com  
 Content may not be reproduced in any format without  
 written permission from EVA International Media Ltd

# contents

## 4 Registering the new

Our cover story profiles Jorge Colindres, CEO of the Registry of Aruba

## 12 Queen of golf

Margie Goldsmith talks to Annika Sörenstam, the greatest player in the history of women's golf



## 18 Grand plans

GE Honda CEO Steven Shakhnaitis on the H120 engine and the JV's determination to become a multi-engine venture

## 22 We can build it

Steve Jourdenais, President and founder of Jormac Aerospace talks about the company's use of the latest carbon fibre composites

## 26 Many a moving part

EVA's Completions Special Report

## 40 State of play

WINGX joint managing director Richard Koe and Avinode Managing Director Oliver King reflect on Brexit and business



## 46 Insurance counts

Mountfitchet CEO Oliver Clarry-Risk on his innovative insurance product for the charter sector

## 48 Seems real to me

Rick Adams on the latest in simulators

## 56 Nothing without support

Derek Zimmerman, Gulfstream President, Global Support, on what it takes to run a top-notch worldwide support operation

## 62 Innovation really does count

Textron VP of Sales and Marketing Kriya Shortt on how the company's forging ahead on multiple fronts

## 69 Staying grounded

Haynes Griffin, SmartSky Networks CEO, on his new air-to-ground network and its transformative potential for the sector



Welcome to the future  
of in-flight connectivity.

Let's Fly™



At Satcom Direct®, now SD, the spirit of innovation is our heritage and our future.

We solve the unsolvable to bring you the latest technology  
in business aviation for one reason: **to make your life in the sky easier.**

Nose to tail, air to ground, SD offers secure communication  
and connectivity solutions for the cockpit, cabin and flight operations.

We've been Satcom Direct since 1997. Today, we're even more.



# Private partnership proves its worth

Profile of Jorge Colindres and the Registry of Aruba

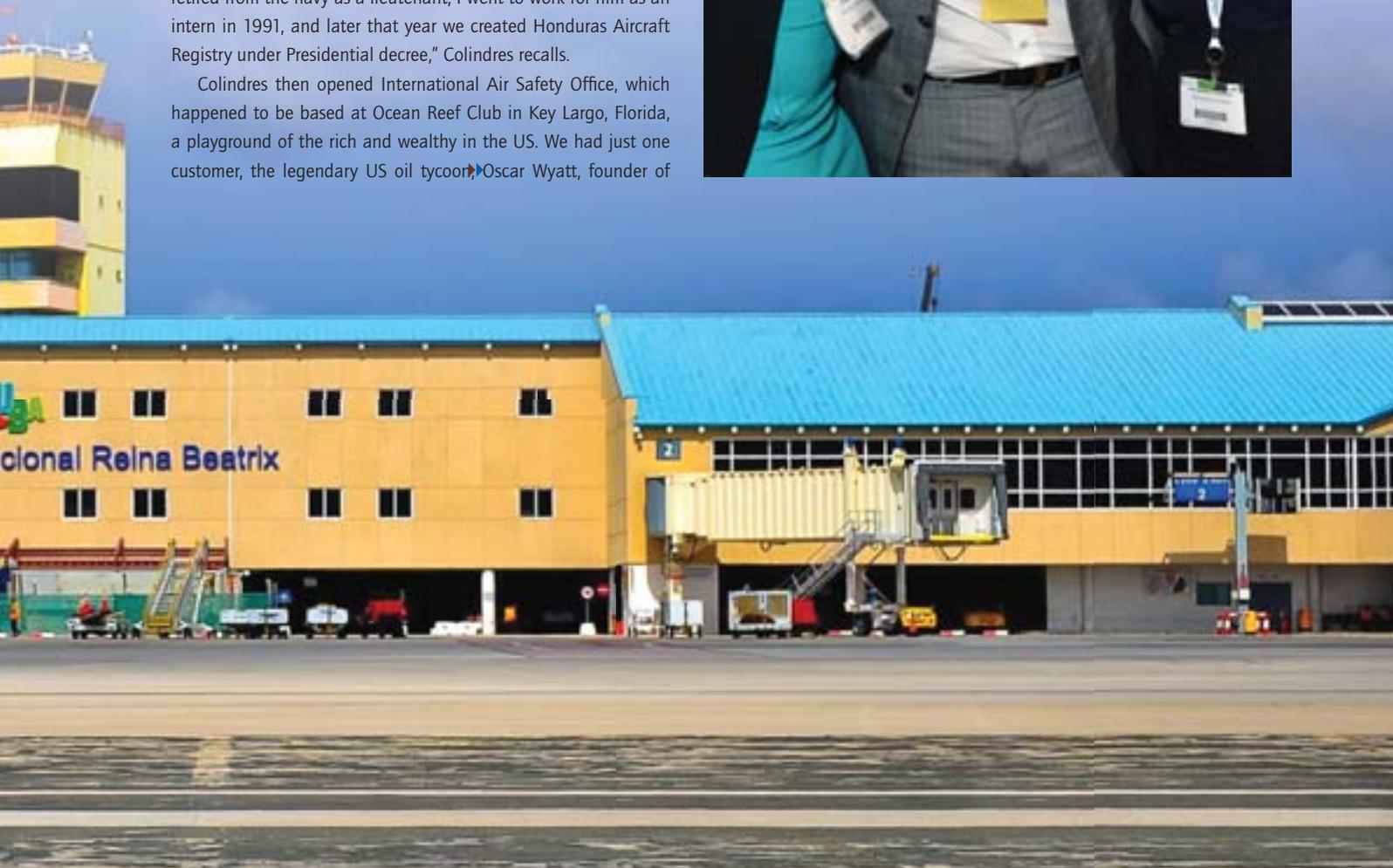


No one says to themselves as they finish their education: "Right, I think I'll start an aircraft registry!" The path to the public private partnership that has run the Registry of Aruba for the last 20 years is not exactly a straight line for the company's founding Chairman, Jorge Colindres, but the results have been hugely successful.

The tiny Dutch Caribbean island of Aruba lies 15 miles off the coast of Venezuela and is officially one of the four constituent countries making up the Kingdom of the Netherlands. In his youth as an attaché in service of the Honduras navy, there was nothing much to draw Colindres' attention to the island.

However, while still a naval attaché, Colindres met a US citizen, Mr Wayne J Hilmer Sr, former Chairman of Omni International Jet Trading Floor, who was to become at one time the largest aircraft broker in the US and a mentor to Colindres. "He asked me if I wanted to learn about aviation while I was still in the navy. So when I retired from the navy as a lieutenant, I went to work for him as an intern in 1991, and later that year we created Honduras Aircraft Registry under Presidential decree," Colindres recalls.

Colindres then opened International Air Safety Office, which happened to be based at Ocean Reef Club in Key Largo, Florida, a playground of the rich and wealthy in the US. We had just one customer, the legendary US oil tycoon, Oscar Wyatt, founder of





**In 1992 I happened to be standing next to the Deputy Prime Minister of Aruba at the inauguration of Aruba's President. We started talking and after a bit he asked me if I would be interested in taking over the running of the Aruba registry**

▶ the oil refinery specialist, Coastal Corporation, a close friend of Wayne Hilmer. Colindres did all the initial work to register Wyatt's aircraft in Honduras and later Aruba. The actual management of the aircraft was carried out by Wyatt's own flight department at Coastal Corporation's oil refinery in Houston.

Almost immediately Colindres started to get inquiries from several other US aircraft owners, Saudi, Brunei and Qatar Royal Families interested in registering their aircraft in Aruba. Then, as sometimes happens, a chance meeting put the whole matter on a much more formal footing. "In 1992 I happened to be standing next to the Honorable Glenbert F Croes, deputy Prime Minister of Aruba, at the inauguration of the president of Honduras. We started talking and after a bit he asked me if I would be interested in taking over and running the Aruba registry. We discussed the matter and revisited it in more detail on several occasions thereafter. Finally, in 1995, we entered into an agreement with state officials to form and manage the Registry of Aruba," he recalls.

The Registry itself remains a wholly owned subsidiary of Aviation Registry Group, Ltd a U.S

company. Colindres' company holds a private public partnership contract with the Ministry of Transport in Aruba with a brief to run the Registry on behalf of the Ministry. The Aruba DCA remains part of the Ministry of Transport and is in charge of all regulatory and oversight responsibilities.

"When we won the management contract Aruba had already registered some aircraft but the system was not particularly refined, and the Registry itself was virtually unknown outside the region. We did two things immediately. First, we formalized an approach designed to make Aruba the very best registry. Second, we started talks with all the big aircraft owning corporations, aircraft brokers, banks and leasing companies worldwide, including the major oil companies like Chevron and others," says Colindres.

Within a few months, the major bank and leasing companies had decided to switch their registration to Aruba. One of the big wins Colindres enjoyed was the decision by Ulick and Desmond McEvaddy, two Irish aviation entrepreneurs with headquarters in Dublin, to switch their fleet of tanker aircraft to the Honduras Registry. The McEvaddy brothers are the founders of

Omega Aerial Refueling Services and own heavy jet aircraft all around the world.

Working with BAE Systems and TRACOR, the brothers' US company, Omega Air, did the engineering analysis to convert a Boeing 707-300 into a tanker capable of refueling every type, model and series tactical aircraft in the US Navy and US Marine Corps inventory. The company has also provided refueling services to the Royal Australian Air Force, the Canadian Air Force and the UK's Royal Air Force. Having Omega Air register its aircraft with Honduras played its part in helping the Registry of Aruba to raise its profile when it was launched with prospective clients around the world, since we have already established our credibility.

When Colindres took over the Aruba Registry, the DCA had been downgraded by the FAA to a Category 2 Registry. Under the terms of the PPP agreement, Colindres' goal was to have the Registry upgraded to Category 1 and to ensure that it never got downgraded again. By 1996 he had succeeded in getting the Registry upgraded back by the FAA to Category 1 and from that day, the mission has been to ensure that the Aruba DCA ▶▶





## Global In-Flight Connectivity for All Ages

Pilots and passengers will appreciate the affordable, global in-flight connectivity provided by AeroWave™ from BendixKing.

Crews will now have in-flight access to global weather services, voice, text, email and their favorite connected aviation apps. Plus passengers will enjoy the ability to send and receive emails, text messages, browse simple web pages, make and receive phone calls and more.

AeroWave's low-cost connectivity service plan is based on prepaid hours of use – not the amount of data used – so there are no billing surprises. Airtime is only **\$40 USD per hour** and unlike other services it works at any altitude all over the world. It's that simple.

Don't leave your favorite apps on the ground anymore. Find out how to get globally connected today.



Global Weather



Flight Tracking



Voice



Text



Email



Web

To learn more, call 1.855.250.7027, contact your local BendixKing dealer or visit [aerospace.honeywell.com/AeroWave](https://aerospace.honeywell.com/AeroWave)

©2016 Honeywell International

**BendixKing**

► is always compliant with the standards set by the International Civil Aviation Organization (ICAO).

"From 1996 to the present day we have maintained our Category 1 rating and we have passed every audit the Aruba DCA has been put through with flying colors," he comments.

These audits are anything but a rubber stamping exercise. In an audit the inspectors look to see that the CAA is implementing ICAO standards and recommended practices effectively; that it has the correct operational standards in place and that it is compliant with all the ICAO annexes, namely 1, 2, 6 and 8, etc. There are a number of other things other CAAs like EASA and the FAA look at, since we have become a worldwide player with aircraft based around the world, including compliance with EASA Part NCC and the way the Registry deals with third country operators (TCO).

Colindres cites the case of Air Astana from Kazakhstan, which began operations in 2001 with (3) Boeing B737-700. The airline is a joint venture by the Kazakhstan sovereign wealth fund and BAE Systems. It began flying on domestic routes only, then expanded to Russia and China and to Europe. Its aircraft, unlike the aircraft of other Kazakhstan airlines, were all registered at Aruba, which, of course, meant that they all underwent the rigorous safety and air-worthiness checks that one expects from a Category One Registry.

This became hugely important when, in April 2009, an ICAO audit of the Kazakhstan Civil Aviation Committee (CAC) found the Kazakhstan CAC to be non-compliant in key areas of regulatory oversight. The result was a decision by the EU's Air Safety Committee (ASC) to impose a blanket ban preventing all Kazakhstan-registered aircraft from flying to, or within the EU. Air Astana was the only airline exempted from the ban on the grounds that its aircraft were under the oversight of the Aruba Registry, with its excellent record.

There were initially some complexities and restrictions. The ASC limited Air Astana's ability to expand and only gave clearance to its Boeing and Airbus aircraft, not to its Embraer regional jets. However, by April 2014 the "no expansion" clause had been lifted, and in December 2015 the block on Air Astana using its Embraer aircraft for flights to and within Europe was also removed. All Air Astana aircraft are now allowed to operate in EU airspace.

"This was a real feather in our cap and dem-



onstrated in the most clear-cut fashion to the world at large that the Registry of Aruba operates to the highest standards," Colindres affirms. The Air Astana success confirmed the Registry of Aruba's status as the place to go for airlines looking to outsource aircraft registration away from their own CAA or local registry.

A major reason for the high reputation enjoyed by the Registry, Colindres adds, is the effort it puts into recruiting highly experienced air-worthiness inspectors. "We have become one of the largest companies hiring retiring inspectors from leading aviation authorities around the world," including ex-ICAO experts he notes. Some 50% of the Registry's inspectors are ex-UK CAA which, in turn, make us a safety oversight compliance organization.

"We have a policy of hiring inspectors who have at least 20 years of experience working for their respective CAAs. They have a tremendous wealth of knowledge to draw on and that enables us to provide a very high standard of service."

"We have the former deputy Chief Surveyor for UK CAA, David Lewis, consulting for us, including former UK CAA Heathrow airport manager and the ICAO expert-in charge of developing the UAE CAA. Plus, we have inspectors from the US FAA, German, Dutch, Portuguese, FOCA and Australian CAAs, giving us world-wide coverage. Our inspectors fly to the client's site wherever he/she is located. Our unique business model is to ensure that our services are tailored to the

client's requirements, whilst ensuring that we maintain the high quality standards demanded by ICAO," Colindres says.

The Registry guarantees on-site inspectors for its within four hours of a request. This short lead time is possible because the Registry has inspectors located in multiple venues around the world.

"Say you have an aircraft going into Jet Aviation Basel for maintenance. We have an inspector whose normal place of residence is Geneva, so there is minimal travel time. With other registries, the client could find themselves wasting two or three days flying the aircraft to the Registry's location in order for the mandatory pre-registration inspections to be carried out. Or perhaps the Registry would send inspectors out from their location to the client's site, but that still involves considerable delay in travel time. Our model provides the kind of fast turnaround that clients really appreciate," he comments.

The Registry is officially able to audit and certify both private and commercial jets as well as turbine helicopters. "We were the first Registry to take on commercial airlines, sometime before either Bermuda or the Caymans. As such, we have played a vital role in being the launch Registry of many important airlines, including Qatar Airways, Air Astana, Qzak Air, Somon Air (the Tajikistan airline) and Comlux Aruba, and in the process of certification is BestFly Worldwide. We have some truly excellent success stories to tell," he proudly adds. The Registry of Aruba is ►



# HALLELUJAH

FINALLY, A NETWORK DESIGNED FOR THE FUTURE

SmartSky enables a true, fully connected aircraft. One compatible with both the real-time, right-now demands of business today and the more formidable world of tomorrow. Our 4G network answers the urgent need for Internet, today and beyond, that delivers landlike speed, reliability, security and value. Both for operations and passengers. Get ready for the ultimate airborne Wi-Fi experience.

**ACT FAST** Lock in special, introductory Early Bird pricing. To apply or learn more, go to [SmartSkyNetworks.com/EarlyBirdProgram](http://SmartSkyNetworks.com/EarlyBirdProgram).

800.660.9982 • [info@smartsky networks.com](mailto:info@smartsky networks.com) • [smartsky networks.com](http://smartsky networks.com)



▶ also known to tackle very creative projects, such as the certification of the largest VVIP wide body aircraft for commercial ops a Boeing B767-200 for Comlux and the launch Registry for the Boeing B777-200 LR as the first VVIP aircraft flying casino in the world for Crystal Cruises, a subsidiary of Genting Group.

These successes include a number of airlines that have come and gone, including Southern Winds Airline in Argentina, the Armenian airline, Armavia, AeroContinente from Peru and Air Aruba.

"Aruba is one of the only countries, along with Ireland and Canada, that has aircraft operating within the US. Three years ago it became possible to have Aruba registered aircraft flying domestically in the US on a US operators' AOC. The beauty of that is because we are a Category-1 rated CAA; we have an air service bilateral with the US with respect to Aruba for most of all Freedom of the Air, and US pre-clearance for commercial and private flights that says that if you fly an aircraft from Aruba to the US, that counts as a domestic flight. This means that you can fly to primary, secondary or tertiary airports and it opens up vastly more destinations without the need for additional entry formalities," We also have international 83bis and maintenance equivalency agreement with the US, Russia, Kazakhstan, Tajikistan, UAE and Singapore," Colindres explains.

The registry also has tremendous local advantages. As a constituent, self-governing state of the Netherlands, Aruba is classed as an overseas territory of the European Union. Its legal system is based on EU legislation. This, along with a very stable government, means that it is respected worldwide.

"The Court of First Instance is based here in Aruba and the Appeal Court is based in Curaçao, with appeals to the Supreme Court in the Hague. This makes it a very good, solid jurisdiction, plus

Aruba is White Listed by the OECD which adds to its appeal."

