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SUMMER 2017

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TONY ROBBINS

Author, entrepreneur & philanthropist

WIDEBODY AMBITIONS: COMPLETIONS ON A GRAND SCALE

RUGGED EXECUTIVE: OWNING & FLYING THE PC-12

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Foreword

In the midst of another whirlwind compilation effort to get this, my second *EVA*, off to the printer in time for it to reach Geneva, I detected the faintest whiff of a possibility of the chance of growing optimism among the industry's operators and service providers. The people who know seem to think that better times are ahead. Perhaps.

All else being equal, Duncan Aviation's Tim Barber thinks President Trump may eventually turn out to be good for business aviation, but Luxaviation UK's Patrick Margetson-Rushmore cautions that Brexit might become a troublesome fly in the ointment, at least for European operators.

Meanwhile, A-Group considers the time right for expansion in Moscow and St Petersburg, a view shared by SEA Prime at its Milano Linate Prime FBO.

Self proclaimed 'plane crazy' James Moon is another optimist, looking forward with enthusiasm to Moon Jet Group becoming an aircraft management and charter operator, as well as a leading reseller of pre-owned aircraft.

I bow to their better judgement and hope you'll be entertained and informed as you read their stories.

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“ You get all the fun and versatility of a light aircraft, yet you can go up to 30,000ft and fly across Europe, then fly at exactly the same approach speeds as the Citation XLS. ”

Photo credit: Mike Fizer

Six-foot-seven, 57-year old Tony Robbins is a Number 1 *New York Times* best-selling author, entrepreneur and philanthropist. Known for his life empowerment seminars, he has coached more than 50 million people from 100 countries. Past clients include former president Bill Clinton, Oprah Winfrey, Hugh Jackman and Serena Williams.

CEOs pay seven-figure annual fees to retain him as a life and business strategist/personal coach – not bad for a man from an impoverished and abusive family, who never went to college and whose first job was as a janitor. Today, Robbins is chairman of a dozen privately held businesses, with combined sales exceeding \$5 billion per year.

Robbins is also a recognised authority on the psychology of leadership, negotiations and organisational turnaround. *Fortune* magazine calls him the ‘CEO Whisperer’ and he was included in the top 50 of *Worth* magazine’s 100 most powerful people in global finance in 2015 and 2016. America’s Best 401k, in which Robbins partners, provides free side-by-side fee comparisons to business owners, helping them determine how much they are paying in fees and provides income solutions for plan participants entering retirement.

TONY ROBBINS

Leadership Quality



A huge believer in philanthropy, in 2015 Robbins partnered with Feeding America to create the 100 Million Meals Challenge. In its first year, he personally gifted 59 million meals and matched funds for 102 million total meals, surpassing the goal. To date, his challenge has provided over 200 million meals and is on track to hit 1 billion meals by 2025.

He has also initiated programmes in more than 1,500 schools and 1,600 correction facilities, and provided support to 2,000 health and humanitarian organisations. He provides fresh water to 250,000 people a day in India, fighting waterborne diseases, the number one killer of children in the country.

We caught up with the busy entrepreneur in New York, where he was promoting his new book, *UNSHAKEABLE: Your Financial Freedom Playbook*.

How do you stay ‘unshakeable’ if the markets go tumbling downwards?

By understanding the nature of the markets, by understanding the facts instead of just the emotion. We’re eight years into this bull market, the second largest in history. I wanted to write a book that would protect people because the crash is coming. Here’s what you do so you don’t get hurt. Staying out of the market is not the answer, because that will hurt you more. The crash is the next opportunity to leapfrog from where you are right now financially, to where you want to be.

Trying to time the market is the biggest disaster in the world. Warren Buffett told me, “All these market forecasters you see on TV, their only purpose is to make fortune tellers look good. No one can call the market, you just want to own the index.”

Who has had most financial influence on you?

There are several, including Paul Tudor Jones, who I coached for 24 years; he hasn’t lost money in all that time, which very few people could say. He also uses his wealth for good, which is the way I look at it. And Ray Dalio, the most successful hedge fund man in history. He’s produced more returns for people than anybody else. He won’t talk to you unless you have a net worth of \$5 billion.

Carl Icahn is the activist investor; he buys the stock and influences the CEO and team members to make changes or else. Then someone like Sir John Templeton, who I interviewed before he passed away in 2008, his whole thing was when there’s blood in the streets you buy cheap and hang onto it until its worth more.

They all had the obsession of not losing money, asymmetrical risk reward. The best investors are all

obsessed with, “What’s the least amount of risk I can take to get the greatest level of reward?” American hedge fund manager Kyle Bass took \$30 million and turned it into \$2 billion in the middle of 2008 and 2009. No one’s done that in history. He bet against the real estate market, but what really made him brilliant was asymmetrical risk reward. He never risked more than six cents to make a dollar.

These are the people who’ve inspired me, who’ve done it. I teach their most important principles in the book, so you can use it as your own checklist on how to design something that you want to move forward with.



I thought, “If strangers care about me, I must care about strangers.” I promised myself I would eventually help other families.

What did you learn from Warren Buffett?

His entire focus is that today, no one is going to beat the market. He said, “Bet on America. Don’t be a consumer. Own the index.” He also said the best investment of all is the investment in your own development. I asked what was his best investment and he said, “Going to Dale Carnegie,” and that with all his number knowledge, he wouldn’t be who he was if he hadn’t done that. He said, “Improving yourself is the most important investment of all.”

What was your childhood like?

Rough. I had four different fathers and my mom was an alcoholic pill-popper, a very intense lady. None of my fathers could support us financially, and when I was eleven years old we had no money for food. But at Thanksgiving, an anonymous man sent my family a meal. We never knew who he was, but it changed my life completely because my father had taught us no one gives a damn. What looked like the worst day of my life turned out to be the best, because it changed my entire belief.