It is hard to overestimate the importance to the Registry of its "go anywhere" business model. "Wherever there is a green delivery of an aircraft to a completions center, we will send our inspectors there to do both a physical inspection of the aircraft and the related documents."

"When ICAO enacted the Cape Town Convention, we were the first offshore registry to ratify that convention. A lot of countries have now ratified it but we were the initiators, and that is another first that we are proud of," Colindres beams.

As a big fan of technology and automation, he has made it a priority to do as much as possible on-line. The Registry has an online Aircraft Registry Management System (ARMS), and every critical document for every aircraft is managed in the database.

We were doing things so different, that the Registry of Aruba was even featured in the AVENGER, a novel by Frederick Forsyth, #1 New York Times bestselling author, Colindres recalls.

The outstanding record of the Registry was the deciding factor in winning a second Registry for the company. "When San Marino was looking in 2007 for a partner to outsource their registry to we were their first choice. They came and spoke to us and looked at how we did things and in 2012 they awarded us the contract to run the San Marino Aircraft Registry," (SMAR.aero) he notes.

The San Marino operation had its formal launch at MEBA 2012, in Dubai. "I appointed my eldest son, David Colindres, to head up

SMAR since he has been with Aruba for over 12 years and understood my vision and business model well. It was an absolute start-up when we launched and now, just three years later, it is one of the premium players in the aviation sector." It just boasts the honor of being recognized by ICAO on the 27 of September 2016 during its 39 general assembly with the Presidents Council Award for having achieved one of the world highest effective implementation of ICAOs Standards during the 2015 audit to San Marino CAA.

"That is why a state never manages to compete successfully against private enterprise. The UK CAA was the first authority to become private. They became very efficient as a consequence and rapidly set the standard for all the other CAAs around the world. That is one of the main reasons why we are so keen to recruit retiring UK CAA inspectors," Colindres comments.

One of the keys to the success of both registries has been the fact that the management companies responsible for operating them are not government owned entities. "As a private operation we do not have to wait for government budgets to enable us to do something. If we see something the industry demands, we are free to innovate to meet that demand. The other registries are all government owned and that significantly restricts their freedom to develop services, even if they offer and deliver quality services but lack the things that makes Aviation Registry Group of companies different. We do not focus on fast turnaround, rather on offering our clients personalized solutions with a boutique appeal" As Wayne Hilmer Sr. used to say, "Chief, there other companies out there doing the same thing, but not in the same way like us" and that has proudly been my business model for all my Aircraft Registries from the first day, Colindres concludes. ■





See Us At **NBAA 2016** Booth 4855

WORK.  
CONNECT.  
CONFERENCE.  
STREAM.

# Do More On Board

Office in the sky takes on a whole new meaning with ViaSat in-flight internet. Be as productive in the air as you are on the ground.

THE PATH TO GLOBAL HIGH-SPEED BROADBAND

WEB [www.viasat.com/business-aviation](http://www.viasat.com/business-aviation) EMAIL [business-aviation@viasat.com](mailto:business-aviation@viasat.com) PHONE +1 760 476 4755

**ViaSat**

# Annika Queen of Golf Sörenstam

**A**nnika Sörenstam, considered the greatest and most dominant player in the history of women's golf, has rewritten the LPGA and Ladies European Tour record books and changed the way women's golf is played. Sörenstam is the only female golfer to cross the US\$20 million mark for LPGA career earnings, and during her 15-year player career, earned over \$22 million. Known as 'Ms 59' because she is the first woman to break 60 in a professional tournament, Sörenstam has won 89 worldwide victories, 10 major championships, a record eight Rolex Player of the Year awards, and six Vare Trophies for lowest scoring average in a season. She was the first woman since 1945 to play in a PGA event resulting in a 44% increase of TV golf viewers and a 14% increase in attendance.

In 2008, Sörenstam stepped away from the LPGA and became an entrepreneur, creating the Annika Foundation, a charity which offers aspiring junior golfers opportunities to pursue their dreams and five golf-related 'Annika'-branded businesses: Annika Academy, a boutique-style golf school near Orlando Florida; Annika Collection with Cutter & Buck for women's golf wear; Annika Financial Group catering to the needs of

professional athletes; and Annika Course Design which has completed golf courses in Shenzhen, China; TaeAn, South Korea; Impopo, South Africa; The 27 Club in Tianjin, China, with each hole designed by a major champion; and The Estonian Golf & Country Club in Estonia, her first European design.

Sörenstam is presently creating a course in Minnesota with Arnold Palmer Design, which will be aptly named The King and The Queen. In addition to her branded businesses, she is an analyst for NBC Golf's broadcast of major LPGA championships.

As a young girl, Swedish-born Sörenstam was a talented all-around athlete who played soccer, was a nationally ranked junior tennis player, and such a good skier that the coach of Sweden's national team wanted her family to move to northern Sweden. At twelve, Sörenstam's golf-playing parents encouraged her to watch them play and get a feel for the game. Four years later, Sörenstam took up golf and liked it so much that she stopped all other sports to become a better golfer.

By 1989 she was a competitive player. While playing in a collegiate event in Tokyo, a coach spotted her and persuaded her to move from Sweden to play golf at the University of Arizona. Sörenstam left Sweden with two suitcases and a golf bag. The move was a radical change of culture, language, and tradition, but in exchange, Sörenstam became the most successful female golfer in history. In August 2007, she married Mike McGee, the managing director for the Annika businesses. They have two American-born children. Sörenstam has been a United States citizen for the last 10 years. "This is my home," she says. "Leaving Sweden was quite a change, but that's what life is about: going to different places and experiencing different things. I've learned a lot along the way and I'm very thankful for getting that opportunity."

Annika Sörenstam has two homes: one in Lake Tahoe, Nevada, and one in Orlando, Florida, where we caught up with her.

**Q: I understand you were so shy as a junior that you used to deliberately three putt at the end of a tournament to avoid giving a victory speech?**

**A:** That's true. In Sweden you have to give a winning speech after a golf tournament, so to me it was easier to finish second or third and still get a prize, but not have to say anything. This kept happening and my parents would say, "How'd it go?" I would be burning inside because I knew I could do better but I was intentionally missing. At the next tournament, they decided if you finished second or third, you also had to say something. So, I stumbled some words out and realised making a speech wasn't the end of the world; besides, I'm extremely competitive, and I felt much better saying something and winning. That little bump along the way actually helped me.

**Q: When you became the first woman to play in the men's PGA tour**

**since 1945, you received worldwide media attention. Did you face discrimination from the male players?**

**A:** I don't know if discrimination is the right word. There were some documented players who wanted nothing to do with me and thought I didn't belong there. Some decided they were not going to play because of me. But a lot of players reached out and wished me good luck – people of all walks of life such as Arnold Palmer and Billie Jean King.

**Q: You and Jack Nicklaus were named global ambassadors for the International Golf Federation to help win golf's successful bid for inclusion in the 2016 Olympics. What did you hope that exposure would do for golf?**

**A:** I believe the Olympics were good for the game globally and will grow golf from a grass-roots level. When you're an Olympic sport, suddenly most countries receive federal funding. The United States and some parts of Europe excluded, in other parts of the world people don't even know what golf is. In China, Asia, and Sweden, the Olympics are a big deal. When you look at golf as an industry how do we grow? How do we share it with others? We do it by going to areas where it has not been played. I feel the Olympics is that tie. I learned a lot from working with Jack Nicklaus and thought it would be great to design a course in which men and women could compete at the same time. Obviously, the Olympics lasts only two weeks, and then it's over. You have to think of the sustainability of the game in some of these areas and take advantage of the excitement from the Olympics: activate junior activities, grass roots initiatives, and make golf accessible to the public.



**Q: You're captaining the European team for the first time, in the 2017 Solheim Cup. Do you think that the Europeans will reclaim the cup after losing to team USA in 2015?**

**A:** Well obviously we'll have to see, but I think the last few times we've played, the Solheim Cup has been elevated to a different level. The Solheim Cup has always been a part of my career, and I've been lucky to be able to play in eight of them and also as a vice-captain. I feel very honoured to have this chance to be the captain.

**Q: What do you think is the biggest difference between men's golf and women's golf?**

**A:** Other than the obvious as far as TV and exposure, I'm sure that more participation, the depth in men's golf is deeper than the women's. But women's golf has come a long way and being competitive in the LPGA, on the European Tour, it's very much a global game. I see more similarities than I see differences. And it's really a game for life and for men and women at different ages.



► **Q: What are you doing now to bring more attention to women's golf?**

**A:** I have a foundation. We run six different golf tournaments around the world; we're heading to Europe soon, we'll have a tournament in Sweden, then Argentina. I try to really inspire the next generation to fulfil their dreams. We use golf and nutrition and fitness as the platform because it's more than just hitting a seven iron. I'm also part of the broadcasting team, designing golf courses, and I have a golf clothing line. I still have my foot in the game.

**Q: In 2007 you were diagnosed with ruptured and bulging discs in your neck, the first major injury in your 13-year LPGA career. After your two-month injury rehabilitation break, you returned to golf but admitted to being at only 85% of your fitness. Is that why you announced you would step away from competitive golf?**

**A:** When I was away, I realised I had lots of other interests and started to enjoy other things. For me, reaching a peak in golf is like climbing Mount Everest. I've been there and looked at the view, and that's when I realised there are other mountains I want to climb in my life. When I came back from that injury and won, I knew in my heart that if I really wanted to, I could do this – come back from these challenges. But it was no longer part of my motivation – it was time to move on. I'd achieved more than I ever thought I could.

**Q: And what did you plan to do with your life post golf?**

**A:** At first, being a mom and a wife were my most important roles, but I knew I wasn't just going to say goodbye to golf and leave, because I'd miss it. I do get my golf fix; I'm involved with my foundation to build a legacy and help build the next generation of golfers. I love having my foot in the game in these different projects because I'm not a person who sits still; I juggle the household, my children, and the businesses. I'm always on the go.

**Q: What was the first business?**

**A:** My foundation was first, in 2007, and then I started the Golf Academy in 2008, which we just closed down because I feel there are other things I want to focus on now.



**Q: How did you transition from professional golfer to entrepreneur? Did you have a mentor? And if not, a foundation is a business; how did you learn about running a business?**

**A:** I'm lucky to have some great friends. I put together an advisory board of people I'd gotten

to know from all walks of life: marketing CEO, financial – different specialists that have expertise in different areas. I made clear my goals and they guided me along the way. I have a great CFO and I'm surrounded by good people.

**Q: Were the frustrations and emotions of running this foundation similar to what you experienced playing golf?**

**A:** Yes. I keep saying I'm about an 18 handicap in business. I make mistakes, I made a few mulligans here and there, but then I also look at the similarities between golf and life. There's so much synergy there and obviously, the working hard aspect is a given: the determination, the focus, the commitment, the dedication, the patience. You need to have a plan, a strategy; you need to execute and analyse – that's what I did in golf. I kept track of every round so I could keep track of my weaknesses and my strengths, so I could figure out my goals and what I needed to get there. I have an analytic mind and have surrounded myself with good team. I've set short-term goals and long-term goals.

Golf is very similar to business: you just change the product or the playing field or territory. I used to just have one employee, my caddy. We're a bigger team now and every day I ask, "Why? Why this and why not that and what can I do differently?" That's how I learn and get better. We made mistakes in life, but hopefully, work through them, survive them, and not do them again. I always tell people, one day it's sunny on the golf course, the next day it's windy or rainy, and you have to adjust. You still have to play the game and trust yourself and keep to your beliefs. That's all you can do.

**Q: What's the biggest mistake you ever made in business?**

**A:** I've partnered with a few people who didn't work out as well as I'd hoped they would. I'm stubborn but realistic and know that when something isn't working, you have pull the plug and move on.

**Q: In 2008, America was in a recession. How did you get through that with your start-up company?**

**A:** I couldn't have picked a worse time to

start a business, but it's made me tougher and more resilient. I had a vision and a business plan, had just created a high-end golf school, and was selling expensive wine. But people were holding onto their wallets. Looking back, I probably wouldn't have started in 2008, but I learned from it. When things were turning around, when we didn't have the wind in our face, it was a lot more fun.

**Q:** The Annika brand seeks to combine golf, fitness and charitable works into various businesses with the brand statement 'share my passions'. There are five brands, correct?

Yes, and we also have the Annika Foundation and licensing agreements for women's golf clothes and course design.

**Q:** Which part of your life has been tougher: playing golf or running businesses?

**A:** They're both tough, as is being a mom,



but I enjoy challenges and having plenty of projects in the works. I love to increase my knowledge and I also enjoy sharing my knowledge, including mentoring young girls.

**Q:** Have you faced any discrimination as a woman in business?

**A:** I would say the biggest thing is golf design, which is a very male-dominated business. I wouldn't say 'discrimination,' but I'd hear things like, "Oh, you're building a course for women?" And I'd say, "No, I'm building a course for golfers." I think it's more the perception. But like anything, if you're going to be successful you've got to work hard. I never really see that as a hurdle; it just makes me want to work even harder.

**Q:** What's the most important lesson you've learned in business?

**A:** My dad told me a long time ago there are no shortcuts to success. ▶▶

WE KNOW THAT EVERY FLIGHT IS UNIQUE  
MAKE YOUR WISH AND  
WE'LL MAKE IT HAPPEN



The largest FBO network in Iceland offering services at BIKF, BIRK, BIAR and BIEG.

[www.igs.is](http://www.igs.is) | Tel. +354 425 0277



**IGS**   
GROUND SERVICES

► **Q:** You have homes in both Florida and Nevada, plus all the businesses to run. Do you fly privately?

**A:** Yes, I have 50 hours a year with NetJets.

**Q:** When did you first fly privately?

**A:** In 1995, I was invited to do a corporate outing. Sometimes I have to be in many places in a short period of time. That was when I realised that flying privately could help me be productive and efficient. I don't fly as much as I used to, but when I was competing, I flew as much as 75 hours a year. I still fly privately because I want to save time, whether getting home for the kids or flying to a meeting.

People say flying privately is so expensive, but think of the outcome. You can extend your career by a year or two or even five. You have to look at it from a long-term perspective. For me, time is money. To make good decisions, you have to be rested. Also, as a mom of a five-year-old and six-year-old, I want to be home when they wake up in the morning. But I don't want to turn down any opportunities, so I need to be efficient in travel.

**Q:** If you could buy any plane, which one would it be?

**A:** Well, if money isn't an issue, I'm not going to turn down a G5!

**Q:** And you're happy with NetJets?

**A:** I've been with them since 1995 or 1996 and they've been great. Safety is the most important thing and then comfort and convenience.

**Q:** What do you particularly like about the Citation 10?



**A:** It's a convenient size, especially for just one or two people. It feels like a sports car in the air. I mean I haven't piloted it, but that's what it feels like. Remember, you get what you pay for also. Luggage is not an issue, space is not an issue, there are seven seats, and we can fly into smaller airports. That's the thing when going to places where perhaps a larger plane couldn't land. You want to be able to have that option.

**Q:** What are some of your future projects?

**A:** The Solheim Cup for 2017 is a big deal and I want to finish up these golf course designs. I'm part owner in a company called Capillary Concrete, which is a revolutionary bunker liner

system. This is a wonderful alternative to help sustain golf courses. It's very expensive to run a golf course today – bunkers are a good example. It costs a lot of money every year, but is also time consuming for the staff. Capillary Concrete is a revolutionary bunker lining system that is environmentally safe, financially beneficial, gives players a consistent playing surface and has an incredible longevity. It's the only moisture controlled application in the business.

**Q:** You also represent some world-class companies such as 3M, Ahead Calloway, Golfing World, Lexus, Pacific Links International and Rolex?

**A:** I've been lucky. They've stuck with me both through my playing career and now. I believe in their products. I've been an ambassador for Rolex since the first time I won the Rolex Rookie of the Year and then Player of the Year. Now, they support my Juniors Golf Tournament around the world. Same thing with Calloway. I went from a player representative to the ambassador of the equipment. Calloway and Rolex helped me grow the game of golf. I can actually do more as a non-player because I'm available to attend the events.

**Q:** What do you want your legacy to be?

I want to be known as more than just someone who's competed. I want to be known as somebody who loves a challenge, somebody who cared about the game of golf and wanted to grow the game, and mostly as a person who stepped up to a challenge to reach my full potential and to inspire others to be able to do that in whatever field they've chosen. ■



# Perfect Coordinates

COMFORT AND PERFORMANCE CONVERGE

*Citation Latitude*

*Citation Longitude*

*Citation Hemisphere*



## COMFORT AND PRODUCTIVITY WITH EVERY MISSION

The Citation Latitude® is recently certified and already the most accepted in its class. The Citation Longitude® is scheduled for its first flight in 2016, while the Citation Hemisphere® will follow in 2019. This new Citation® family is ready to take your business to the top. **We position your business for success.**



Range

Citation Latitude    Citation Longitude    Citation Hemisphere

2,700 nm\*    3,400 nm\*\*    4,500 nm\*\*

\*2,700 nm 4 passengers high-speed cruise, 2,850 nm long-range cruise

\*\*Preliminary, subject to change



TEXTRON AVIATION

Cessna.com | U.S. +1.844.44.TXTAV | INTERNATIONAL +1.316.517.8270

©2016 Textron Aviation Inc. All rights reserved. Cessna, its logo, Citation, Citation Latitude, Citation Longitude and Citation Hemisphere are registered trademarks of Textron Innovations Inc., used by permission.

# Flying high

Anthony Harrington talks to GE Honda CEO Steven Shaknaitis

**Q:** The Honda-GE joint venture has been going a long time. I imagine it is very gratifying to finally see your engine, the H120, being on the production line with sales set to ramp up in 2017.

**A:** Well, we are now finally in service, with 18 aircraft flying our engines out there and plenty more to come. The joint venture (JV) with Honda started way back in October 2004 and is now stronger than ever. Here at GE Honda we have long said that we want to be a multiple applications mission, with multiple products. As such we have been studying the



markets, visiting other airframe companies and really trying to envisage the future for light jets. Through all this we see the JV continuing to grow in strength.

**Q:** GE obviously brings deep experience in turbojet engines to the table. What does Honda bring to the party, besides the airframe and what, at the time, was an entirely unknown light turboprop engine?

**A:** Well, Honda obviously had the HF118 small turboprop engine, which was a Honda only design. It was a 1,800 pound-thrust engine which they put many years and millions





**Jun is a 33-year veteran of Honda, and has much the same depth of career with them that I have with GE**

of dollars into developing. The HF118 was designed specifically with the requirements of the light jet market in mind. It has to be affordable, light, fuel efficient, reliable and deliver a low cost of ownership. The two major competitors to a new engine like the HF118 in this market are Williams, with the FJ44 and FJ33 and Pratt & Whitney Canada, with the PW600 series engine. The sub-3,000 pound thrust market was entirely new for GE at the time and our engineers spent a long time evaluating the HF118 before we went into the JV.

Honda was obviously very interested in our production and after-market support capabilities, along with our long history of expertise in jet engines. But what was absolutely key for them was GE's deep experience in walking jet engines through the certification process, which was a completely new field for them. So, the JV had their prowess in the sub-2,000 pound turbofan class plus their very strong manufacturing expertise.

Honda make a large range of products in mass quantities, to a very high standard, all over the world. They have a state-of-the-art advanced manufacturing and assembly facility in Burlington, North Carolina, where we do all the assembly testing and overhauling of the HF120. This really is one of the nicer facilities in the world. So they own the assembly and test portions of the HF120, which we carry out in their facility.

The thing to bear in mind is that GE is the largest jet engine manufacturer in the world, but we make something like 5,000 engines a year. Honda makes 23 million engines a year. And they have the process and production skills that go along with those kinds of numbers.

**Q: When you took over the leadership of the JV in 2014 when Terry Sharp retired, what were your plans?**

**A:** I have a deep experience of what it takes to build and maintain a global support and after-market network around engines in service. I came over to the JV from GE's G90 programme and the thinking there was that once the HF120 got to certification in December 2013, the next step was to build a first-class product support and services model around the engine. We made this a priority and we now have an excellent third-party authorised support network.

Around a year ago, Jun Yanada joined from Honda as Executive Vice President of GE Honda. Jun is a 33-year veteran of Hon-

da, and has much the same depth of career with them that I have with GE. His presence strengthens our management team and he has considerable experience in running various subsidiaries for Honda. We're now in a very interesting phase with the H120. Certification is now a done deal and we are building a services fleet business out there.

So the task for Jun and myself is to keep everything progressing smoothly and to look at where we are going to be investing in the future. We have a new engine on the drawing board. We've talked to everyone in the industry, all the airframe manufacturers and operators, and collected a lot of input. Now we're in the process of starting to architect the cycle, which means deciding how many stages the turbine is going to have and so on. We have a Board meeting coming up where we'll be presenting our findings, and then we'll make a decision on what to do. We want to pick the right technology and the right architecture for the engine, which we expect to be in the 3,000 to 4,000 pound thrust range. The whole idea is to build an engine that has tremendous performance and that is clearly superior to anything out there on the market today. If we are going to build it, it has to be really good and it has to have a launch customer. We're not going to give the project the go-ahead until we are sure we have a strong case.

The important thing is that we have complete backing from both our parent companies. We had a key board meeting in May this year, which cleared the way for us to move to the next phase in our goal of being a multi-product company, so that was an important milestone for us. It has been an issue for us being a small JV standing beside two giant



Jun Yanada



▶ parent companies, so we're giving a lot of thought to our branding and how we carve out a niche for ourselves as an engine and support OEM.

**Q:** Now that the H118 has become the H120 and is flying on the HondaJet, with, potentially, sales about to ramp, what are the clear advantages you see for this engine over the competition?

**A:** The compressor is unique, for a start. We see a better pressure ratio coming from it than any of the competition can produce. We have a 3D designed fan blisk, which is one of the really strong features as well. You can't have a great core without this. The actual bypass ratio of the engine will be much the same as the H118, at around 2.9, just under a 3 to 1 ratio. By comparison a G90 engine for a large commercial airliner is about a 9 to 1 ratio and a supersonic fighter jet has a very small ratio, so 2.9 is a nice size for a light jet.

Our thinking for the next engine, where we are going up to say 4,000 pounds of thrust, is a bypass ratio of about 3.5 to 4. However, the really key design point for us is to produce an engine that can perform hot and high, and this is one of the really critical distinguishing features of the HF120. It does hot and high better than any of the competition. It

is comfortable with 40,000 feet and still has room to climb, whereas they are maxing out at about 39,000 feet.

This is one of the features that we know will make it very attractive to other airframers besides Honda. People who like to fly fast in light jets like to get to cruise altitude as fast as they can, since that is where you get the best performance numbers in terms of fuel consumption and time to destination. So being the fastest engine around is huge, and being able to climb really fast is also critical. We

have the best climb rate and the highest top speed in our class. The engine is certified to 46,000 feet though the HondaJet has a ceiling of 43,000 feet. So we have room there for another airframe manufacturer if they want more height.

**Q:** What kind of feedback are you getting from owners now that the aircraft is out there?

**A:** The comments and feedback from owners have been and are extremely positive.



They love the HondaJet and the engine definitely plays its part, not just in speed and rate of climb, but in terms of low cabin noise and low vibration. And HondaJet's OTW positioning of the engine really helps the feel in the cabin too, plus giving the jet tremendous ramp appeal.

So far, too, we have had no engine removals and no issues. It is early days, but you have to remember that the HondaJet has flown really long distance, multiple-hop journeys already, including going from the US to Japan on a demonstration trip, and to EBACE in Geneva last year. Plus, it toured Latin America. So it has racked up the hours and everything is good.

**Q: Where is breakeven in all this, in terms of the number of engines that need to be sold?**

**A:** Both GE and Honda have invested very significantly in the development of this engine, so we have to sell a lot of engines to break even. However, this is not something we are fixated on. Right now our goals are to ensure we build out a world-class support infrastructure for the engine and HondaJet, and that we move forward on our plans to be a multi-product JV. We are in this to build a sustainable business that sells these aircraft and engines for at least the next two decades, and we are very focused on ensuring a smooth entry into service as sales ramp up.

Right now we have spare engines, parts and tools for our support infrastructure and great partners out there. HondaJet owners are high net worth people and they expect a commensurate level of support and service. They want to be able to fly when they need to, and we are there to ensure that they can.

**Q: What are the criteria for signing up third-party ASPs for your global support infrastructure?**

**A:** We have a checklist or process to go through to bring a new ASP on board and we are good at doing this. It works through everything from training the ASP's team to parts. We just basically roll this process and keep a very tight grip on it and make sure that everyone is ready to go as HondaJets start being sold into their region and owners outside the region start travelling into it. We've got our customer support people trained and ready and we are analysing the flight data on the various HondaJets as it comes in. We've been practising engine overhaul techniques down in Burlington as well. So far, all the signs are good.

To recap, I believe we have five attributes that put the HF120 above the competition. These are our high cruise speed, the fast climb rate, better life cycle costs thanks to our reduced fuel burn, the ability to do hot and high, and finally, the fact that we have the quietest cabin in the light jets class. ■



**HondaJet owners are high net worth people and they expect a commensurate level of support and service. They want to be able to fly when they need to, and we are there to ensure that they can**



# Jormac introduces carbon fibre technology



Steve Jourdenais, President

Jormac Aerospace, headquartered in the Tampa, Florida area, has been engineering and building VIP and commercial interior products for over 20 years. Regarded as the industry leader in products such as lining systems, cabinetry, galleys, custom bins, hardware and much more, Jormac is proud to introduce and showcase its newest innovative products using carbon fibre composites.

Steve Jourdenais, President and founding partner, says: "Military and commercial aerospace manufacturers have been using carbon fibre for over 40 years because carbon fibre composites can be tailored for specific direc-



tional strengths and stiffnesses in applications that demand lightweight structure. At Jormac, we have always challenged our design, manufacturing, and flight sciences engineers to innovate and improve our products. They have answered the call with a wide variety of carbon fibre solutions for the increasingly demanding aircraft interiors market, both VIP and commercial."

With the newer generation of fuel-efficient aircraft incorporating a much higher percentage of carbon fibre composites to reduce weight, the interiors of these aircraft must also look to carbon fibre composites to also be lightweight. As a result, Jormac's team set out to design and manufacture carbon fibre structural elements that can be utilised in commercial and VIP interiors. Working with its customers, Jormac has developed carbon fibre composite interior lining systems, monuments, structural support elements, tie rods, and Jormac's new interior structure system, called the ISS.

**At Jormac, we have always challenged our design, manufacturing, and flight sciences engineers to innovate and improve our products**

Steve Jourdenais

In 2015, Jormac and Associated Air Center partnered for the first carbon fibre lining system in a VIP A320. Using carbon fibre face sheets on standard nomex honeycomb core, significant weight savings of approximately thirty percent (30%) were achieved. With Jormac's extensive tooling and manufacturing capability, virtually any lining panel contour can be manufactured from carbon fibre.

In addition to the lightweight carbon fibre lining panels, Jormac also offers carbon fibre tie rods in virtually any diameter and length, depending upon the application. The Jormac proprietary design and fabrication of these tie rods yields the highest strength to weight ratio available in the market today. As these next-generation carbon fibre aircraft, such as the Boeing 787 and Airbus ACJ350, are outfitted with state-of-the-art interiors, the aggressive interior weight targets are more easily met using Jormac's new carbon fibre solutions.

Jormac is also very excited to announce an undisclosed potential widebody project for a Boeing VIP 787 for 2017. This project would in- ▶▶



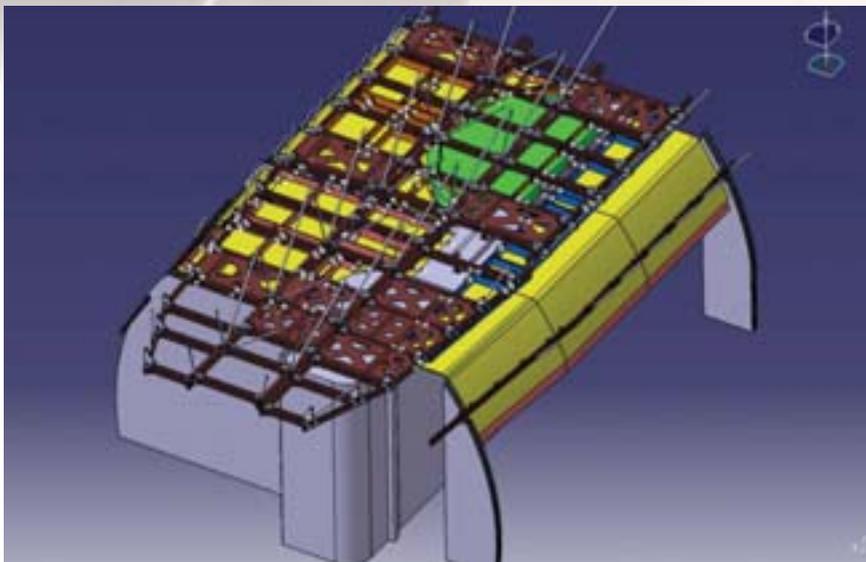


▶ stall the first carbon fibre ISS grid system, lining, tie-rods and miscellaneous interior components with estimated weight savings in excess of one thousand (1,000) pounds.

Jormac's ISS grid system will be constructed using their proprietary Resin Transfer Molding (RTM) process. Various structural cross sections have been developed and tooled to meet the demands of numerous installation configurations. Jormac has designed its carbon fibre extrusions utilising unique weave orientation which optimises the carbon fibre strength to weight properties, yielding a versatile and extremely light-weight solution.

Brian Barber, Jormac's Vice President of Sales & Marketing, remarks, "These products are only the beginning of what carbon fibre will be used for. We are anxious to showcase how our technology can be adapted to all aircraft models, not just the VIP market. We are looking to introduce these into OEM commercial platforms, OEM smaller business jets, and to all phases of cabin retrofits, as well as markets outside of aviation. We have already seen platforms where we estimate cabin reductions of up to fifteen hundred (1,500) pounds. The bottom line is that less weight equals more range, better fuel efficiency and less cost; who wouldn't want that?" ■

Jormac is showcasing its products during the NBAA at booth # 2287. For more inquiries or information, contact Brian Barber, Vice President Sales & Marketing on 918-991-9900 or [Brian.Barber@jormac.com](mailto:Brian.Barber@jormac.com)



**Brian Barber**  
Vice President Sales & Marketing

**We are anxious to showcase how our technology can be adapted to all aircraft models, not just the VIP market**

Brian Barber

Visit us at  
NBAA!  
Booth #3617

# NOW ARRIVING AT HAYWARD.

**MERIDIAN, ONE OF THE NATION'S HIGHEST-RANKED FBOs, IS PROUD TO ANNOUNCE THE OPENING OF OUR NEWEST LOCATION AT HAYWARD EXECUTIVE AIRPORT (HWD).**

We're taking everything that's made our Teterboro operation so successful and bringing it to the San Francisco Bay area. The same commitment to customer satisfaction. The same dedication to safety. The same experience gained from seventy years in business aviation.

We appreciate your trust in us, so now, whether you're heading East, or flying West, you can count on Meridian to make a great flight even better.



[www.meridian.aero](http://www.meridian.aero)



# Making a home in the sky





Creating not just a luxury interior for a business jet, but a complete, fully equipped living space, is not a job for a single company. Even the biggest completions house, for example, does not produce its own leather, make its own glassware or weave its own fabrics. In this special report, *EVA* takes a look at a broad cross section of the completions industry and the specialisms and products it provides



### AIR-CRAFTGLASS

One of the perennial problems with glassware on business jets is that glass is inherently fragile, and fine glassware – the kind that you can confidently place on the crisp tablecloth on a \$60 million jet – does not take kindly to turbulence. Frans van Hapert, founder, President and CEO of Air-Craftglass set out some five years ago to solve this problem. The family company has a long history in glass making and innovation and the idea of looking for something akin to unbreakable glass appealed to them.

The idea was sparked off in 2008 by a query from a client who wanted to buy a glass staircase for her Boeing 747-800 business jet. After months of preparations and meetings at the end of the day it was a “no go” due to the fact that the staircase was too heavy and last but not least the glass could break during an emergency landing. “It turned into a bit of a sales disaster. So we looked into making “glass that would not break and which was light weight” van Hapert explains.

The solution that looked the most promising was to laminate the glass in some way, which is the industry standard way of providing bullet proof glass, or super toughened glass. However there were immediate problems.

“You cannot use the standard laminate used by the industry. Not only does it not look right on the glass product, the lamination film can be stronger than the glass which can give spontaneous breaks, which can be nasty. The biggest disadvantage however is that these standard laminating films will burn and will not pass the fire tests as required in the aircraft industry. So over a five year period we developed our own lamination system that we have now patented,” he explains.

Van Hapert and his team found that they could extend the lamination process to other products, and in particular to mirrors, lenses/

dust panels, shower panels and wood veneers. “With wood veneers, because of the fire and safety regulations, there are only some eight to nine a few types of wood veneer that can be used in a business jet interior. All the rest of all available wood veneers can come out as a dullish grey, which is far from ideal. With our lamination process we can fire-proof a wide range of veneers and when they have been laminated, they have a high gloss finish due to the glass cover,” he notes.

Most wood veneers, by way of contrast, lose a lot of their appeal when they are laminated by conventional processes. “This is a real game changer for the interior completions market,” he adds.

Air-Craftglass’s laminated glass mirrors using special ultrathin glass have appeal not just for business jets, but also for the first class and business class sections of commercial airlines. “The commercial airlines have to spend significant sums replacing the mirrors in their loos lavatories and galleys, since they get scratched over time. With our process, the glass is pretty well scratch proof,” he notes.

Much the same is true of shower paneling in business jets. Today, just about all of this is some form of plastic and it scratches very easily. Air-Craftglass’s laminated thin glass keeps the shower room looking good for far longer. Plus van Hapert points out that the conventional plastic materials used as a substitute for glass tend to have very high manufacturing reject rates, with some 70% of the material being judged unsuitable for use. “With our product we only ship plug-and-play, ready-to-install products and there is very little waste in production,” he comments.

“We are fortunate in having very skilled people, some with over 40 years of experience in this industry. We have a range of new products that we have developed, including some interesting and extreme ultrathin laminated versions of just 0,6 mm. thick.”

Van Hapert says he is looking forward to 2017 with considerable optimism. “We see a wave starting of upgrades to business jet interiors, and that will provide plenty of opportunities for us. We are also targeting the commercial market, where we are looking to benefit from the upgrades that some major airlines are currently carrying out with respect to their business class and first class spaces. Our products fit perfectly into the luxury high end experience and can look really good in a luxury aircraft or first class cabin. If you buy an aircraft

for tens of millions of dollars you do not want to be looking at scratched plastic in the cabin. What you want is the best high end materials possible, and this is what we are offering,” he concludes

### ACS AIRCRAFT CABIN SYSTEMS

The massive strides being made by TV manufacturers in the consumer space have instigated a quiet revolution in large-screen in-flight entertainment systems. ACS Aircraft Cabin Systems has been targeting this space since 1999 and has considerable experience in adding value to aircraft entertainment installations.