I thought, “If strangers care about me, I must care about strangers.” I promised myself I would eventually help other families. When I was 17 I fed two families, then four, then eight, and eventually, a million people a year, then two million. And then, by matching personally what I did through my foundation, we fed four million people a year. With Feeding America, I’m going to feed 100 million this year. 100% of the profits of this book go to support that. To write a book and

have it change people's financial lives is one thing, but to have it change the lives of people who could never afford the book, that's the beauty of what I'm able to do.

I understand you were abused as a kid?

I never talked about it until one day I was in New York doing a programme for a group of physically abused children. I'm a 6ft 7in white guy and I've done well financially, and I could just see that me telling these kids what they could get through meant nothing to them. So I told them my mom used to bash my head against the wall till I bled, she used to pour liquid soap down my throat because she thought I was lying. Yet I love my mother more than anybody. She couldn't leave the house. She was totally dependent upon me, so I grew up very, very quickly.

Then I became a practical psychologist to make sure my brother and sister never got hurt. Most of my skills were based on: "How do I manage my mother so she doesn't hurt my brother and sister?" I grew from that. Would I do all these things if I had not suffered? I don't think so.

What did you want to be when you grew up?

I wanted to be a fireman, I wanted to be a police artist because I wanted to catch the bad guys, and I wanted to be a rock star, although I couldn't sing for squat. But I managed to merge those things. I help people, I turn them around, and I get to do rock shows with 12,000 people, but instead of two hours, mine are 50-hour shows.

When I was in junior high school I was already Mr Solution. I was a voracious reader and consumed 700 books in seven years, all on human development, psychology and physiology – if you had a problem I was the guy to see. It started with that and became my career.

Your first job was as a janitor?

I was going to school and my uncle gave me a part-time job as a janitor, and I was paid for the result, not the time. It was the first time I realised the value of performing and getting paid for results rather than hours.

And then what happened?

My speech teacher, Mr Cobb, said I had a gift. He handed me a speech called The Will to Win, said it was my life, and told me to memorise it. He put me in a competition for persuasive oratory. I won first place. And then I won first place again, at the state level and found I had a gift that I was unaware of. Mr Cobb saw more in me than I saw in myself. And that's my job now, seeing more in people than they see in themselves.



And next?

I went to a seminar by Jim Rhon, a personal development speaker. I sat there for three and half hours mesmerised by this man, and came out of it deciding this is what I wanted to do. I started speaking and went to work for Rhon. I'd do speeches to teach groups – a stock brokerage or real estate office. I'd teach people that by improving themselves they could improve their income. I'd share a series of principles and inspire them, and invite them to come to Jim Rhon's seminar.

Eventually, he invited me to open my own office. I'd talk to four groups of people a month and enrol them in Rhon's other classes, but now I had to fill an entire seminar myself with a thousand people. So, to do it and not fail, I learned how to use language to change people's conditioning.





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

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

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

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

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I worked with people who were massively overweight and I worked with addiction issues. I also worked with Andre Agassi, Princess Diana, and Mother Theresa.

Now I have 31 companies in seven different industries, from stem cells, through virtual reality and education, to financial businesses, and we do \$5 billion in sales every year. I've got 1,200 employees and I had none of this background before. I developed it because I wanted to deliver things that would be life changing for people; and then I got good at building businesses as well.

Now you fly around the world a lot. How do you fly?

I'm very privileged to have my own Global Express, so I can go non-stop to China and most places in the world. But I began chartering when I was 30 because I finished a seminar at two in the morning and had to be in Edmonton, Alberta the next morning at 8:30 for another. I needed to fly there, but there were no flights.

So, I called and said, "Find the cheapest Learjet that exists." It was a Lear 25. I said, "Put a bed in it." The man replied, "There's no room for a bed." I said, "What if I was dying? Get me one of those long hospital gurneys because I have to get a few hours' sleep before I get on stage." I did it and I was hooked.

I started chartering 100% of the time domestically, but the cost to charter to London or Australia is \$400,000. It just like didn't make sense. About two years ago I sold one of my companies for a couple of hundred million dollars, and realised I was spending half my time flying commercial overseas. So, I bought the Global XRS that changed my life.

It's a privilege to have a ten-foot bed and great food, and I can take all my co-workers and people to my office in the sky. It's changed my life in such a beautiful way. Most of my friends would give up all the things they have before they give up their jet.

What does flying privately do for you?

It allows me to sleep and be productive and it puts so many days back on my calendar. There's a group of people I'm involved with called the Underground Railroad. I provided my plane and flew all these former CIA, FBI and Navy SEALs to a place where we ended

up freeing 36 children age 9-13 who'd been forced into sexual slavery.

Do you charter it when you're not using your plane?

The owner of the Miami Heat basketball team and Carnival Cruises once owned my plane. He used to charter it to some of his celebrity friends and I still charter it to a few of them, but 95% of the time we keep it for ourselves because I travel so much.



Americraft Management Company manages it; how close an eye do you keep on expenses?

My CFO's focus is every financial part of my life, including the plane. But what's cool is I own the plane and yet spend the same amount of money as I did when I was chartering. So, it's been economically productive as well.

And if you were to buy a new jet, which would it be and why?

Gulfstreams are beautiful planes, but I took a Gulfstream from Palm Beach, Florida to Poland. I was testing it for the first time before I made the purchase. We had to stop in Newfoundland. The ailerons where we stopped froze, and it took 22 hours to get to Poland. I could've flown

commercial and gotten there in nine hours. So, that's when I said, "No more. I'm either getting a GV or doing a Global. And the difference for me is I'm tall and there's nothing quite like a Global from that perspective. I'd have to say Gulfstream does a better job of supporting and maintaining their planes, Bombardier is still working on that, but I'm a fan because the plane is just amazing.