The company’s current President and CEO, Yukio Sugimoto, foresaw the need for sophisticated in-flight displays at an early stage in the development of in-flight entertainment. On his retirement from Matsushita Electric Industries (Panasonic) he set about developing custom designs for larger in-flight entertainment systems. These displays now contain the ACS proprietary ‘quieter’ power supplies, 16 G survivable mounting attachments, special sweep circuits and a non-glare coating trademarked as CrystalTint.

One of the issues with large-screen displays as far as aircraft are concerned is that they are inherently ‘noisy’, spewing electromagnetic radiation and radio frequency interference in all directions. ACS products eliminate this noise and interference while giving owners and executives travelling in business jets the ability to enjoy the latest widescreen display technologies.



# Change is in the air.



JORMAC.COM

## Jormac Introduces Lighter Weight Cabins...

Jormac Aerospace, headquartered in Largo Florida and its other facility in Lewisville Texas, continues to pioneer interior products that are changing the VIP and Commercial markets. For over 20 years, we have been known for our engineering strengths and our innovative interior products.

Even when the industry is slow, we will continue to drive the market with new technology and value driven products. We are excited about our new carbon fiber products that are drastically reducing interior cabin weights. ***Want less weight, more range and better efficiency? We can help!***

These products can be adapted to any aircraft size or type, whether commercial or VIP. All our products will be on display during the NBAA 2016 at the **Jormac Aerospace booth #2287**. Stop by and see us and we look forward to seeing you!

11221 69TH STREET NORTH, LARGO, FL 33773 | 727-549-9600  
2670 SOUTH EDMONDS LN #100, LEWISVILLE, TX 75067 | 972-436-7069  
JORMAC.COM





ACS specialises in getting FAA Parts Manufacturing Authority (PMA) for its displays and generally opts to leave the installation and the process of getting type STCs to its dealers, OEMs and private operators. Today ACS serves some 67 worldwide customers and has 14 different LCD display products, varying in size from 10.4 inches to 65 inches. Its displays are on some 27 different aircraft types, including the Boeing B747-400.

It is a testament to the quality of the company's products that its growth has continued unabated in the current difficult business environment, despite a reduction of around 10% so far in 2016 in the sale of new business jets. The company recently moved to a new 10,000 square foot new office in Redmond. Customers are evenly split, ACS says, between government, commercial and private aviation.

### VARTAN AVIATION

The Vartan Aviation Group was founded in 1997 to serve the customer needs at the Airbus Final Assembly Line in Hamburg. In the years since, the Group has established operations at locations all over the world and prides itself as being one of today's leading specialists when it comes to on-site support of cabin interiors, aircraft systems and composite aerostructures.

Today the Group carries out work at OEM final assembly lines in Germany, France, China and the United States. It has considerable experience in taking over work packages in or from OEM production lines. With a team of more than 250 skilled and experienced aircraft technicians and electricians, it works on

line-fit-programs and uses its Part 145 maintenance approvals to support maintenance worldwide as well as at its maintenance shops in Germany and Abu Dhabi.

The company has A1, C6 and C15 ratings and works are carried out as well in accordance with its Quality Management System EN/AS 9100. With its EASA part 145 approval (A1, C6 & C15 ratings) the VPS Group can carry out all cabin interior overhauls, including the entire range of cabin furniture. It can repair, overhaul or modify aircraft interiors at its maintenance station in Hamburg or move a team on-site at any location the client chooses.

In addition, the VPS Group's expertise is available to airline and maintenance stations worldwide. It can provide support within the client's maintenance teams, by performing mechanical or electrical work or it can act as a consultant for pre- and final cabin inspections during an aircraft inspection. VPS specialists already have experience at several MRO stations worldwide.

### MSB DESIGN INC

In January 2005, Sony Boudreau and Mario Sévigny founded MSB Design Inc to produce customised products and services for the aviation industry. Driven by strong entrepreneurial skills, the two graduates of the École nationale d'aérotechnique decided to pool their knowl-

edge and expertise in the field and formed a small company.

They continued in their respective jobs for a time while developing the business to the point where it could stand on its own feet. The company at that stage was on the premises of the École nationale d'aérotechnique. Demand built up for their professional services in designing, engineering and manufacturing custom parts and they quickly carved out a niche in business aircraft completion and refurbishment projects. By 2008 orders had picked up to the point that the company was able to leave its small St. Hubert premises and move to a 14,000 square foot building in Boucherville, near Montreal.

In less than five years, the company expanded from 29 to more than 100 employees. The distinguishing feature of the company – and the reason for its meteoric growth – continues to be its state-of-the-art customised products and services. New staff are carefully selected and integrated into a team committed to providing impeccable products and services. The company, now known as MSB, also provides outsourcing services for a range of prestigious clients.

Since its inception, MSB has spent a great deal of time and effort on research and development in order to provide high-performance products and high-quality services to refurbishment and completion projects for business and VIP aircraft interiors.





## WORK, DINE, RELAX, SLEEP

At B/E Aerospace we never stop developing technology that enhances your comfort and in-flight experience.

Our lightweight seats include options such as manual or electronic controls, lie flat berthing, articulating seat pan, and come in a variety of upholstery styles and colors.

Our proven LED mood lighting solutions are integrated with the leading CMS providers, boast 16 million color options, and are available in wash lighting, flexible lighting, dome lighting, and accent lighting.

Create a unique flight experience with B/E's multitude of harmonized solutions for your aircraft cabin.



## NBAA Booth #242

See the latest in LED Lighting and Seating technology

[beaerospace.com](http://beaerospace.com)

Passion to Innovate.  
Power to Deliver.





Mario Sevigny, CEO, MSB Design Inc

In 2014 the French company Sogclair completed an equity investment in MSB which took Sogclair's aerospace division into the North American market, at the same time as it opened doors in Europe for the MSB Group. Sogclair's technology consulting group has offices in seven countries and is active in more than 19 countries. The two companies believe that their complementary expertise will further enhance their product and service offering to international clients.

Montreal-based MSB Design, a Sogclair Aerospace company, is a precision engineering company which has built a reputation for quality, expertise, and intelligent design across a number of product ranges including hi-lo tables, crystal, china and flatware inserts, pre-engineered cabin monuments and tailored stowage items for personal devices, for business aviation aircraft of all sizes.

The current portfolio offers over 25 versions of its hi-lo tables, each with different

**It is important that our clients know that the products are highly engineered, thoroughly tested and created with great attention to detail**

Mario Sevigny

features. The latest modifications incorporate slimmer pedestals creating more foot room, and carpet pinch beauty rings ensuring the table fits neatly to the cabin floor. Rectangular table shapes can be converted using an oval shroud to provide an elegant finish.

The tables look stylish yet are robust and functional. Tables have withstood testing, and survived, 1,400lbs of weight, while being stable enough to remain safely stowed. "It is important that our clients know that the products are highly engineered, thoroughly tested and created with great attention to detail. We

spend considerable time designing the various systems involved to ensure we deliver reliable tables that don't give way no matter if someone is leaning, sleeping or even sitting on them," says Mario Sevigny, CEO of MSB Design.

The tables are available in manual and electric options. The electric version is operated by Bluetooth and seamlessly moves from dining to coffee table mode. It can be operated from anywhere in the cabin by passengers or crew and for larger dining spaces electric tables with up to four synchronised pedestals are available.

MSB Design has also used its precision engineering skill to create a stowage solution that ensures valuable dining ware is kept secure on board, preventing items becoming damaged and reducing noise during flight. The foam inserts are made of lightweight but strong, perfectly cut high-density foam fully certified for aviation use. Using precision measurement techniques, foam is cut to match the contours,



## Turn your private luxury dreams into *your* trademark.

You have made your mark in the world; now let it show in your aircraft. AERIA Luxury Interiors can capture your distinctive style, personal taste, and particular vision with exquisite craftsmanship and uncompromising quality. The AERIA team specializes in Boeing and Airbus airframes with VIP completions on more than 50 aircraft. Visit us at [www.aeriainteriors.com](http://www.aeriainteriors.com) or call +1 210 293 3200.

AERIA Luxury Interiors, 9800 John Saunders Road, San Antonio, Texas 78216, U.S.A.

*AERIA Luxury Interiors is the completions division of VT San Antonio Aerospace, Inc., which is an affiliate of ST Aerospace.*



# AERIA

LUXURY INTERIORS

*The Luxury of Experience.*



surface and shape of the dishes, glasses, and cutlery, in addition to the dimensions of the cabinets and drawers where the dining ware is stowed. After each item is measured three times an average measurement is taken and the CCF insert is produced to snugly hold each piece. A variety of finishes are available to complete the look. Customers can choose existing designs, colour and texture combinations, or reflect their own corporate colours, logos, or interior colours.

MSB products now feature as line options on a number of Embraer, Bombardier and Gulfstream aircraft, whilst an increasing number of completion centres look to MSB for bespoke creation of CCFs and other unique stowage requirements.

MSB's first US office opened in January 2016 and since then has gone from strength to strength. "The demand from the US aviation market for MSB's technical expertise is growing to such an extent that we needed to have a base in the USA to service the requirements," explains Sevigny. "Our team works so closely with the client that having a presence in the USA has become essential to offer the service we pride ourselves on giving."

MSB is currently finalising a US facility in the Savannah area. The team will include long-term MSB employees who will work with newly recruited and experienced team members to support development. "We are effectively creating a mirror image of our Montreal site." The new manufacturing facility is anticipated to open in the first quarter of 2017.

### CUSTOM CONTROL CONCEPTS

Established in 1998 near Seattle, Washington, Custom Control Concepts has been developing in-flight entertainment (IFE) and cabin management (CMS) technology for over a decade. With a focus on providing custom systems for large wide and narrowbody luxury aircraft, it has installed IFE and CMS systems on over 150 VIP aircraft.

All systems are designed and manufactured in-house at its 65,000sqft. facilities, with a strong focus on developing exciting

new concepts and products. Today the company claims the only all-digital audio and video in-flight entertainment and cabin management systems.

Its IFE and CMS systems have been installed across the spectrum of business and private aviation models, on over 150 unique aircraft including: B727, B737, B737-IGW (BBJ), B747, B757, B767, B777, A300, A310, A318, A319, A320, A321, A330, A340, EC-155, S-92 helicopters, Gulfstream and Cessna aircraft.

Audio and video on-demand systems need quality media playback sources to deliver the highest standards of entertainment in the cabin. Custom Control Concepts media sources include CDs, DVDs, Blu-ray, VHS and cassette players. Its on-demand system enables simultaneous playback and control from any part of the cabin, with audio and video streaming to every monitor in the cabin.

The system also meets today's demand for IFE systems to integrate seamlessly with users' favourite entertainment devices, including video game consoles, smart phones and tablets.

The company has a full line of cutting-edge Blu-ray, DVD, and CD players and can provide equipment for VHS and cassette playback for those with classic entertainment collections.

### SABENA TECHNICS

Sabena Technics offers a range of services, including VIP completions. The company's history dates back to 1968 when Michel Marchais, father of the Group's present chairman and CEO, Rodolphe Marchais, founded Touraine Air Transport (TAT), which ran its own airline until 1996. At that time the decision was taken to focus on aircraft maintenance and leasing. These capabilities were enhanced in 2000, when TAT acquired AOM Industries, originally the maintenance department of AOM Airline.

Then in 2005, TAT Industries acquired Sabena Technics, then the maintenance department of the former Belgian national airline, based in Brussels. That enabled TAT to develop its manufacturing base. Other acquisitions followed. Today, Sabena Technics is the premier brand of the TAT Group, providing MRO and Completions services to commercial, military and corporate/VIP customers.

Sabena Technics has over 20 years' experience working on aircraft completions and refurbishments for VVIPs, head of state's and corporate customers. It has deep expertise in design, engineering and completions services. Its long history as an MRO provider combined with its completions skills puts it in a good position to offer refurbishment services to a wide



Sabena Technics

**From a completions standpoint, the market is rather slow at the present time but we see a strong demand for existing VIP aircraft for maintenance opportunities - several of these prospects are currently in our sales pipeline**

Ron Soret, Vice-President/General Manager of Completions



AERIA Luxury Interiors

range of aircraft when they are undergoing maintenance, repairs, or upgrades.

### AERIA LUXURY

AERIA Luxury Interiors (AERIA) is the VIP completion division of VT San Antonio Aerospace (VT SAA), an affiliate of ST Aerospace. Located at the international airport in San Antonio, Texas, AERIA specialises in completions and refurbishment on Boeing and Airbus jets.

The AERIA team has deep expertise in completions, engineering, and all related support activities, and creates luxury interiors for heads of state, corporations and individuals. Collectively, the management team has nearly 150 years of experience, performing completions on more than 50 aircraft.

AERIA's affiliate, DRB Aviation Consultants, has been granted an Organization Des-



[www.oases.aero](http://www.oases.aero)

## MRO IT System



- Extensive airline, corporate, MRO and CAMO use
- Twenty new customers / AOCs signed in 2015-16
- Linked to ops systems, EFBs and ETLs
- Also offered via Commssoft private cloud

Commssoft's OASES MRO system offers comprehensive professional functionality together with a flexible, affordable approach that understands your business' scalable growth needs in today's turbulent market.

Each OASES module can be offered individually or can be integrated at the engineering centre of your business systems.

Supporting 110 aviation customers in 45 countries, including airlines, MROs, spares suppliers, CAMO, corporate aviation and bureau operators.

For more information call **+44 (0)1621 817425** or email us at [info@commssoft.aero](mailto:info@commssoft.aero)

ignation Authorisation licence that greatly streamlines airframe completions and refurbishment, resulting in less aircraft downtime.

ST Aerospace is the world's largest airframe maintenance, repair and overhaul (MRO) company with facilities and affiliates located at key aviation hubs in the Asia Pacific region, Europe, the Middle East, and the US. Industry accolades include being named '#1 MRO' by *Maintenance & Overhaul* magazine five consecutive times and voted MRO Center of the Year by Frost & Sullivan.

AERIA'S completion services occupy a large hangar in the VT SAA complex of more than 700,000sqft of hangars and shops in San Antonio. A 14,000sqft expansion, currently under way, includes a dedicated building for the design, sales, and marketing offices, including an extensive design showroom.

AERIA Luxury Interiors is backed by the comprehensive service network and financial strength of one of the foremost aviation firms in the world, with a proven track record of meeting customer needs in a timely fashion with solid value. AERIA can facilitate complete VIP interior configuration, heavy maintenance, and avionics upgrades.

## AMAC AEROSPACE GROUP

AMAC was founded in 2007 to create AMAC Aerospace in Basel, Switzerland. Today, the company claims to be the largest privately owned facility in the world, offering narrow and widebody VIP completions and maintenance for the corporate/private aviation market.

Its new state-of-the-art workshops are manned with the best craftsmen in the industry and outfitted with modern cabinet, upholstery, sheet metal, composite and electro/avionic workshops. It is authorised to upholster, inspect, install TSO tags and ship completed seats directly to end users, or install them in the aircraft as part of the completion or refurbishment project.

AMAC's hangars in Europe, at Switzerland's EuroAirport Basel-Mulhouse, can accommodate multiple narrow and widebody aircraft, including Boeing B747s, B777s, B787s, Airbus



A340s, A330s and even an A380 as well as select small business jets. The tactical interlinking of hangars and workshops ensures superior time management and manpower allocation for in-house projects.

The Group has enjoyed a constant stream of orders through 2015 and the first three quarters of 2016. In October 2015 AMAC announced that it had been given a contract involving an undisclosed head-of-state client putting an A340 into AMAC's Basel facility. The A340 is there for a heavy maintenance check and at the same time AMAC has been

requested to carry out various cabin modifications and upgrades. These include a seat and divan refurbishment, a SATCOM upgrade and a carpet replacement. AMAC was chosen by the client in view of the company's extensive experience in working on customised VVIP aircrafts and aircraft cabins.

AMAC also completed work on an A320, which was returned to another undisclosed head-of-state customer following a heavy base maintenance check that, once again, included a SATCOM and cabin connectivity upgrade, giving the client access to GSM while on board.





The Registry of Aruba

# One Stop Registry

Private . Corporate . Commercial . Aircraft Registration



*Helping you fly  
since day one*



On 1 September this year the company welcomed an Airbus A330 which will undergo a heavy base maintenance programme. This will include a C-Check in conjunction with a partial cabin removal, for a private VVIP client.

"We are happy to welcome another wide-body at our facility and to continuously grow with new projects by delivering customised and cost-effective maintenance solutions to our esteemed clientele, considering the individuality of each VVIP aircraft. As with all projects, we are keen on exceeding our customer's expectation when it comes to quality aspects and operational requirements of his VVIP aircraft," said Bernd Schramm, Group Chief Operating Officer, AMAC Aerospace.



### CUSTOM AIRCRAFT CABINETS

CAC has been in operation with its original ownership since the company was founded in 1989. The mission has been to deliver the finest available custom cabinetry, high-quality finishes, and provide custom upholstered products into the private, corporate and head-of-state aircraft market. After more than 23 years in operation through multiple expansions at its original facility, the company relocated to Sherwood in December, 2012.

The award-winning company now employs 200 artisans specialising in a wide variety of crafts, including custom cabinet manufacturing, custom upholstery and high-quality finish, just to name a few. In 2014, owners Paul Resnes and Mike Gueringer were named Arkansas's Small Business Persons of the Year by the US Small Business Administration.