Any regrets about anything you've done?

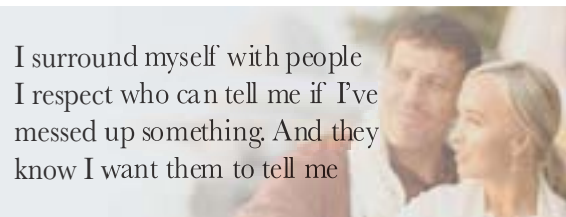
It's not that I haven't done anything stupid or messed up, but what good is regret? I'd rather learn from it and make it better the next time. I'm not the regret kind of guy. And I also surround myself with people I respect who can tell me if I've messed up something. And they know I want them to tell me.

What's left for you to do?

I'm going to feed 1 billion people. I'm presently providing fresh water to 250,000 Indians a day because the number one killer of children in India is waterborne disease. I'm going to get that to a million.

In the next two years, I'm also going to free 1,000 girls from sexual slavery.

I helped create an XPRIZE with Elon Musk and Peter Diamandis for education, because one out of every seven human beings worldwide, and 250 million children, are illiterate. We're working to create open source software to teach a child to read, write and do basic arithmetic without a teacher. Most of my goals are more philanthropic.



I surround myself with people I respect who can tell me if I've messed up something. And they know I want them to tell me

What's leadership to you?

It's the ability to influence the thoughts, feelings, emotions, and actions of another human being with integrity. And if your motive is to help your community, you have the capability to have a real impact. ■





Widebody Ambitions

LHT's Welcome Home design for the ACJ350 includes a dining area, lounge and spa.

Lufthansa Technik

Even in an industry used to technological innovation, where exotic materials and exacting requirements are daily routine and extreme performance a measure of success, widebody aircraft completions focus smart minds and test engineering conventions. The challenge relates directly to aircraft size, essentially the sheer volume of equipment a widebody cabin has space for, along with the associated wiring and power generation needs and, critically, aircraft weight.

Less important, but a factor that should

not be ignored, is the additional prestige that a widebody attracts, for the owner and completion centre. Ken Tackett, Director of Planning and Aircraft Services at GDC Technics, says: "We consider all projects important, but widebodies do allow us to showcase our capabilities more effectively."

Neil Marshall, Chief Engineer at GDC, explains some of the challenges: "Widebodies, by nature of being larger, afford customers the opportunity to implement more features into their aircraft, including more extensive IFE systems with multiple large-screen monitors. Wet systems, including showers, become possible, while ceiling lighting systems can be significantly more expansive and complex. ►►

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“All these features require power, control and wiring, so looms, for example, are typically larger and more extensive on widebody aircraft. But wireless technologies and other innovations are being developed and will help combat the weight challenge that comes with the need for larger looms.”

Headquartered in Fort Worth, Texas, GDC Technics is among the key widebody completion players. The company prides itself on what it terms ‘three pillars of exceptional aircraft capabilities: Engineering, Programs and Synchronicity’. Describing the latter concept, GDC spokeswoman Holly Boyles says: “Synchronicity is the exclusive process we use to complete aircraft modifications completely in-house and in minimum downtime.

“Our engineering and programs departments use Synchronicity to create cutting-edge technology solutions for the unprecedented challenges they face – GDC recently completed the first ever Ka-band installation on a VIP Boeing

787 for example. Our craftsmen handle new challenges with an experienced and calculated approach, a policy we believe sets GDC Technics apart in the industry.”

Boeing’s pioneering 787 structure helped achieve high performance through a light airframe, but: “Its predominantly composite fuselage posed new challenges for completions companies,” GDC Chief Engineer, Neil Marshall recalls. The industry initially struggled to tackle the Dreamliner effectively, but GDC has since become something of an expert on the type.

“With composites, traditional methods for the modification of, or attachment to the OEM structure, do not always apply,” Marshall says. “A partnership with the OEM for any new fuselage design, but especially with the Dreamliner’s composite fuselage, is crucial to the success of a completions project depending upon the modification. We’ve established a very positive working relationship with

Boeing, at least taking their guidance, and for major mods partnering to develop unique Service Bulletin installations.”

Thanks to its wide-ranging capability, GDC’s competencies include avionics, both for the cabin and on the flight deck. It’s a competency exercised when customers presented with the multiple options of the latest dedicated IFE and cabin management systems (CMS), also consider the possibilities of integrating their favourite off-the-shelf consumer components; again, the widebody’s cabin volume exponentially expands the scope for integration and innovation.

Brett Jackson, GDC’s Director of Programs, says: “We have the skilled engineering talent and technicians to be able to adopt and install the latest IFE/CMS and connectivity, in the cockpit or cabin. ‘Off-the-shelf’ is a loose term, but could you install a custom Bang & Olufsen entertainment system into an aircraft? Yes, by applying the correct engineering and certification to comply



A GDC hangar, with a couple of Dreamliners and an ACJ in residence.

GDC

with the requirements for installing COTS [commercial off the shelf equipment]. The challenges arise when the customer requests that the system be wireless and operated by all and any PEDs; that's difficult but by no means impossible – we pride ourselves on 'Engineering the Impossible'."

According to Holly Boyles, these capabilities are particularly important to GDC's offering. "While design is crucial, what defines us as an industry leader is our ability to be ahead of the curve with electronics and wireless capabilities. Two exceptional features include our ability to perform Ka-band installations and our seamlessly integrated CMSs, which give passengers fingertip control over the whole cabin. We see that the industry is headed towards global wireless connection, hands-free capabilities and even voice-activated virtual assistants. Whatever it may be, GDC aims to be at the forefront of ingenuity."

Also a leader in widebody completion, Lufthansa Technik's route

into the business contrasts dramatically with GDC's. Wieland Timm, LHT's Vice President Sales VIP & Special Mission Aircraft, explains: "Lufthansa Technik provides technical support to a large fleet of Lufthansa and customer Airbus A310, 330, 340, 350 and 380, and Boeing 747, 767, 777 and 787 widebodies. We're therefore familiar with the technical aspects of these aircraft from the points of view of support and operation. This experience continually flows into our conversion projects for VVIP, special mission, and government customers. To date, we've converted almost 140 VVIP and VIP aircraft, including more than 25 Boeing 747s."

LHT has also broadened its expertise through partnerships with industry leaders, creating unique design, IFE and lighting packages. Among them, the LHT/Panasonic IDAIR joint venture is dedicated to creating 'next level' CMS and IFE packages, while INAIRVATION boasted early

expertise in lighting systems. An LHT and F/LIST joint venture, it pushed the state of the art in lighting with preferred partners Schott and DesignQ. Interestingly, the INAIRVATION brand has since developed into a provider of pre-engineered retrofit cabins for Bombardier and Gulfstream jets.

But this is only half the story, as Timm reveals: "Our close cooperation with the OEMs is also a special honour for LHT. It demonstrates the increased level of interest the OEMs have in our technical solutions. It also benefits our customers, of course, and leads to technological innovations. Also, it's important not to forget, for example, our Mercedes cabin, offering new entertainment and cabin management with so-called black panel technology."

Cabin-wide Competency

Of course, GDC's capability is cabin wide, fully encompassing the scope and vast quantity of materials and structures involved in a widebody project. GDC's



Andrew Winch Designs has produced spectacular 787 completion concepts for LHT, including a VIP dining and conference room, and a master bathroom. [www.3viz.com/Lufthansa Technik](http://www.3viz.com/Lufthansa_Technik)



GDC has become a specialist in 787 completions and modifications, including satcom antennas. GDC



This massive gantry system provides platforms on multiple levels for GDC technicians to work around a widebody aircraft.

GDC

Ken Tackett says: “We manufacture complete cabin interiors and install them at our facilities. Dealing with material challenges is inherent to the business, the most effective method being to have a good plan and sequence of procurement and manufacturing.”

Asked to define a typical widebody completion timeline, Tackett notes: “In the VVIP world the word ‘typical’ is seldom used, since each aircraft is unique. There are many factors that go into determining the proper timescale for a project, including customer options, interior quality standards, airframe limitations, and OEM involvement. All of that said, a standard 777-300ER would be scheduled for 18 months.”

LHT also keeps its cabin competency in-house, helping ensure quality and timely delivery, but also placing the experts on hand to face particular challenges. Among the latter, Timm reveals details of a past 747-8 project: “The design required that no wood veneer should be used for the cabin surfaces. Instead, natural stone, fibre devices, the finest leather, metallic treatments and exclusive fabrics were

used. At the same time, the aircraft’s IFE system was a network-based, on-demand media system including more than 200 networked, interacting devices.”

Widebody Locations

Even for the major players, widebody completion is a specialist service delivered in its entirety from a limited number of locations, albeit with global back up. GDC Technics states that its global presence ensures a flight time of less than four flying hours for any of its clientele. The Fort Worth corporate headquarters includes an 840,000ft² hangar capable of green completions, refurbishments and maintenance services for Boeing and Airbus narrow and wide body aircraft, with support from a second facility in San Antonio, Texas.

Further units in Poole, England and Oberpfaffenhofen, Germany, support

the North American completion centres, while a Riyadh, Saudi Arabia site serves as an engineering hub for GDC’s worldwide efforts. The company’s Holly Boyles reveals: “We’re also set on a future African location in Morocco, to better serve potential clients around the world.”

Lufthansa Technik’s widebody completions hail only from the Centre of Competence at its Hamburg headquarters. “Here we have all the necessary craft groups in-house, enabling us to rapidly produce the highest quality work and offer non-standard solutions. Our Welcome Home Design for the A350/Boeing 787 demonstrates our design competence,” Timm says. And yet despite this clear expertise, the company’s VIP and VVIP maintenance offering is considerably wider.

“One of our primary areas of business is providing complete technical support for aircraft throughout their entire lifecycle. This includes the cabin, upgrades and complete remodelling. In 2016 we worked on approximately 65 aircraft, with tasks including simple A Checks, through modifications, to complete cabin overhauls.”

Customer expectations in terms of technical and design services have risen significantly over the past few years and it’s a trend Lufthansa Technik expects to see continue, although with a caveat. “At the same time, the authorities have imposed far stricter certification requirements – including fire tests and the use of glass – making it difficult to simply implement what customers want. But we predict innovative solutions for technical features and materials, and more flexible room design in the aircraft. ■



Our Welcome Home Design for the A350/ Boeing 787 demonstrates our design competence.

Wieland Timm,
LHT Vice President
Sales VIP & Special Mission Aircraft

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James Moon, Moon Jet Group founder and CEO. *MJG*

Moon Jet Group Plane Addiction

“I’m addicted to aviation! I’m plane crazy and our clients see that passion – I’m told it’s infectious!” If passion were a prerequisite for success, Moon Jet Group (MJG), founded by CEO James Moon in 2015, definitely has a bright future. Specialising in aircraft remarketing, MJG is also moving into aircraft management and charters, and recently filled key executive posts as its expansion continues.

Today the company has aircraft worth more than \$450 million on its books, having grown from humble origins in just two years. Moon recalls: “I formed MJG after I was asked to sell a Citation for a US owner. I sold it and discovered I was quite good at it, but sat on the MJG idea while building relationships with owners and airlines worldwide. I decided to launch the company because I saw a massive niche for an honest, trustworthy and genuine aircraft marketing firm that was client success driven, not just money driven. I was tired of hearing of nothing but bad experiences from aircraft owners.