Co-owners Mike Gueringer and Paul Resnes stated, "This award is simply a testament

to the quality of our people at CAC." They continued, "Our sense of community is very important at CAC, and it is extremely satisfying for our team to be recognised for the excellence they display each and every day. After more than 26 years in business, this award is a true honour for all CAC employees."

Currently, CAC's facility provides 146,000-sqft of operating space. This includes component production, cabinet manufacturing, finishing, upholstery shop, routing facility and administrative offices. CAC has tooled the facility with state-of-the-art production equipment capable of satisfying all its customers' requirements.



Custom Aircraft Cabinets

### LUFTHANSA TECHNIK

Lufthansa Technik's roots go back to the founding of the new Lufthansa in the early fifties. After the four allies dissolved the old Lufthansa in 1951, a successor company was founded just two years later. At that time, at the western end of Hamburg airport, the foundation was laid for the new airline's technical base. When Deutsche Lufthansa AG began its scheduled flight service on 31 March 1955, the first double hangar, able to accommodate three four-engine propeller-driven Super Constellations, was already stand-



Lufthansa Technik

ing at the Hamburg base. In 1957 construction of two additional hangars began. The workshop area was expanded. An engine shop with an electroplating facility and an office building were added.

In the mid-nineties, to keep the Lufthansa Group competitive, it was broken up into seven separate operating divisions. At the end of 1994, shortly before the 40th birthday of Deutsche Lufthansa AG, its former engineering division was converted into an independent stock corporation under the name Lufthansa Technik. The latter's business with customers outside the Lufthansa Group became its engine of growth. More and more airlines from all over the world began using the services of Lufthansa Technik's experienced mechanics and engineers. The company opened up a new market with its Total Technical Support.

In addition to its competence in commer-

cial aircraft overhaul, Lufthansa Technik is certified as a design organisation and also as a manufacturer of aircraft parts. This triple capability endows it with an ever-growing potential for developing new products and services. One of its guiding principles is: "We have to be wherever our customers are." This has led to the company expanding internationally. Its presence in the world's regional air transport markets is the cornerstone of its further development.

Along with its technical expertise, Lufthansa Technik prides itself on its design skills. At the Monaco Yacht Show (2016), together with Mercedes Benz Style, the company presented the final version of the two partners' VIP aircraft cabin design. Potential customers can see the complete cabin in a virtual 3D-presentation and a scaled physical model, along with material samples of the surfaces in the cabin. ■

VISIT US AT



BOOTH N° 871

## LANDING ON CERTAINTIES

ARGOS VPH IS THE LEADING FBO AND FLIGHT SUPPORT SERVICES PROVIDER IN ITALY



ARGOS VIP  
-DIFFERENT EXPERIENCE-



ROME CIAMPINO - MILAN LINATE - MILAN MALPENSA - TREVISO - VENICE - VERONA - PISA - NAPLES - SALERNO - CAGLIARI - CATANIA - PALERMO - LUGANO

Wherever landing, Argos VPH coordinates each single detail of the flight in the quickest and easiest way possible.

FBO - FUEL - SUPERVISION - PERMITS - AVPH CATERING

Argos VIP Private Handling - Rome, Italy - [www.argosvph.com](http://www.argosvph.com) - email [ops@argosvph.com](mailto:ops@argosvph.com)



EVA talks industry futures with WINGX Advance Joint Managing Director Richard Koe and Avinode Managing Director Oliver King

**T**he shock horror leave vote returned by a majority of the British public in June this year, and the 'coronation' of Theresa May as Prime Minister, made Brexit not just a threat but a certainty. Like death and taxes, it will happen, since the new Prime Minister has made a mantra out of "Brexit means Brexit".

Of course, right now no-one has much of a clue what that will mean, either for industry or for business aviation in particular. Without any real guidance on how legislation and the regulatory environment might change, it appears that the world in gen-

eral, including charter operators, charter customers, business jet operators and corporate flight departments have all decided to carry on pretty much as if nothing had changed...

**Richard Koe, Joint Managing Director, WINGX Advance**

**Q:** What have you seen so far in terms of the impact of Brexit on flight movements and attitudes generally?

**A:** Business aviation is uniquely tied to GDP and trade activity levels at the national and international level, so there is no doubt that the disruption that Brexit will bring, once it really starts to take effect, will have a nega-



London City Airport  
Get closer.

Private Jet Centre

### The Ninety-Second Experience

London City Airport offers Business Aircraft customers a unique experience for passengers departing and arriving at the Jet Centre. The close proximity of the aircraft means passengers can expect to board within just ninety-seconds.



**NOW WITH REDUCED PRICING**



4 miles from Canary Wharf, 7 miles from The City and 9 miles from Mayfair.  
London City Airport - your gateway to London.

For more informations and to book experiences visit: [jetcentre.londoncityairport.com](http://jetcentre.londoncityairport.com)  
alternatively contact our operations team at: [jetcentre@londoncityairport.com](mailto:jetcentre@londoncityairport.com)

**MALISSA NESMITH, SENIOR VICE PRESIDENT AND CHIEF OPERATING OFFICER, GLOBALPARTS.AERO**



Operating in the US, 2016 has been peculiar due to the presidential election. I think many people are holding back and waiting to see how it shakes out. It is an exciting and scary time for businesses, all at the same time. In supporting the aftermarket and legacy aircraft, we have continued to expand our customer base and tap into new markets for our company. Legacy aircraft are everywhere, in every country, and the operators really look for suppliers that remain consistent and reliable. That is what GlobalParts.aero provides for its customers worldwide. If we can hold steady in an uncertain time, it will help minimise the impact of the political environment and what that will bring us next year.

I do think we saw a slight pause in the activity coming out of the UK shortly after the Brexit vote. However, it appears that transactions are going forward and things are currently business as usual. Not knowing what the long-term implications will be, I would suspect that there will be more of a conservative approach to purchases of business aircraft and other large buying decisions. It will not, however, change the fact that aircraft will continue to fly and will continue to need support in the aftermarket.

I think that oil prices will remain between \$40-\$60 for some time yet. These prices may have had an immediate impact on aviation and the industry, but as time goes on I think things will become more steady and the impact will not be as dramatic in 2017. In business aviation, when people need to fly, they fly, regardless of the price that day. I still feel like it is good for the general aviation enthusiasts, but I know from my perspective, our company doesn't watch the daily prices of fuel and decide if we will make a customer visit based on that. When we need to go, we go.

I have a very positive feel for 2017. There have been a number of changes in the past couple of years in the players of business aviation and production. That has had a slight impact on the aftermarket side as well. However, I think companies, like ours, are being more creative and innovative and continue to find solutions for the legacy aircraft operators. This opens the door for new and better ways of supporting the aftermarket in 2017 and beyond. ●

tive impact on business aviation. However, it is still far too early to tell how deep or how long lasting that impact will be. What we do know for certain is that business aviation hates uncertainty and Brexit brings uncertainty in spades.

Looking at the statistics, however, it is clear that since June, Brexit has made no discernible dent in business aviation movements in the UK. In fact we have seen the UK having one of the more robust trends in terms of flight activity in 2016. This correlates well with the

economic indicators since Brexit, which have also been pretty robust.

Ironically, since the Brexit vote hammered sterling, the world now sees London as pretty cheap. That boosts flight movement statistics as, say, rich Chinese and others fly into London to shop. British exporters are also doing well out of the low Pound, so we can assume that some flight movements are reflective of increased export activity too.

Things may well get trickier in a year or so, but I believe that the big corporates who

have business jets will keep those jets and will continue to use them. They may extend their replacement cycles out further than ever, but actual movement numbers shouldn't be too bad. I do not see them dropping out the picture the way they did after the 2008 global crash.

**Q: With EASA pushing on with the licensing of single engine turboprops for charter, there is a lot of talk about the resurgence of the light aircraft-based air taxi market returning. Is this on?**

**A:** The air taxi model did not do very well the last time around. It suffered from terrible timing, in that it was launched into the teeth of the Great Recession. The whole light aircraft segment took a hammering then from which it is only just starting to recover. Another point is that the B2C digital platforms that are now coming forward, enabling customers to spot buy charter flights, simply were not there at the time. Now potential customers are relatively familiar with the model and are used to ordering services from their smart phones. What we are seeing is that some of the air taxi fleets are really starting to make some solid progress. GlobeAir, for example, has 20 Mustangs flying. So in my view, an air taxi model is there for the taking.

**Q: How do you see things playing out for your own business, WingX? You provide information on global flight movements on a subscription basis. How do you grow it further?**

**A:** We are in the process of a very exciting new addition to what we do. There is a clear need in the sector for a data repository that gathers information on as many aspects of business aviation as possible. So we are hoovering up as much information as possible on the market, from a wide range of data sources. There is a tremendous wealth of information out there, but it is siloed in a huge number of places. If we can help the industry to look at and analyse its own data properly, via very intuitive charts and graphics, that will make for a real efficiency gain!



VIP President



# HELSINKI AIRPORT BUSINESS FLIGHT CENTER FBO

[www.helsinkiairport.fi](http://www.helsinkiairport.fi)

Excellent location for technical stops and crew changes in all seasons

- FBO services provided 24 hrs
- Arrival and departure slot bookings
- Hangar arrangements
- Hotel and transportation reservations
- Passenger lounge
- VIP lounge
- Crew lounge

Helsinki Airport Business Flight Center offers high quality services for private airlines and operators. We are specialized in business jet operations and our 24hrs service guarantees a quick response to all handling requests.

## Finavia Business Flight Center

Terminal Address: Liikelentotie 8, 01530 Vantaa  
Tel. +358 20 708 2780 | Mobile +358 40 722 0834  
Fax +358 20 708 2799 | [business.efhk@finavia.fi](mailto:business.efhk@finavia.fi)

**HELSINKI AIRPORT**

*FINAVIA – for smooth travelling*

**Oliver King, Managing Director, Avinode**

**Q:** Are you optimistic that Brexit will pass by leaving business aviation relatively unscathed?

**A:** Interestingly, we recently ran an event at Gothenburg where we brought 100 of our operators together. All the big operators from across Europe were there. We asked them how they thought Brexit would impact their business. Our expectation was that Brexit would be seen as being bad for business aviation. In fact, only 21% thought that Brexit would have a negative impact. The other 79% thought it would have little or no discernible impact.

Also interesting was the fact that one of the delegates had been at a couple of sessions on the likely impact of Brexit, run by the UK CAA. They pointed out that no one had a clue yet about what the interim legislation would look like, whether VAT would be added to charter flights, or what additional regulatory or administrative burdens might result. Despite the Prime Minister's recent speech to the Conserv-



ative Party Congress, it is still not clear exactly when Brexit will take place, let alone what it will mean for IATA and general aviation.

What is clear from the statistics we see at Avinode, is that despite the fact that we have had a roller coaster of ups and downs in the macro economy in 2016, plus terrorist attacks in France and Belgium and major impeachments in Latin America, on top of continuing China jitters, charter bookings have been pretty solid.

If you look at the five-year trends for flown movements for both the US and Europe, for the last four months the US is just a bit below its historic growth trend of about 3% to 4%. It has been maintaining this rate of growth in flight movements since about 2011. Europe is flat, but it has been stable at flat for some time now. And if you look at Asia, business aviation is such a small sector in Asia that it is really not impacted much by fluctuations in the economy.

The abundance of new millionaires in Asia is attractive to OEMs trying to sell into the region, but I think we are now at the stage where we are past the buying of jets as toys but not yet at the point where business aviation is seen as a serious business enabler as it is in the US. So Asia is maintaining its long-term growth trend of about 15%, which sounds a lot, but it is off a very tiny base. We are seeing growth this year in terms of EASA-controlled arrivals from Asia, and FAA-controlled arrivals from Asia coming out somewhere between 15% and 35% on an annualised growth rate. You have to remember though that 3-5% growth in the US movements totally dwarfs the input from Asia, despite that large percentage figure.

**Q:** Do you see the industry as oversupplied with business jets?

**A:** In the US, the flown traffic numbers seem to say that the market is still growing, so I would say that there is room for new models and for innovation and experimentation. On the other hand, it is difficult to argue that we are not well served with the models that we already have and that are close to certification. Certainly, a lot of Europe does not need more capacity, though that could change if there is movement in the light aircraft sector. I certainly do not see any trigger, though, that suggests we need a step up in manufacturing capacity! ■

**NICK ROSE, DIRECTOR, BUSINESS AVIATION, LONDON CITY AIRPORT**



While worldwide traffic has been turbulent, Europe and particularly London has been at an all-time high, with traffic in many sectors outperforming the traffic numbers we saw in the highs of 2007/8. Northolt has taken more BA bookings than in previous years and London City has welcomed the Global 6000 and Embraer 550 to its ever-expanding list of approved aircraft types. Look out for the Falcon 8X, Challenger 350, Citation Latitude and Gulfstream 280 to be added in the very near future.

I think that despite Brexit, London will retain its position as the Financial Centre for Europe. As such, London City Airport will continue to be the gateway of choice for visitors to the financial district and the City of London. It's therefore the least likely of the airports to be affected.

Oil prices can have both a positive and negative effect on business aircraft flight traffic as many operators pass on increases in prices as a supplemental cost to the customer which affects flying business aircraft for pleasure. However, higher oil prices usually relate to a buoyant economy and as a result one sees an increase in business flying for corporates. I think the upward trend in traffic numbers will continue.

At both London City and RAF Northolt we're expecting a very busy end to the year as activity is at an all-time high, predominantly driven by both airports' superior access to London and the competitive pricing introduced at London City Airport. ●

# INCREASE YOUR EFFICIENCY! FULL ELECTRIC REMOTELY CONTROLLED TOW TRACTORS: MORE HANGAR SPACE – MORE SAFETY – LESS COSTS



- MRO/FBO**
- + PUSHBACK**
- + ELECTRIC DRIVE**
- + EASY TO USE**

---

- = COST EFFECTIVE**

mototok tugs are developed for multi purpose use. Whatever your task is, mototok will help you to manage all aircraft shuntings both inside and outside your hangar. And this at the quickest possible time and the lowest costs!

- **Radio remotely controlled:**  
Only one person needed for shunting
- **Low maintenance** – clean full electric drive
- Loads and unloads the nosewheel in seconds automatically with one click on the remote
- **Flexible use** for all aircraft up to 39, 50, 95 or 195 tonnes
- **Extreme low height**
- Park your aircraft using the last corner of your hangar and **save space**



Contact for Europe, Asia, Australia, South-America, Africa:  
Thilo Wiers-Keiser · wierskeiser@mototok.com · +49 2151 6508382

Contact for North America, Mexico:  
Paul Acri · paul.acri@mototok.com · +1 916 5804977

# Risk & rewards

EVA talks to Mounfitchet Risk Soultions Limited's managing director, Oliver Clarry-Risk



**T**he charter industry has always faced a dilemma over what should be done when a charter aircraft that a customer has selected, or that has been identified by the operator as the best fit for the customer's requirements, goes AOG. Ideally, it should be down to the operator to source a replacement aircraft, often at considerable expense to themselves. However, it is far easier to cry "force majeure" and leave the customer to hunt for a replacement aircraft themselves.

Letting the customer down is clearly not a smart way forward and will do damage to the operator's brand. But for some charter operators, that's the way the risk/reward equation points, so

that's the way they go. To Oliver Clarry-Risk, a former Lloyds of London insurance broker, this dilemma is precisely the kind of situation that insurance is designed to solve.

Insurance loves infrequent but damaging risks of all kinds. It's what the whole insurance business is designed to provide a solution for. Failure to fulfil a charter because of an AOG incident is not exactly a frequent occurrence. As a risk it is way out there on the bell curve, say three to four standard deviations out or more. But when it happens it generates either a severe expense or reputational damage, or in some instances, both.

"Once I became aware of the problem, through talking to friends in the charter industry, it

to me that there must be some kind of insurable solution to this issue. So I decided to look into designing a product that would meet the industry's need here," Clarry-Risk recalls. The up-side was obvious. Operators who bought the insurance product would not have to replace a charter aircraft out of their own pocket, and they would be able to ensure customer satisfaction by providing a very high level of service instead of disappointing the customer badly.

The product that Clarry-Risk came up with covers the operator for up to 30% of the full price of the charter if there is an aircraft no-show. So for a £100,000 charter, Clarry-Risk's company, Mountfitchet, will provide up to £33,000. "That sum covers most or all of the operator's outlay. The product can be tailored and we can go higher or lower in the amount of cover we provide, and that, of course, impacts the premium that the client pays," Clarry-Risk explains.

By definition the product is bespoke, since the premium evaluation has to take into account the make and model of the aircraft, it's age and what the annual charter revenue associated with that aircraft is. "Every operator's policy is bespoke and designed to their own charter fleet," Clarry-Risk comments.

The policy does not cover the kind of situation where the owner of an aircraft decides, arbitrarily, to pull it out of charter service at the last moment because he or she has suddenly decided to use the aircraft themselves. However, if a managed aircraft develops a fault while performing a charter, the policy will cover that. "Part 145, Part 135 and Part 91 operations are all covered," he explains.

According to Clarry-Risk, demand for the product has been growing rapidly since it was introduced earlier this year. "We have exceeded our targets year-to-date and we have both outbound and inbound enquiries nearly every day for quotes. So we are extremely busy, both with European customers and with US customers," he says.

At present Mountfitchet has just the one office in London, and a staff of five. Clarry-

Risk plans to expand the business with a US office launch sometime in the first quarter of 2017. The product is underwritten in-house but Mountfitchet is wholly reinsured by Swiss Re, one of the world's largest reinsurance companies. "Clearly, Swiss Re did a very thorough due diligence appraisal of our business model before they came on board, and that gave us a lot of confidence," Clarry-Risk notes. So far the business has signed up several European charter operators and a similar number of US operators.