“We soon had Airbus A330 and Gulfstream V owners approaching us to sell their aircraft and I quickly deduced

that we were doing something right. Our competitors either deal only in high-end corporate jets, or small single-engine pistons. We offer a variety of aircraft types, but focus on airliners, private jets, turboprops, helicopters and classic aircraft with sale prices in excess of \$250,000, since there’s a strong niche and demand for our service offering in that sector.”

Moon’s young, dynamic approach to business is winning clients globally and he’s rarely found working from his Newcastle, UK office. “I’m always on the move, meeting new clients and aircraft owners worldwide. When they meet me they see how passionate I am

about aviation – it’s why we win so many owners over, they’ve never come across anyone like me before! You can’t just be a sales drone using cheesy techniques to close a deal in this industry. Aircraft owners want to see drive and passion for their aircraft. Anyone can sell, but in aircraft sales you need that love for planes and all our employees have it in abundance. It’s part of our culture.”

Moon Team

According to Moon: “The key to building a strong business is to recruit the right people.” Jas Hawker joined MJG as Chief Operating Officer in February this year. His 25 years in the Royal Air Force included three as leader of the renowned Red Arrows aerobatic display team. “When a former ‘Red 1’ and RAF wing commander gets in touch, you listen!”

“Since day one we’ve got on extremely well and I’m looking forward to building a good long-term partnership. Jas’s military and commercial experience is hugely beneficial to the business. His military strategic thinking, rigour and planning add so much value on a daily basis and he’s massively helped MJG get where it is today.”

Alongside Hawker, MJG has placed



Jas Hawker leading the Reds in Malaysia during 2007. *MJG*

ex-fast jet pilots in two other critical roles. Most recently, Mark Whitney was taken on as a senior associate, based in Las Vegas. His 25-year RAF career included flying and instructing on the Eurofighter Typhoon, plus an exchange tour with the Royal Canadian Air Force on the CF-188 Hornet.

With just a little more MJG experience under his belt, Daniel Ingall is the company's France-based senior associate. Moon explains his appointment: "Jas introduced Dan to MJG. Another former RAF fighter pilot (Jaguar and F/A-18), he was also an aide to HRH the Prince of Wales and an Air Attaché in the French Embassy, so he brought a wealth of diplomatic, aviation and business experience. We decided to establish a full-time presence in the Monaco/Nice area because of the concentration of high net worth

individuals and aircraft owners living there. Dan's role is to establish and then grow MJG in this pivotal area."

Although well known within the aviation fraternity for his Red Arrows work, Hawker brings considerably more to MJG than strong leadership. "On leaving the Red Arrows in 2009, I was sent on a one-year master's level course in Australia, covering policy, strategy and planning. Then I spent six months in Afghanistan as the senior air adviser to land forces, where I restructured the Afghan airspace among other tasks, making it more efficient and safer for air operations.

"Two years in the Ministry of Defence followed, advising ministers and senior officials on capability requirements. I left the RAF in 2013 and worked for the Mission Excellence consultancy, showing FTSE100-level companies how to improve performance,

teamwork and leadership. Meanwhile, the entrepreneur in me started an online gift business called MyGiftGenie, which has nothing to do with aviation but teaches me something new about business every day."

As a former military officer with three years' high-level consultancy behind him, did Hawker have reservations about working alongside Moon, a man by far his junior? "James might be younger than me in years, but that's just a number... he certainly doesn't lack experience or gravitas. I like to think I'm a good judge of character and I only work with people who share similar values and that I get on with – life is too short to do anything different. James impressed me with the concept of MJG and his significant achievements, but we identified areas where I could add considerable value to the business.



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The Stratus Flying experience has reached as far as Kenya. On 29 April, Stratus Flying received the 2017 Sapphire Pegasus Business Award for best charity effort. MJG

I can honestly say that the relationship has ‘clicked’ and I think that’s because we share a passion and challenge one another to ensure we deliver the service our clients expect.”

Hawker’s demanding COO role brings a diversity of challenges, as he explains: “No day is the same and although we’re UK-based, we have clients and associates all over the globe, so it’s a 24-hour business. We recently re-branded and launched a new website, but my responsibilities are to oversee day-to-day operations and work with the management board on growth opportunities.

“To remain client-focussed we have three clear priorities: Sales, Business Development and Everything Else. This might sound too simple, but the importance of knowing what it is you’re trying to achieve (and why), was the main lesson I learned from consulting; it’s often also the single biggest barrier to organisational performance.

“When it comes to clients, they’re all different and each is treated individually. Normally they have a requirement and we suggest aircraft that will suit them, although a client recently asked whether we could supply a King Air 350i and an

L-39 Albatros jet trainer... we had both and things are progressing well! We ask for and value client feedback, since it’s the only truly objective measure of how we’re running the business.”

Stratus Flying

Driven by his aviation enthusiasm, Moon finds time for Stratus Flying. “It’s my non-profit organisation, which I run in my spare time. I organise flights for disabled and terminally ill children, from their local airfield in the UK or US.

“I formed Stratus because of my own experience in overcoming serious life trauma; I know first-hand the benefits flying can offer – freedom from life on the ground and its daily struggles. I suffered a broken spine when I was 16 years old. I was doing my PPL at the time and devastated to hear that following the injury I was unlikely to get in a plane again. But I wanted to prove everyone wrong. The freedom that flying offered pushed me on, and six months after the injury I got my PPL.”

Over the Moon

MJG’s success to date has been meteoric. “We are a young company, but even before we were 12 months

old, we won a \$168m deal to remarket Airbus aircraft for an airline,” Moon says. “It certainly turned heads, but I’ve built a worldwide presence for MJG by finding like-minded aviation professionals and experts who can help us. We do all our aircraft valuations based on market trends and patterns; our aim is to accurately price the aircraft to sell, getting maximum value for our client, not just to win it onto our books.”

From his position as a relative newcomer to a nascent company, Hawker observes: “Moon Jet Group has achieved much in a short space of time. We have more than \$450m of aircraft on our books and we’re bursting at the seams with potential, both in terms of the service we offer and the people joining the team.

“We just opened a permanent office in the South of France and another in Las Vegas – others will follow soon. Our aim is to further develop the sales, chartering and management areas, but we realise we have to remain agile to our customers and the market, and continue to innovate. Moon Jet Group has a strong future and I’m not planning on going anywhere. I feel fortunate to have a second career that I love, where I get to work with like-minded people, have interesting clients and plenty to challenge me.”

Reflecting on the company’s short history and looking to its promising future, James Moon says: “It’s been tough getting MJG to this stage, with long days and lots of tiring deals. You have to have a passion to succeed and delivering on our long-term vision at MJG keeps me going.

“In ten years we’ll still be the world’s largest aircraft marketing firm based on inventory, but I also want us to be the largest charter management firm in the world and to have acquired aircraft of our own to lease out. I’ll still be at MJG. None of this selling a business early and retiring to a beach somewhere!” ■

JetPano Virtual Tours

Panoramic view of AirX A340-300.
Helmut Harringer/www.speedlight.at



Perfect Panorama



JetPano's work requires minimal equipment since it relies on a combination of cabin and natural light.

Helmut Harringer/www.speedlight.at

Specialist jet photographer Helmut Harringer is carving a significant niche in executive aircraft presentation with JetPano, the dedicated aircraft photography branch of his SpeedLight brand. Growing from the seed of an idea sown by a friend back in 2013, Harringer combines beautifully executed exterior images with spectacular interior panoramas, aiming to deliver ultimate detail and quality from every commission.

“The idea formed after a friend working as a charter airline marketing manager sent me a cockpit view of an Air France aircraft and asked if I could produce similar pictures of his jets. In all honesty I had no idea how to create such an image, but I accepted!

“Several YouTube tutorials later, I part ordered and part rented the equipment I needed and travelled to Switzerland for my first commission, to photograph a Legacy 600. The equipment only arrived the day before, so I created my first panorama inside a hotel room... I was pretty nervous going to the airport next morning! Luckily I had plenty of time in the aircraft to take the work slowly, step-by-step.”

Since then, Harringer has worked hard to optimise his workflow while maximising quality. “There are lots of people offering similar products,” he says. “Now JetPano is two photographers sharing a passion for high-quality aircraft presentation. What makes our work unique is our focus on uncompromising quality and our efforts to minimise ground/APU time.

“Of course, the equipment is also



Helmut Harringer sits atop a rather less than executive transport, an Austrian Air Force C-130 Hercules.
Helmut Harringer / www.speedlight.at



L to R: Atlas Air Service Legacy 500. Cockpits also come in for the JetPano panoramic treatment. AirX Challenger 850.

Helmut Harringer/www.speedlight.at

important and we use state-of-the-art 36.8MP digital cameras, premium lenses and high-tech panoramic adaptors made in Switzerland. Each panorama comprises 15 images, enabling very high resolution and ultimate depth of detail. Every photograph is carefully edited, before maximum effort is directed towards the quality of the ‘stitching’, the combination of all 15 photos into one panoramic image.

“We scan every section of the panorama manually so that we can optimise the blends between individual images – automatically stitched panoramas are very good, but we strive for perfection in even the smallest detail. With stitching complete, the cabin windows are masked – usually they actually appear white because of the long exposure times we use.”

JetPano takes pride in creating natural-looking images and therefore avoids the use of additional lighting, relying instead on cabin and natural lighting, and long exposure times; yet collecting a set of 15 images takes no more than seven minutes from set-up to completion. Assuming it’s ready for photography, with the cabin arranged to client requirements, the cockpit aligned and power on, JetPano typically records a heavy jet in 90 to 120 minutes.

Panoramic Playback

The finished product, a package of images plus the panoramic virtual tour, is usually delivered within 72 hours of the photographic session.

“We use the latest software, creating multiple versions of the walkthrough, optimised for mobile, virtual reality and desktop devices. The software detects and identifies the viewing device, and then automatically loads the appropriate version of the tour. This ensures fast loading

times and the best resolution. The ‘actual’ tour is based on html 5 technology. This means all the customer needs do is host the files on their server and link to the html file, or implement my link if the tour is hosted on JetPano’s server. There’s no need for additional software.”

The majority of JetPano’s customers are charter operators looking for a high quality means of presenting their fleet to potential clients, although the product is also applicable to aircraft sales brokers offering pre-owned machines. Harringer says transparency is a key factor in his customer relationship and he’s therefore comfortable admitting the limitations of his JetPano work.

“Our type of presentation is not ideal for new aircraft sales. The virtual tours are based on real footage and while they’re perfect as a reference view on a manufacturer’s website, for example, with so many customisation options for new aircraft, computer-rendered graphics offer a more efficient presentation solution.”

But for charter operators making the most of their JetPano purchase, there are multiple display options. “They can show the tour on their website if they have an internet connection, but we can also enable offline viewing via an app installed on their laptop or mobile device. Once the offline file has been copied onto the machine, no further internet connection is required – it’s perfect for exhibitions and shows without Wi-Fi.