Policies are sold on an annual basis rather than on a per-charter flight basis. To date there have only been two claims, and both have been settled to everyone's satisfaction. "This is a pretty reliable business with a clearly and readily understandable policy and business model. We do not have to send out loss adjusters to query or check a claim. It is very easy in today's world to track an aircraft and to see if it has flown or has not flown on a particular day, and we can do that from our office. So if an aircraft does go AOG, it is a pretty clear cut state of affairs. Once we have all the paperwork and the claim amount has been agreed, we have a standard 10-day payment promise," Clarry-Risk explains.

So what does the future hold? Clarry-Risk says that there are several new insurance products still at the design stage, one of

which he plans to announce towards the end of 2016. The next step with the current product is to build on the current achievements in Europe, open up in the US and then take the product to the Middle East and Asia.

"It is my belief that this will turn into a standard "must-have" policy throughout the charter industry. From the customer's perspective it obviously adds confidence to a charter operator's service when the customer can see that the product is backed by a bona fide insurance company which secures the service to the customer," he notes.

Mountfitchet provides the charter operator with a logo that they can display on their marketing literature and premises, thus adding visibility to the insurance product.

For the product to pay out, there has to be a provable fault on the aircraft to cause the no-show. "It could be as simple as the micro wave oven playing up or the wi-fi not functioning. We also provide optional additional cover for crew sickness as

well as a reason for the no-show," he explains. The company is in the process of finalizing an additional "all-risks" cover that would pay out for a variety of causes.

"If a terrorist attack at a European city, for example, closed the air space, locking in the jet that was to be used for the charter, our new product will cover that and other risks," he notes. ■



# Buyer's market for sim training

The annual recurrent pilgrimage continues; indeed, there are more flight training centre options than ever. Rick Adams looks at new players and new deployments of business aviation and civil helicopter simulators



**I wouldn't say it's blue skies ahead but it's certainly a good market that will sustain itself**  
Steve Phillips

**D**espite the continued doldrums of the business aircraft market and the civil helicopter sphere struggling against persistently low oil prices, pilot training enrolment not only remains consistent, more or less, but vendors also continue to introduce new aircraft types and enhance technologies. And surprisingly, new companies are entering the niche sector, adding pressure to pricing and making training more of a buyer's market.

"I wouldn't say it's blue skies ahead but it's certainly a good market that will sustain itself. Business jet training at the top end continues to do well, growing at a reasonably steady rate.

In the core market in North America, we're not seeing significant growth but we're certainly not seeing a decline," said Steve Phillips, Vice President Communications, for FlightSafety International, which has dominated business aircraft training since their inception in 1951. "Europe continues to struggle. We've seen a bit of a decline in Russia. And Asia is not growing nearly as fast as many people thought that it would."

Nick Leontidis, Group President of Civil Aviation Training Solutions at FlightSafety's primary rival, CAE, agreed: "We're not going to see a lot of change in the activity levels in the foreseeable future. I think you're seeing that in the news from the OEMs about the reduction in production rates and deliveries because of

currency or sanctions or whatever." Nonetheless, Leontidis, said on the business aircraft training side, "We haven't felt any dramatic reduction in demand."

The civil helicopter training demand is a different story, of course. "Definitely problematic," Leontidis admitted. "We've seen a pretty dramatic reduction in the demand for training. The operators have reduced capacity, reduced numbers of pilots. When oil prices started to decline, most of the oil companies didn't touch their production but they touched all of their exploration. Our customers like CHC lost a lot of their business because exploration projects were shelved."

The no-growth training market is getting sliced into more pieces, though. Textron is aggressively carving out some of the Beechcraft and Cessna aircraft portions through its purchase of customer ProFlight, now part of the TRU Simulation + Training unit which was cob-

bled together via other acquisitions two years ago. And on the helicopter side, there are two new players offering training services: long-time simulator manufacturer Thales and the German family business, Reiser.

Jim Takats, TRU Senior Vice President, Global Simulation & Training Strategy, said: "There's a lot of innovation going on at ProFlight. With our 'green sheet' design, not having a lot of legacy courseware to deal with, ProFlight's taken training to the next level. Also, our instructors are flying the aircraft they are instructing on and have real-world operational experience."

Here's an alphabetical summary by company of recent and near-future training activity.

**NEW IN BUSINESS AIRCRAFT TRAINING**

**CAE** - After introducing its new 7000XR (eXtreme Reality) full-flight simulator design two years ago, CAE has finally applied it to a ▶▶



**We're not going to see a lot of change in the activity levels in the foreseeable future**

Nick Leontidis

# Tarmac Tough



You're in a tough business. You are responsible for servicing millions of dollars worth of aircraft at a moment's notice, in all kinds of weather. Equipment failure is not an option.

At AERO, everything we manufacture is designed around reliability. Our quality is one thing that you won't have to worry about.



+1 208-378-9888 | [www.aerospecialties.com](http://www.aerospecialties.com)





► business aircraft device, a Gulfstream G650 for its Dubai, UAE joint venture with Emirates Airlines. The 7000XR features embedded training capabilities to address Upset Prevention and Recovery Training (UPRT) regulations from the US Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA), a re-designed instructor office with support for mobile devices and real-time data analysis and feedback, and the CAE FlightScape debriefing station with simulator operational quality assurance (SOQA) system.

The Embraer-CAE Training Services JV is shifting its Phenom 100 and Phenom 300 training footprint in Europe, departing CAE's centre in Burgess Hill, UK in favor of Amsterdam, The Netherlands. Other Phenom training locations are Dallas, Texas in the USA and São Paulo, Brazil. A new Garmin ProdigyTouch avionics-equipped FFS is expected to be ready in early 2018.

**FLIGHTSAFETY** – The new Cessna Citation Latitude Level D simulator in Columbus, Ohio features the FAA-approved expanded aerodynamic model for upset prevention and recovery training. By year-end, UPRT will be offered for the Cessna CJ3, Gulfstream G450, GV, G550,

G650, King Air 350 and Pilatus PC-12.

Training for the Gulfstream G650 aircraft will be available in Farnborough, UK from March 2017 – the fourth FlightSafety location (Savannah, Georgia; Long Beach, California; and Wilmington, Delaware are the others).

FlightSafety has also received qualification for two Cessna Caravan simulators, equipped with Garmin G1000 and Garmin G600 avionics, in Wichita, Kansas.

The company's new FlightBag app for courseware delivery on tablets and desktop computers was rolled out in mid-year for pilot, maintenance technician and flight attendant courses. Publications available include digital training manuals, cockpit posters, flashcards, and guides for post-course review and reference.

**SIMCOM** – Rather than full-flight simulators, the new SimCom Aviation Training Centre Europe will use a combination of Level 2 flight training devices and in-aircraft training. Scheduled to open in November near Paris's Charles de Gaulle Airport, the focus will be on turboprops and light midsize business jets and the 'owner-flown' market. Miami, Florida-based SimCom is partnered with Simulation Training Company (STC), Villepinte, France.

A Citation Mustang simulator will soon

be available at SimCom's Scottsdale, Arizona training centre.

**TEXTRON/TRU** – The 30,000-square-foot expansion of the ProFlight pilot training centre in Lutz, Florida, near Tampa, is expected to be completed in November, accommodating four additional full-flight simulators plus classrooms and flight training devices. Citation CJ3+ and Citation M2 training will be added at TRU's East Coast training centre and Citation CJ4 at TRU's West Coast training centre in Carlsbad, California.

King Air 350 pilots now have the option to train at home through an FAA-approved distance learning option for BE-300 recurrences. The option permits the customer to receive 100% of their aircraft systems training online for recurrent training, and then focus all time spent at the training centre on simulator training scenarios. This saves about 1.5 days off a 3-4 day recurrent course. TRU is also offering its proprietary Current 365 online training suite, available throughout the year.

Cessna Citation Latitude, Longitude, and Hemisphere FFSs are destined for ProFlight as well.

#### NEW IN HELICOPTER TRAINING

**CAE** – CAE's recent helicopter deployments



**With our 'green sheet' design, not having a lot of legacy courseware to deal with, ProFlight's taken training to the next level**  
 Jim Takats

range from north-eastern Canada to northern and southern Europe to Southeast Asia. In June it began operating a new helicopter training research and development centre in Mount Pearl, near St John's, Newfoundland and Labrador. Funding is from Hibernia Management and Development Company, operator of the Hibernia field, which is owned by ExxonMobil Canada, Chevron Canada Resources, Suncor Energy and other petroleum pursuers. Training is being provided to Cougar Helicopters Sikorsky S92 pilots. "A training centre right here in the province provides more efficient scheduling of training, less travelling and therefore less fatigue for our flight crews," said Hank Williams, Chief Operating Officer of Cougar. "This simulator provides training for our low-visibility and offshore approaches and simulates turbulence and icing conditions accurately to match the conditions in which we operate."

CAE's next-door neighbour in Mount Pearl

is Falck Safety Services, which features a wave pool for training oil rig workers how to egress a helicopter in case of ditching or a crash.

In Sesto Calende, Italy, Leonardo Helicopters (formerly AgustaWestland, formerly Finmeccanica) has obtained regulatory approval for an AW169 light intermediate helicopter simulator for the Leonardo-CAE Rotorsim JV. The Italian academy is the first centre offering training for the entire Leonardo family, including the AW139 and AW189 models.

Earlier this year CAE became the first independent to be designated an Airbus Helicopters Approved Simulation Centre for H225 recurrent training at its Gardermoen Airport, Oslo facility in Norway.

**FLIGHTSAFETY** - Night vision goggle (NVG) training has been approved for Airbus H135 and Bell 212 and 412 helicopters at the Dallas, Texas location. FlightSafety claims to be ▶▶

Established in 2003, ATSD is an on-site professional partner and FSP (flight service provider).

After 12 years in business, ATSD has become one of Europe's largest providers of flight planning services.

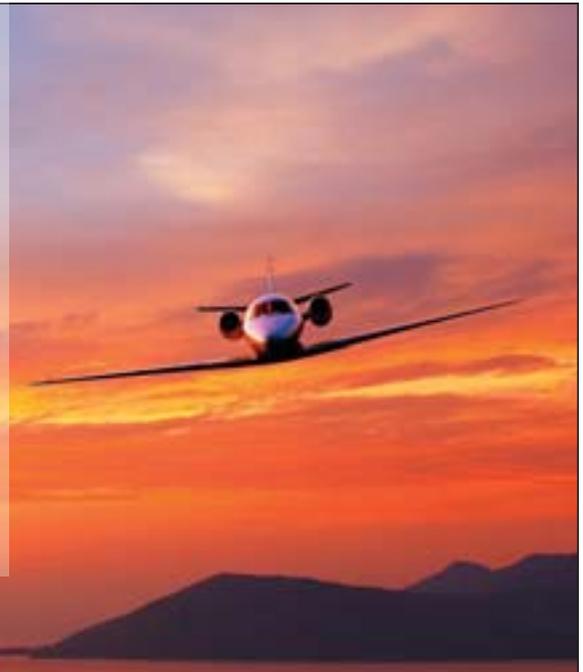
Flight preparation has become increasingly difficult due to various limitations and restrictions in European and international airspace/airport structures, making flight planning and the arrangement of related services very time-consuming.

ATSD has set up a network with civil aviation authorities and handling agencies around the globe to provide a fast, efficient and smooth operational service to clients. Each year, the Dispatch Team provides more than 12,000 international flight briefings to various clients.

ATSD provides services to corporate aviation, commercial aviation, single pilots and aircraft owners.

All ATSD clients get access to the company's internal database via a browser-based tool: ATSD Flight Lookup. Alternatively, clients can use the ATSD App 1.0 for portable IOS devices. With both tools, clients are able to follow up the status of their placed flight orders, retrieving operational information and flight briefings.

ATSD is available 24/7 and will gladly take care of your flight preparation, providing you or your crew with all relevant data such as FPLs, OVFPs, route-related WX and NOTAM briefings, airport slots and necessary permits, and much more.



*The only thing you have to do is fly ...*

**ATSD - Air Tasking Service Dortmund GmbH**

CCA-Commercial Center Airport

Rhenus Platz 2

59439 Holzwickede

Germany



24/7 Fon: +49-2301-1853-000, Fax: +49-2301-1853-020 • SITA: DTMASXH DTMATXH, AFTN: KDTMATFX • E-Mail: ops@atsd.aero , Web: www.atsd.aero



▶ the first to receive FAA approval for Part 142 delivery of NVG initial, recurrent, recent experience and proficiency courses.

A Sikorsky S-76C+ and S-76C++ simulator located in Singapore has been qualified to Level D by the FAA, as has an Airbus EC145 sim developed with Metro Aviation in Shreveport, Louisiana.

**FRASCA** – The Bell 407 GX Level B FFS at the Bell Helicopter Training Academy in Fort Worth, Texas features Frasca’s TruVision global visual system with a 200-degree by 80-degree field of view, TruNVG night vision goggle capability, a six-axis motion system with 62-inch actuators and a secondary six-axis TruCue vibration system. The simulator is convertible between the legacy configuration and the latest GX Garmin G1000.

At Metro Aviation’s Helicopter Flight Training Center in Shreveport, Louisiana, a Frasca Level 7 Bell 407GX trainer is also NVG-capable. The cockpit allows for inadvertent instrument meteorological conditions (IMC) training with eight projector screens and including low,

medium and high illumination NVG training.

A Bell 206L Level 7 FTD at Air Evac Lifeteam in O’Fallon, Missouri includes Garmin G500H, Genesys Aerosystems HelisAS, HTAWS (Helicopter Terrain Awareness and Warning System), and Garmin GTN650. Air Evac is the launch customer for Frasca’s new short-stroke motion cueing system, which provides critical vestibular feedback to pilots.

An AS350B2/H125 Level 7 FTD is the first such device in Canada, delivered to Canadian Helicopters at Edmonton Airport, Alberta. The training device is convertible among three different configurations: the AS350B2, AS350B2 VEMD and the AS350B3e (now the Airbus H125). The customised mission database provides visual scenarios for a pinnacle landing zone, rooftop helipads, confined landing zones, EMS accident scene, oil rigs and platforms and moving traffic, such as other aircraft and ships.

**REISER** – Bavaria-based manufacturer Reiser Simulation and Training is attempting the power-by-the-hour route, placing simulators with major customers but retaining owner-

ship of the device and the option to sell unused time. Their first level D FFS, an Airbus Helicopters H145 sim for the ADAC Helicopter Emergency Medical Services (HEMS) Academy in Cologne, Germany, is slated for delivery in 2017. Training will be primarily in urban environments and offshore scenarios around Germany. They are also building H135 and H145 trainers for the Norwegian Competence Centre Helicopter in Stavanger using the roll-on/roll-off approach for switching cockpits attached to a common visual and motion system docking station.

Reiser CEO Dr Roman Sperl has opted to forego OEM flight data and instead collect the information using a specially equipped model of the aircraft type being simulated. For visual databases, the company has selected American firm Quantum3D’s Independence IDX 8000 image generator, best known for military synthetic training applications.

**TEXTRON/TRU** – The newly christened Bell Helicopter Training Academy (BTA), powered by TRU Simulation + Training, is expected to ▶



THE RIGHT  
CHOICE FOR  
A PERFECT  
SERVICE!

More than 200 reputable airlines prefer the standardised, high quality ground handling that is provided by Havaş at 32 stations around four countries.



TURKEY | LATVIA | GERMANY | SAUDI ARABIA | [havas.net](http://havas.net)



▶ begin training Bell 429 pilots in January using a new Odyssey H FFS design with a 240-degree horizontal by 80-degree vertical field-of-view visual system and 41-megapixel total system resolution visual display. EASA-licensed instructors at BTA-Valencia will have more than 5,000 hours of helicopter experience across multiple platforms as well as English, Spanish, French and Italian language capabilities.

TRU is building three roll-on/roll-off full-flight simulators and five helicopter cockpits for flight training provider Coptersafety's Helsinki, Finland facility. The simulators will represent Airbus Helicopters H125 and H145 (ready for training in Q4 2017) and Leonardo Helicopters AW169 and AW189 models. The fifth model will be announced later. Rockwell Collins is supplying EP-8100 image generators and laser-illuminated high-fidelity projectors.

TRU is also producing the prototype simulators for the new Bell 525 Relentless fly-by-wire aircraft (Level D) and the Bell 505 Jet Ranger X (Level 7 FTD with mini-motion).

**THALES** - Thales launched a helicopter training centre in Brisbane, Australia in September as part of a fledgling network which includes facilities in Stavanger, Norway and Albertville, France. The new Thales LifeFlight Training Centre features a Reality H Level D full-flight simulator for the Leonardo AW139. The Norway Training Centre began training for the Airbus H225 helicopter in February with customers Blueway Offshore Norway AS and Dancopter.

In Albertville, in the French Alps, where a number of operators fly the Airbus H125/AS350 B3e Ecureuil/AStar for search-and-rescue, Thales and partner SAF have attracted customers from Spain, Angola and India to use the Level B/FTD 3. Similar to Reiser's approach, Thales and SAF bypassed the prohibitive cost of OEM data in favour of data collection flights in an AS350 fitted with numerous sensors, mainly targeted at mountain flying. The SAF facility also has EC135 and H125 simulators.