“It’s also possible to project the panoramic image onto room walls, but high-tech projectors and a good deal of space are needed and clients usually prefer to present the tours on screens or via VR devices. The most impressive results are achieved using VR equipment – Google Cardboard, Oculus Rift or Samsung Gear VR – when viewers feel they’re actually standing in the aircraft cabin.” ■

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Edwin Brenninkmeyer,
Oriens Aviation CEO.
Oriens Aviation

Rugged Executive

Owning & Flying the PC-12

With a reputation for rugged performance forged through more than two decades of service, the PC-12 offers a unique combination of grass airfield, short take-off and payload capability. Pilatus has continuously improved its single-engined turboprop over the years and in 2008, the PC-12 NG introduced the more powerful Pratt & Whitney Canada PT6A-67P, Honeywell Primus Apex integrated avionics suite and revised aerodynamics.

Pilatus took the next major step in PC-12 development in 2016, last year's PC-12 NG benefiting from improved performance and reduced vibration when a five-bladed composite Hartzell propeller replaced the original four-bladed unit. Further aerodynamic refinement, combined with the new prop, brought a 5kt improvement in maximum cruising speed to 285kt, as well as a faster climb rate and more rapid acceleration.

With single-pilot operations firmly in mind, the avionics were upgraded to Primus Apex Build

10 configuration, further easing pilot workload, while the cabin was also enhanced. The BMW Group's Designworks organisation developed six interior configurations, with a variety of colour and trim options available. Pilatus also offers inflight entertainment via a wireless eConnect system and the cabin features both USB and power points; a lightweight satcom antenna is optionally available.

Finally, and particularly unusual for an aircraft in its class, the PC-12 NG complements its forward airstair passenger door with a large rear fuselage cargo door. The cabin is easily reconfigured from executive to cargo layout, or a combination, generating a very particular level of flexibility.

Seating up to nine passengers, the PC-12 NG is priced to compete with light jets, albeit offering a considerably larger cabin. With direct operating costs in the region of just 70% those of a light jet, twice the capacity and typically almost 40% greater range, the PC-12 NG becomes a very attractive ownership proposition.

Factor in the aircraft's low depreciation – in a December 2016 report, Rolland Vincent Associates

noted ten-year old PC-12s retaining between 75% and 80% of their original selling price, and the aircraft becomes nigh on irresistible. In a demonstration of owner loyalty that's perhaps a little less encouraging for potential buyers of pre-owned PC-12s, the same report records just 4.8% of the global PC-12 fleet of more than 1,400 aircraft available for sale in November 2016, including only 26 PC-12 NGs.

Why NG?

Oriens Aviation is the UK's authorised Pilatus centre and in mid-April *EVA* spoke with CEO Edwin Brenninkmeyer to learn more of the PC-12 NG experience. On the one hand, he was always going to be a fan, but on the other, the vastly experienced Brenninkmeyer remains current on other aircraft, leaving him well placed to consider the type's performance in a wider context.

He began with a neat summary of the piloting experience, based on a recent flight with a newly

sold PC-12 NG, into a grass airfield in Oxfordshire, marked as a microlight strip on the 1:500,000 chart. "I flew the aeroplane in and all the autogyro and microlight pilots were looking at me as though a UFO had landed!

"I picked up five people, plus around 13 pairs of skis, tools, bags and the remaining contents of their minibus. We put it all in through the cargo door and then took off for Bern. The client's son is a competitive skier and he remarked: 'That's why I bought the PC-12 – there's no other aircraft that can do this'.

"And you can configure the aircraft pretty much any way you want. Most customers buy a 'six-plus-two' layout. It's very comfortable, with six executive seats, but the rear two are easily moved forward to make space for two quick-release seats; they're not full executive seats, they're slightly smaller. At 6ft 5in tall, Brenninkmeyer says he can sit in the rearmost executive seats "... and still stretch my legs right out."



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Alternatively, pairs of executive seats can be removed in approximately one hour, and they can be moved forwards or backwards, now with no requirement for a licenced engineer, so a pilot can do it. The quick-release seats are so easily removed that Brenninkmeyer reckons the process takes as long to explain as it does to complete. Located aft, the regular baggage/cargo area is separated from the cabin by a net and, like the cabin, is therefore pressurised, and accessible in flight. With the rear seats removed, the net is moved forwards to increase baggage space.

“We’ve got customers who remove all but the forward two seats so they can easily carry full-size motorcycles. The large cargo door also eases loading; the Royal Flying Doctor Service was launch customer back in the 1990s and the PC-12 was always designed for utility. That’s why it has a ‘T’-tail, which is less likely to be hit by a forklift, say, during loading.” The straight wing trailing edge also enables direct loading by forklift and since the door’s sized for a Euro pallet, it’s an entirely practical option.

The important point to emerge is that an operator can move large quantities of kit or luggage and still carry as many as six passengers in executive comfort, or a 1,000lb payload, from a short grass strip, over 1,500nm and at a fraction of the fuel burn of a light jet. With the cabin full to maximum weight, 750nm is a realistic range with IFR reserves... off an 800m grass runway.

Even rougher strips pose little challenge to the PC-12 NG, thanks in part, Brenninkmeyer says, to its wheels and tyres. “The wheels are huge and

they effectively have balloon tyres, inflated to only 60psi. People often see a PC-12 NG parked and think the tyres look under-inflated, but that’s normal, they’re supposed to be a little ‘squishy’. Another feature is the lack of electrical squat switches on the landing gear. These are easily clogged with grass and mud, but the PC-12 has magnetic proximity sensors for which dirt is no problem. Prop clearance is also excellent and the big trailing link undercarriage evidently has lots of oleo extension even when the aircraft is loaded on the ground, which gives you an idea just how much ‘give’ there is in it.”