Helisim, a joint venture of Airbus Helicopters, Thales and Défense Conseil International, is developing an FFS for the new H160, which will be deployed to Marignane, France. ■



Thales Training Academy ©Thales

**NEW TECHNOLOGY TRAINING OPTIONS**

These business aircraft and civil helicopter flight simulators represent the latest-generation Level D or equivalent technology from CAE (7000XR and 3000 series), FlightSafety International (FS1000), Frasca, Reiser, Textron/TRU (Odyssey) and Thales (Reality H):

AIRCRAFT TYPE	LOCATION	VENDOR TECHNOLOGY
<b>FIXED WING</b>		
Beechcraft King Air 350	Atlanta, GA	FlightSafety
Cessna Citation CJ3+	Tampa, FL	Textron/TRU
Cessna Citation CJ4	Carlsbad, CA	Textron/TRU
Cessna Citation M2	Tampa, FL	Textron/TRU
Cessna Citation Latitude	Wichita, KS	FlightSafety
Dassault Falcon 8X	Paris LeBourget	FlightSafety
Dassault Falcon 2000LXS	Paris LeBourget	FlightSafety
Embraer 170	Denver, CO (2)	FlightSafety
Embraer 170	St Louis, MO (4)	FlightSafety
Gulfstream G280	Dallas, TX	FlightSafety
Gulfstream G500	Savannah, GA	FlightSafety
Gulfstream G650	Dubai, UAE	CAE
Gulfstream G650	Long Beach, CA	FlightSafety
Gulfstream G650	Wilmington, DE	FlightSafety
<b>ROTARY WING</b>		
Airbus Helicopters H125/AS350	Albertville, France	Thales
Airbus Helicopters H145	Shreveport, LA	FlightSafety
Airbus Helicopters H145	Bonn, Germany (2017)	Reiser
Airbus Helicopters H145	Helsinki, Finland (2017)	Textron/TRU
Airbus Helicopters H160	Marignane, France (2018)	Thales
Airbus Helicopters H225	Oslo, Norway	Thales
Bell 407GX	Fort Worth, TX	Frasca
Bell 429	Valencia, Spain	Textron/TRU
Leonardo AW139	Brisbane, Australia	Thales
Leonardo AW169	Sesto Calende, Italy	CAE
Sikorsky S76C+/S76C++	Singapore	FlightSafety
Sikorsky S92	Brunei Darussalam	CAE
Sikorsky S92	Mount Pearl, Canada	CAE

# GLOBALPARTS .aero

## FAA CERTIFIED REPAIR & OVERHAUL

Mechanical • Hydraulic • Brakes • Oxygen Bottles • Pneumatic • Structural • Electrical

*At GlobalParts Group, our world-renowned Distribution and Manufacturing expertise is also reflected in our Repair & Overhaul Services. And, with our comprehensive support and inventory network, the result is the best value of resources in the industry.*

- **Flexible Service & Support**
- **Agile Resolution of Unexpected Needs**
- **Immediate Exchange Availability for AOG Situations**

*Malissa Nesmith  
Vice President/COO*



[www.globalparts.aero](http://www.globalparts.aero) • [repairs@globalparts.aero](mailto:repairs@globalparts.aero) • 1.316.733.9240

# Supporting a great venture

Derek Zimmerman, President, Gulfstream Global Support, talks to EVA





**Centralisation allows you to take advantage of all the pricing you can gain control over, and if you combine this with pushing parts out close to the customer, you can get the optimum balance**

**R**unning a global support operation for something as expensive and demanding as a fleet of business jets requires a rare blend of logistical skills, financial acumen and management expertise.

A great support network does not just happen. It has to be crafted piece by piece, meticulously, from the ground up. People have to be trained and motivated and their skills kept sharp and fresh. A vast array of parts have to be strategically located if you want a fast response time to customer requirements - and that means that the organisation concerned is going to have to bear the cost of having all those parts sitting on shelves.

Plus, if the fleet is large, with the range of models that Gulfstream has in its portfolio, and if there is a real commitment to supporting even the oldest models for the rest of their useful lives, the annual bill for the entire support operation is going to be eye-wateringly high.

As Derek Zimmerman, President, Product Support, at Gulfstream explains, the parts inventory alone in Gulfstream's support network is valued at over \$1.6 billion. For many multinationals, a parts inventory on that

scale would have the finance department on the warpath with their knives out, looking to save the company a fortune by slashing inventory to the bone. Gulfstream management, however, know with great certainty that if you want to have the premium brand in business aviation, you have to keep the customer happy, and with business aviation, that means keeping the customer flying.

Having an aircraft AOG waiting for a part to be sourced from God-knows-where is not exactly reputation enhancing. At the same time, you can't be cavalier about the volume of surplus stock you have lying around. The solution is to look for an acceptable balance between holding much of the stock centrally, and pushing out the more in-demand parts to locations where they are much closer to the customer. Again, getting this balance right takes deep skill and an excellent network that enables information on parts usage to guide and refine the balancing process.

"We are very fortunate at Gulfstream in that we have a parent company in General Dynamics that understands that the business aviation industry is tremendously resource intensive. What's more, our parent company has provided the means for us to continue to in-

vest in this business all the way through their time as owners of Gulfstream.

"It has been no small investment. They have provided the tooling, the facilities, the parts across the full range of the fleet, now at more than 2,500 aircraft, going all the way back to the G1, which first flew in 1958," Zimmerman comments.

He makes the point that it is relatively easy to build one aircraft, but to keep on building new models decade after decade, and to support and maintain those models to the standards that corporate and private customers rightfully expect, is a different proposition altogether.

"We are able to do it because we have a lot of very smart and very dedicated people in our organisation. It is their responsibility to work out the balance between the things that are best stored centrally, so that we have command and control over them and the numbers on the shelves, and the parts that are best placed as close as possible to the customer," he notes.

You have to have centralisation - otherwise, a support network can easily degenerate into a host of spot decisions being made in local markets. These decisions might look ▶

# Hangar

# Doors

Weathertight and insulated.

The most reliable hangar door choice from Arctic areas to scorching hot climates.

## CHAMPIONDOOR®

HEAD OFFICE / FACTORY  
Tel. +358 445 8800  
info@championdoor.com

FRANCE  
Tél. +33 147 202 314  
france@championdoor.com

UAE  
Tel. +971 488 10331  
uae@championdoor.com

[www.championdoor.com](http://www.championdoor.com)



**Here on the support side we are very close both to the manufacturing and design side and to sales**

► fine at the time, but when looked at as a whole, with the wisdom of hindsight, any organisation going down that road is likely to find that they are tying up far more money and being a great deal less efficient than they thought.

"Centralisation allows you to take advantage of all the pricing you can gain control over, and if you combine this with pushing parts out close to the customer, you can get the optimum balance. It is more costly than holding everything centrally, but the upside is that it really cuts down the time it takes to get parts for the customer's aircraft and you get them flying again far faster," he says.

Zimmerman points out that delivering quality repairs in the shortest possible time frame has a hugely positive impact on the brand. "First and last, the relationship with customers is vastly more valuable to us over the longer term than any savings we could make on parts. Obviously, we still have to track and monitor things very carefully to avoid waste, but our focus is on efficiency rather than savings and we try to put as much as makes economic sense as close to the customer as possible," he says.

All the data that comes in from the entire



Gulfstream fleet, across all the service centres, is constantly analysed. "We need to be prepared for constant change as we flex to match evolving customer requirements," he comments.

One of Gulfstream's major advantages on the service and support side is that it has always done the vast majority of its maintenance in-house, along with support from its sister company Jet Aviation. So there is a very strong flow of information and learning that comes from this, helping to ensure that services and repairs continue to meet very high quality standards. "We know what the experience is in the overall Gulfstream fleet, and

we can leverage off all these internal data sources to shape our responses accordingly," he comments.

Another important factor is that the service and support side is part of an integrated approach and not merely a stand-alone after-market service. This is particularly true for Gulfstream's next two aircraft to enter service, the G500 and G600 in 2018 and 2019, respectively.

"Here on the support side we are very close both to the manufacturing and design side and to sales. Right from the outset we have people from product support embedded in our new product design and build phase,



helping to provide input on the maintainability of the new design and answering questions about how we are going to support the design, tool for it and train our staff for it. There is a continuous dialogue back and forth with the other parts of Gulfstream," Zimmerman says.

The support team will have a special squad overseeing the first test aircraft and familiarising themselves with its unique characteristics. They'll also be feeding information back on key design or engineering issues that impact anything to do with keeping the aircraft flying.

It is common practice among some airframe manufacturers to produce aircraft that are a best-fit compromise between what customers really want and what is reasonable, from an economic perspective, for the airframe manufacturer to provide. This approach

leaves scope for a healthy after-market third-party business, where specialist engineering companies look to design desirable modifications and add-ons which they walk through the certification process and try to sell to a goodly percentage of the buyers of that particular model.

Zimmerman says that while Gulfstream is mindful of the needs of the after-market, building a perfect or near-perfect product is what Gulfstream aspires to from the outset. This leaves very little room for third parties to come in with after market add-ons. Plus Gulfstream itself has a very active programme of enhancements for its older models, and that too, is a revenue generator for the company.

"A good part of our investment in the last year or two has been targeted at GIVs and GVs, especially in regards to avionics upgrades and cabin connectivity and functionality.

"We understand our airframes better than anyone else and we believe we are best placed to bring out enhancements, where there is a clear or emerging market need for them. We know how the systems work and it is a much easier story for us to make the investment in the upgrade technology, get the product certified and then get it onto the customer's aircraft. Business jets are sophisticated products. The better you understand the aircraft, the easier it is for you to complete the certification work on an enhancement or upgrade. Plus the customer can be confident that the after-market improvement you have added can be supported for the life of the airframe. We know that at the end of this process we are giving them something that they are going to be happy with," he comments.

Any owner or operator knows that the quality of the support that an aircraft has ▶▶

## LESS TIME, LESS FLUID

OPTIMIZE YOUR DE-ICING



### ELEPHANT® BETA

The Elephant® Beta de-icer provides the shortest spray distance and the largest operating range suitable for all commercial aircraft including A380.

#### MAJOR BENEFITS:

- Reaching longer and higher
- Reduced fluid consumption
- Reduced minutes per operation
- Reduced fuel consumption
- Reduced CO<sub>2</sub> emissions

COMPANY  
**VESTERGAARD**  
Visit [www.vestergaardcompany.com](http://www.vestergaardcompany.com)

received over its life has a significant impact on the aircraft's residual value when it is finally sold on or traded for a new model. A real stumbling block for potential buyers of pre-owned aircraft, of course, is if the OEM has withdrawn support for an ageing model. Zimmerman points out that Gulfstream had a G1 on the ramp earlier in 2016, and continues to support customers who operator its oldest model.

"We are well aware of the fact that aircraft can be very long-lived and we know that the lifespan of any aircraft can be extended way out into the future if it is properly cared for," he remarks.

When it comes to deciding where to site its service centres and mobile support operations, Gulfstream is of course guided by demand. With some 60% to 70% of the business jet fleet residing in the US, its existing wholly-owned service infrastructure is set up to reflect this US-centric skewing. There are 11 Gulfstream service centres worldwide, with a combined area of more than 5 million square feet. On top of this the company has some eight factory-authorized service centres through Jet Aviation, and 17 authorised warranty facilities on six continents.

Of the 11 company-owned service centres, three are outside of the USA. One is in the UK, at Luton, one is in Beijing and another is in Sorocaba, Brazil. Gulfstream's Savannah service centre is still the largest in the world.

In addition, over the last few years Gulfstream has invested substantially in mobile support units with their own dedicated teams.



There are now eight specially equipped truck-based mobile repair vehicles in Gulfstream's support fleet and the mobile support concept has already been rolled out to Luton in the UK.

So how does Gulfstream keep tabs on such a far-flung support network? "The question of how to coordinate all this starts from our base and works outwards towards the

customer. A really interesting key future development for us would be to have some of our technicians and technical support staff actually based with larger customers. That will send a tremendous message to customers about us being there for them and with them. I think that is a natural evolution for the support industry as time goes on," Zimmerman comments.

Staff training on the technical side is absolutely a continuous process. "There are a whole range of issues that we need to train our technical people on and we run courses continuously here. FlightSafety, our partner on training issues, runs courses as well for us. It is all about looking at how you move people through the various training channels," he observes.

New models clearly require a tremendous amount of preparatory work from the support team. "Right now we are very forward-focused on the G500 and the G600. We have a product support team taking care of one of the flight test aircraft, so they are already getting plenty of hands-on experience, and learning lessons that will be fed to the entire support network," Zimmerman notes.

With a long history of successfully introducing new models, Gulfstream has a deep experience of what is required in order to have its global support network and all the third-party shops up to speed by the time the new models are being delivered to customers. "We're getting ready for these new aircraft and we're really looking forward to them joining the fleet," Zimmerman concludes " ■



- 30% FOR NEW CUSTOMERS\*

access OSLO  
executive handling

# YOUR PARTNER IN NORWAY

FBO network

Aircraft charter

Supervision

## OSLO - ENGM



### NEW LOUNGES

Brand new state-of-the-art vip & crew lounges 2016

H24 OPS

All services

Supervision in Scandinavia

Board to Board service

## NEW FBO

Our newest FBO opened 1st of June. Welcome to ENTO

H24 OPS

All services

Meeting facilities

100 % Privacy



## TORP - ENTO



[www.accessoslo.no](http://www.accessoslo.no)

+ 47 91 222 999

[ops@accessoslo.no](mailto:ops@accessoslo.no)



Follow us on Facebook and Instagram for up-to-date news



NATA Safety 1st Professional Line Service

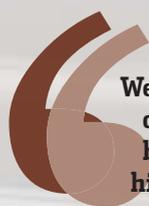


\$ 10M  
Insurance

\* On basic handling services

# Global success

*Anthony Harrington caught up with Textron VP of sales and marketing Kriya Shortt on her whistle-stop tour of Europe*



**We are very proud of our track record in bringing new, very high quality models to market faster than any of our competitors**

**C**ompeting with a boatload of testosterone driven salesmen in one of the world's most intense, high powered markets, has never been much of a problem for Textron's VP of sales and marketing, Kriya Shortt. Her 20 years with Cessna and, for the last five years, with Textron Aviation, have been a textbook "onwards-and-upwards" story.

Shortt modestly puts her success down to "great mentoring, a great team and a great company" but hey, loads of folk get mentoring and never get beyond middle management, where they lurk as potential cannon fodder the next time their organisation slims down in the face of a dip in the business cycle.

When EVA spoke to Shortt the Textron jet that is ferrying her and her team about Europe had just touched down in Paris, which is about as good a place as any to be at lunch time. After a number of meetings in recent days with a variety of European and UK operators Shortt was well placed to form an opinion on how Brexit is being viewed by Textron's operator and customer base. ▶▶



**We think we are putting the Latitude into a space that needs new technology. It is a highly efficient model with very desirable features**

“Generally speaking, there was wide agreement that while there might be some changes, the fundamental fact is that trade between the UK and Europe will go on. Moreover, the predominant view seems to be that right now, Brexit is not having a discernible impact on aircraft movements or the demand for charter in Europe,” Shortt says.

Of itself, that has to be positive news. Moreover, Textron’s own sales for the first 6 months

of 2016 are buoyant. This is despite the fact that GAMA has reported a year-on-year drop of some 10% in the sale of new aircraft for the first half of 2016.

Shortt points out that having sold 16 Citation Latitudes during the period from the aircraft achieving certification on 5 June, to the end of December 2015, Textron’s sales team has racked up another 16 Latitude sales through the end of Q2 2016 – a tremendous feat in a market that is looking fairly bleak for the competition.

“The way I see it, 2008 was very tough for the industry, but if you look at Textron Aviation, for us we are on a very solid path, as is reflected by our year-over-year and quarter-over-quarter results. We have reported continual incremental sales and revenue growth,” she notes.

The driving factor behind this success, she says, is Textron’s discipline around product innovation. “New and better” sells product in this and most other markets. “We are very proud of our track record in bringing new, very high quality models to market faster than any of our competitors. With the Latitude, it took us just three and a half years from the initial announcement at NBAA 2011, to certification in June 2015,” Shortt remarks.





Not only have retail buyers reacted well to the Latitude, Netjets has given the Latitude a resounding thumbs up. It took delivery of its first Latitude on 28 June this year and promptly added a further 50 options to the record order for 150 Latitudes it had placed with Textron in 2012. Shortt points out that the delivery of aircraft against this huge order will be paced in such a way as to allow Textron to continue to fulfil orders for retail customers and operators at the same time, so everyone will get a fair crack at getting their delivery met in a reasonable time frame.

At the time of writing Textron Aviation was scheduled to announce its third quarter results on 21st October, at which point the company's sales performance to date will be even clearer. However, Shortt reckons that so far there is much for the company to be delighted about as far as the market's reception of the new jet is concerned. The momentum



Citation Latitude Interior



Citation M2 cockpit



Citation M2



Citation Longitude



gained so far should be continued when the Longitude achieves certification around the end of 2017.

The one slight hiccup concerning the Latitude's success to date is probably the fact that competition from Embraer, which appears to have deliberately targeted the Latitude with its Legacy 450 and Legacy 500 jets, has forced Textron to lower its anticipated launch price.

Textron CEO Scott Donnelly conceded during his Q2 results briefing with analysts that "a competitor's" pricing manoeuvres had forced the price drop. The Latitude has a superior price performance to the Legacy 450, which is a "fair" competitor to the Latitude, but is a tad outgunned in range and some features by the Legacy 500, which is a larger jet and thus should be at a significantly different price point. Donnelly pointed out that the arrival of the Longitude will be more than enough to restore the balance, since it will significantly outgun the Legacy 500 – though, once again, he did not actually mention Embraer by name. However, the market will not mind in the slightest that competitive pressures are presenting potential Latitude buyers with a slightly lower price tag. That, after all, is what competition is supposed to achieve – superior quality at a cheaper price. Short adds that during the third quarter of 2015 and onwards Textron was able to firm up the Latitude pricing and is now able

to hold its price, which helps to protect customer residuals.

"We think we are putting the Latitude into a space that needs new technology. It is a highly efficient model with very desirable features, with technology that customers want and need. It is expanding the envelope in terms of the total package that customers are getting, and a price point that is very attractive both in terms of the cost of acquisition and life cycle running costs," Shortt added.

Beyond the Longitude, of course, there is the large-cabin Hemisphere, announced at NBAA 2015. This is a 4,500 nautical mile, multi-zone cabin and takes Textron into the large-cabin space for the first time. First flight should take place in 2019, with delivery into service the following year. The anticipated price tag is around \$35 million.

Textron is also doing extremely well in the light jet segment. Shortt says that the company is very excited by the continued push by EASA to allow single-engine turboprop aircraft to be used for charter flights. "We have the Caravan available right now, of course, with a very attractive profile for the light aircraft charter market. But we also have our new single-engine turboprop, the Denali coming to market and we expect that to be very well received since it will compete very well against the PC12," Shortt notes.



**We also have our new single engine turboprop, the Denali coming to market and we expect that to be very well received**

The Denali is scheduled for its first flight in 2018. A cabin mock-up of the new turboprop went on display at EAA AirVenture, on 25 July. It comes with a standard six-seat configuration but can seat nine, with a belt seat in the aft-situated lav (not a popular seat with most charter buyers, but available at a push, if the operator chooses that particular configuration and you absolutely do want to take a plane-full of buddies with you).

The latest spec on the Denali is that it will have a cruise speed of 285 knots with a full fuel load of 1,100 pounds, and will fly 1,600 nautical miles at its cruise setting. Looked at in the context of Europe, that range will join an awful lot of city pairs, so assuming the air taxi business really does get going in Europe, the Denali looks like being a very popular addition to any light aircraft charter company's fleet.

"We're anticipating first deliveries in 2019 and the cabin will be best-in-class. It will have a true flat floor and will be wider than the PC-12. It will be an ideal charter aircraft, given EASA's rule change, since there will be plenty of space for passengers to take on luggage like diving equipment and bicycles. From the pilot's standpoint it will be the first single-engine turboprop with full FADEC, and it will have a cargo door, which is a huge plus for operators," Shortt comments.

Textron makes a point of doing its own interiors and Shortt points out that the display mock-up for the Hemisphere, which will be at NBAA this year, will be a clear demonstration of the company's commitment to providing the highest quality cabin experience. "On top of great interior designs, we will have the lowest cabin altitude in the class. The Hemisphere will be a true travelling office or an extension of the owner's home," she notes. ■



**WELCOME TO ECCELSA AVIATION**

FBO TAILORED HANDLING AND SUPERIOR PASSENGER SERVICES, CAPABLE TO ASSIST UP TO A340s AND B747s. ECCELSA AVIATION IS THE GATEWAY TO **COSTA SMERALDA, IN SARDINIA**. LOCATED AT 3 KILOMETRES FROM THE "MARINA DI OLBIA", ECCELSA AVIATION IS THE ONLY PRIVATE AVIATION AIRPORT IN THE MEDITERRANEAN THAT ALLOWS YOU TO REACH YOUR YACHT WITHIN ONLY 5 MINUTES FROM YOUR LANDING.

**ECCELSA AVIATION**, IN COOPERATION WITH **MERIDIANA MAINTENANCE** TEAM, OFFERS YOU THE OPPORTUNITY TO ACCURATELY SERVICE YOUR AIRCRAFT WHILE YOU ENJOY YOUR UNIQUE HOLIDAYS IN SARDINIA. ECCELSA AVIATION IS ONE OF THE REASONS PEOPLE THAT DEMAND A TRULY SPECIAL HOLIDAY IN A TRULY SPECIAL PLACE RETURN TO **SARDINIA**. AGAIN AND AGAIN.



**WWW.ECCELSA.COM**

OLBIA COSTA SMERALDA AIRPORT

07026 OLBIA (OT) - ITALY

AIR FREQ. 131.675

TEL +39 0789 563 480 | FAX +39 0789 563 481

HANDLING@ECCELSA.COM

**MEBAA**<sup>TM</sup>  
SHOW

**06 - 08 DECEMBER 2016**

*DUBAI WORLD CENTRAL*

MEET US  
AT NBAA  
**BOOTH 889**



**THE GLOBAL HUB**  
OF BUSINESS AVIATION

[WWW.MEBAA.AERO/REGISTER](http://WWW.MEBAA.AERO/REGISTER)

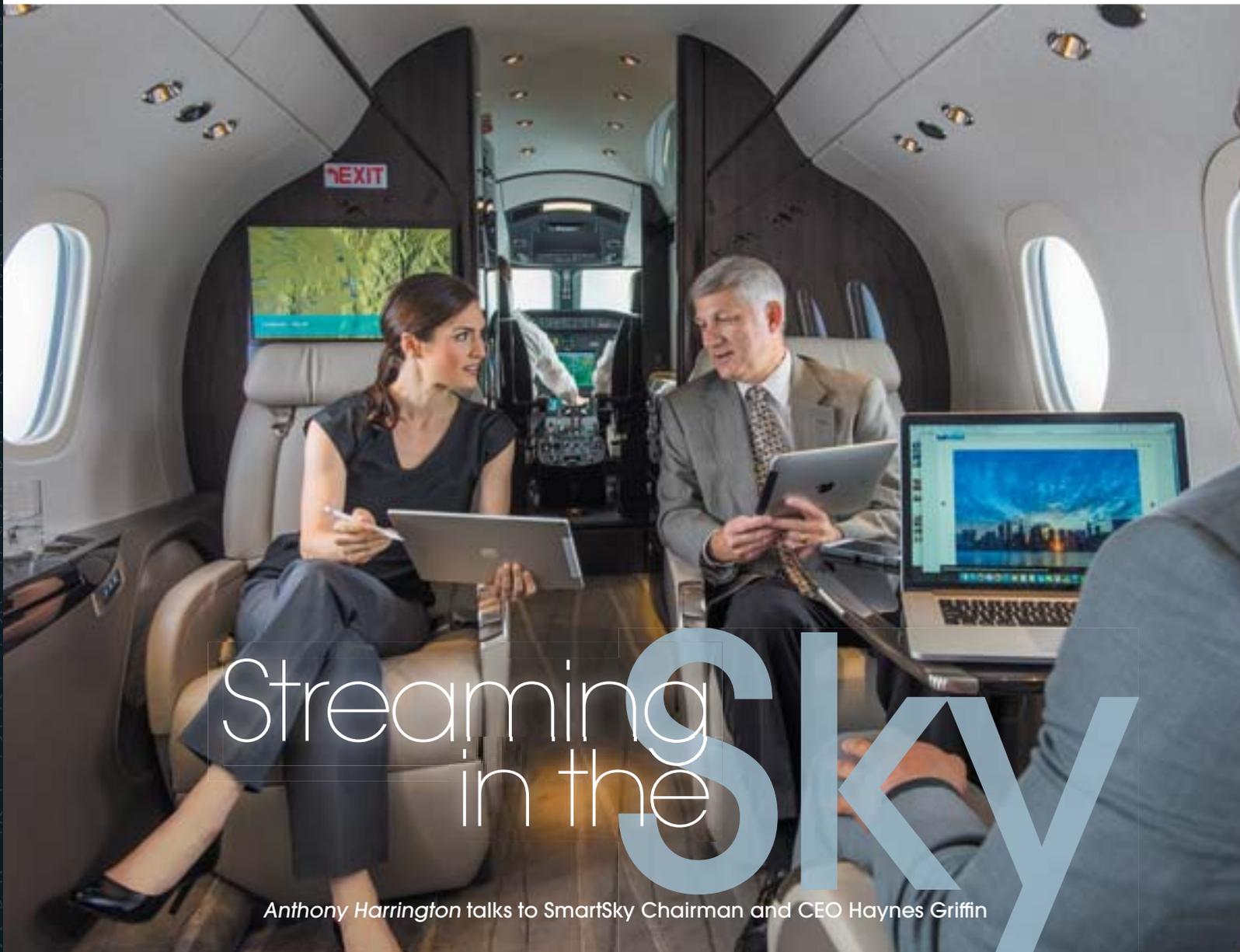
Organised by:



A Tarsus Group Company

On behalf of:





# Streaming in the Sky

Anthony Harrington talks to SmartSky Chairman and CEO Haynes Griffin



**O**n 28 September 2016 SmartSky Networks took a giant step in its bid to transform broadband connectivity for business aviation when the company received FCC certification for its patented spectrum reuse radio technology. With this hurdle cleared, and with the FAA DO-160 certification already in the bag, the one remaining step is to go through the normal process of getting the STC on each model type for any radio that has to go into the aircraft, a process that is well underway. SmartSky has contracts in place to obtain STCs for almost 9,000 aircraft once complete. According to SmartSky Chairman and CEO Haynes Griffin, the SmartSky connectivity solution is going to be available on everything from Bombardier Global 6000s right on down to very light jets and turboprops.

**Q:** How did the company get started?

**A:** We got started back in 2011 with the acquisition of a patent application that dates back to 2005 relating to in-flight aviation. This was the first of a number of advances that enabled us to solve one of the longest standing issues facing business aviation, namely how to offer a broadband connection while in flight that would combine real broadband speeds and a low signal latency with an affordable price.

Our solution is a breakthrough in air to ground communications. It is clear that the aviation industry has a growing yet unfilled need for connectivity. The reason this problem has not previously been solved is that a telecom carrier would never stop using a large block of spectrum on the ground in order to make it available for use in the air. Despite its value in ►



# NBAA BACE

**BUSINESS AVIATION  
CONVENTION & EXHIBITION**

**NOVEMBER 1-3, 2016  
ORLANDO, FL**

## **ATTEND THE WORLD'S LARGEST BUSINESS AVIATION EVENT**

Join 27,000 industry professionals for the most important three days of business aviation, with over 1,100 exhibitors, 2 static displays of aircraft – one inside the exhibit hall and the other outside at Orlando Executive Airport, and over 50 education sessions. Visit the NBAA-BACE website to learn more and register today.

**REGISTER TODAY: [www.nbaa.org/2016/eva](http://www.nbaa.org/2016/eva)**

▶▶ the air, it's value for use on the ground would be 100 or even 1000 times greater.

**Q: So how did you get around this problem?**

**A:** This is where our breakthrough comes in. While others in the industry have for many years been looking toward the long, perhaps permanently stalled 14 GHz auction, we for the last five years have been developing a technology that enables spectrum re-use. Through the evolution of our robust and growing portfolio of 20 granted patents, we have developed a technology that allows us to re-use spectrum in that air without interfering with its use on the ground. We call it the layer cake effect. So instead of consuming the whole of the available bandwidth, we can use it in the top layer, leaving the bottom layer completely unaffected for traditional terrestrial communications.

The culmination of this 5 year effort is



the recently announced FCC certification that you mentioned earlier, confirming that because of our technology we can indeed do all this within the FCC's rules.

When we began this process years ago, we went outside the traditional telecom industry to prominent aerospace contractor Harris Corporation to help us develop the radio and technology to exploit first the original patent and along the way add significant additional patents. With the radio development com-

plete and the FCC certification in hand, we are now beginning the process of rolling out the first ever high speed broadband air-to-ground network. This means that we will be bringing to aviation, for the first time, all the benefits of high speed broadband connectivity. So users in the cabin will be able to do video conferencing and streaming of movies and news over the internet in an experience much like in their office or home and they will also have access to the kinds of apps that have become so important to consumers and businesses on the ground.

**Q: Can you tell us a bit about your own background?**

**A:** I began in the wireless industry in 1983 as the founding CEO of a cellular company that operated systems on the east coast from New England to Florida. In 1999, we later sold to AT&T and I have maintained an interest in telecom ever since in various ways. ▶▶



## SA Executive Handling AS



**CALL US NOW FOR PROFESSIONAL HANDLING & SERVICES**

**+47 64 82 02 00**

**[www.executivehandling.com](http://www.executivehandling.com)**

### Facilities at the Oslo & Stavanger Airports

- ✦ NATA Safety First Certified Line Service
- ✦ Secure facility with 24/7 handling services
- ✦ Concierge services for passengers and crewmembers
- ✦ Elegant conference room
- ✦ Crew transportation and rental arrangements
- ✦ Crew lounge with entertainment & work space
- ✦ Aircraft maintenance support
- ✦ On-demand aircraft charter support
- ✦ Complimentary coffee, tea, water, soft drinks & snacks
- ✦ Disabled facilities and wheelchair available
- ✦ Pet friendly

***Relax and get ready for departure!***



► **Q: What kind of throughput are you expecting from your air-to-ground system once it is being used in earnest?**

**A:** We prefer not to quote speeds. What the industry typically does when it refers to broadband speeds is to quote the peak number, which over states the typical user experience and while technically accurate we feel is misleading. What is more meaningful is to explain that the user experience with our system will be very much like the experience our customer would have in their home or office.

**Q: How do you see yourself in comparison to satellite services?**

**A:** Satellite equipment, because of size and weight, can be used by only about 22% of the Business Aviation market. By contrast, our system will fit easily on Business Aviation aircraft from single engine turboprops up to large cabin aircraft.

Moreover, it is clear that we are complimentary to rather than competitive with satellite. Customers that already have satellite enabled are telling us they want to add our system to give them both system redundancy as well as

the cost and connectivity benefits of our air-to-ground network while they are over the continental US. We see this system becoming standard equipment on most business aviation aircraft irrespective of whether they have satellite broadband or not. They can use our system where it is available and then switch to satellite for an over the water trip.

**Q: How much of a difference do you think SmartSky can make?**

**A:** The most important point about our air-to-ground system is that it enables the aviation sector to participate in the internet age at last. This will bring the kinds of tools that terrestrial businesses have enjoyed for years. Offering true broadband connectivity to the cabin is important, but just as important is bringing that broadband connectivity to the cockpit and the airframe.

This real time connectivity will be a tremendous benefit both to pilots and to the maintenance teams responsible for business aviation aircraft. Owners and operators too will benefit such as by enabling greater fuel efficiencies as ground based teams and pilots

get real time diagnostics on operational matters such as engine performance and fuel usage. For example, with the right apps to support them, they can adjust engine and flight parameters in real time to reduce fuel burn. We think this could save an operator between 7% and 12% annually. This is obviously a very significant savings. We are announcing a flight path optimization algorithm for use with real time diagnostics that will make these kinds of savings very achievable.

As another example, jet engine manufacturers tell us they believe real time engine monitoring will save on maintenance and extend engine life which of course could also translate into tremendous savings.

Clearly, these kinds of fuel and maintenance savings can be expected to have a very strong appeal across all Business Aviation, from light jets and turboprops up to the largest airframes. You can see why we expect to see a very strong demand for the SmartSky system.

The historic progression of communications in aviation started out with just voice radio. Then later came satellite communications which was a big improvement. But air-to-ground will always have significant inherent advantages over satellite, providing a combination which is faster, better and cheaper. Our advance moves business aviation into the low cost, high bandwidth era and that will be transformational in the air just like it was on the ground. In the process, we have assembled an iconic list of industry partners that are joining us in the roll out of this exciting new network, both OEMs like Textron and Bombardier and other prominent partners such as Duncan Aviation, SatCom Direct, Jet Aviation, Chicago Jet Group, Clay Lacy, Standard Aero, Pentastar, West Star and Pro Star.

We are building sites now and the initial roll out of the nationwide network will complete by third quarter 2017. We are deploying our own equipment nationwide, so this will be entirely our own network. We are not piggy backing our service on any other operator's network. That means we can control the network, ensure the very best customer experience and grow the network over time to meet growing demand. ■

# WELCOME TO THE FUTURE OF AIRCRAFT INTERIORS



**Aero Media Vision** are opening up a brand new world of revolutionary media projection technology for aircraft interiors.

With well over 30 years' experience in commercial, VIP, WVIP aircraft interiors and multimedia technology **Aero Media Vision** have become the leader in changing the way we look at future aircraft interiors.

**Aero Media Vision** are an innovative aviation media company creating wholly immersive environments which change our surroundings by utilising and connecting spaces with light and imagery.

We are able to create a truly amazing ambience with unique scenery in sync with mood lighting and integrate this with cabin management systems, giving your passengers that extra special feel of excitement and composure at the same time. By using our experience, imagination, knowledge, technical capabilities and ideas, we are able to turn them into reality and further enhance the passenger's visual experience.



## DARE TO DREAM

AND LET AERO MEDIA VISION TAKE CARE OF THE REST

29 Barry Avenue, Bicester, Oxfordshire OX26 2DZ United Kingdom

Tel: +44 (0) 1869 389108

Mobile: +44 (0) 7917340035

info@aeromediavision.co.uk • www.aeromediavision.co.uk



# AOG PROTECTED

## ARE YOU?

AOG Protect is an insurance policy which indemnifies the aircraft owner or operator, covering part of the additional cost of a replacement aircraft in the event of an AOG incident.

-  Protect customer relationships
-  Maintain operating profit
-  Stand out in a competitive market



To find out how AOG Protect can work for you, visit us at NBAA-BACE Orlando, Booth 1174  
1st - 3rd November 2016



**MOUNTFITCHET**  
RISK SOLUTIONS

[WWW.MOUNTFITCHETRISK.COM](http://WWW.MOUNTFITCHETRISK.COM)