The PC-12 NG’s versatility is a real-world asset that’s available on every flight. A standard aircraft requires no special preparation for even the most demanding mission, so lifting six executives from a muddy grass field in the heart of rural Scotland and flying them in considerable comfort direct

PC-12 NG 2016 cabin options.


*Jon Eriksson
Youngblut/Pilatus*





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to London City is entirely possible, for example. Depending on passenger load, range and frequency of flying, it could also work out considerably cheaper than first class travel on the UK's less than ideal rail network, but that's another story entirely.

Single Pilot

Especially in its NG form, the PC-12 is optimised for single-pilot operation. "The avionics are essentially scaled down from the Honeywell Epic suite fitted to the Gulfstream and Falcon, a multi-crew system, configured as the Apex for a single-pilot. Aircraft similar to the PC-12 tend to have Garmin avionics, which are very capable, but the company started out with systems for smaller GA types. So Garmin avionics tend to be smaller systems that have grown up, while the Honeywell equipment has been scaled down from something much larger.

"In manifests itself as a system that handles very smoothly. I also fly a Citation XLS for a charter company and although it's an unfair comparison because the Cessna has older avionics, there are certain autopilot modes we avoid because they're 'twitchy' and uncomfortable for the passengers. In the Pilatus everything is very smooth. It's a really professional system. We've had customers whose pilots fly Gulfstreams and they quickly feel at home. The philosophy's a little different, but they soon get it.

"Another beauty of the Honeywell suite is that you get four screens. The advantages are in redundancy – not that they fail often – and that the pilot and co-pilot get their own PFDs, plus one screen for systems and one for nav. Everything's there, right in front of you, without having to scroll through too many pages."

For conversion and recurrent training, a PC-12 NG simulator is available in Dallas. "It's a situation we believe needs to be improved. There's a requirement for a full-motion Level D simulator in Europe as well, but at the moment all the training is done on the aircraft. There are two approved training organisations in the UK and customers typically use their aeroplane for recurrent and type rating training. It's also worth remembering that although the avionics take a little getting used to, they're very intuitive and the aircraft's very easy to fly. But to get the very best out of them, you really have to have the additional training to understand what they can do.



"The other option is factory training in Switzerland. Pilatus offers ground school as well as flying training – I did my training at the factory and in an example of the extended avionics functionality, we simulated IFR engine failures. The system has an incredible database of landing sites, down to the smallest strips anywhere in the world. We shut down to idle at 11,000ft and hit 'Nearest' on the panel, selected a small VFR airfield and which runway we wanted. In this situation, the autopilot will fly the aircraft down to within 50ft of the runway threshold. We literally sat there and watched the aeroplane fly itself down – all we had to do was adjust the flap settings.

"Of course there's also synthetic vision, so the grass strip appears ahead of you as though it were a concrete runway, with surroundings matching what you see out of the cockpit windows. If it really is a concrete runway, the centreline markings shown on the PFDs correspond exactly with those painted on the runway. It's an example of just how powerful the avionics are and the stuff you have to learn to understand the full capability.

"The rest of the aeroplane's very simple. There's one power lever and pretty much everything's automatic. The pressurisation's automatic – as soon as you enter a flight plan into the system the destination airfield pressurisation's automatically set, as is the airfield elevation. And if there's an electrical failure, there's automatic load shedding, the pilot doesn't need to think about which loads to shed."

Pratt & Whitney Canada's PT6 turboprop has been tried and tested on multiple platforms in more than five decades of operations. How does its modern form fit the demands of PC-12 NG flying?

The PC-12 NG cockpit features a four-screen Honeywell Primus Apex avionics suite and single power lever.

Jon Eriksson
Youngblut/Pilatus



“It’s very reliable and especially so on the Pilatus, where the PT6A-67P seems to do particularly well. It’s rated at 1,800shp but flat rated at 1,200shp, so it operates well within its capacity. In addition, for example, the engine’s ITT [interstage turbine temperature] limit is 820°C, but the factory recommends not exceeding 780°C, further improving reliability. All this, combined with the engine’s capability and the way pilots are taught to operate it, means it barely breaks into a sweat in regular PC-12 NG flying.”

Sitting in the Back

“The biggest improvements in passenger comfort came in 2016, the five-bladed prop reducing cabin noise and vibration. It’s never going to be as quiet as a jet, but the experience in the back isn’t far off, especially above 18,000ft, when the PC-12 NG

becomes noticeably quieter. Then of course it’s slower than a jet, so if you’re cruising at 28,000ft, you’ve got prop noise but less wind noise. And, for \$5 million you can’t get a larger pressurised cabin – its 10% bigger than a King Air 250’s, which comes in at a much higher price point.”

Edwin Brenninkmeyer makes a convincing case from the operator and passenger points of view. But smart avionics and a reliable engine aside, how is the PC-12 NG piloting experience?

“It’s just a fun aeroplane! You can almost fly it like a Cherokee on a nice VFR day. You don’t have to go airways, you don’t have to fly it like a jet, you can just fly visually outside controlled airspace. You’ve got so much sophistication, including TCAS, so you can see where other aircraft are, you’ve got very large windows and you can drop into little farm strips. I used to fly into farm strips in Piper Cubs and you can do that with the PC-12, just like a tail-dragger, but it’s huge!

“The maximum take-off weight stalling speed is 67kt, which compares very well to a light aircraft. You get all the fun and versatility of a light aircraft, yet you can go up to 30,000ft and fly across Europe, then fly at exactly the same approach speeds as the Citation XLS, so the PC-12 NG easily fits into Schiphol, or Vienna, for example. And it’s a solid, stable IFR platform too. The slow landing speed and trailing-link undercarriage really flatter your landings – you’ll know if you’ve messed it up, but your passengers won’t! It’s just a fun, very forgiving and very safe aircraft.” ■

With a forward passenger airstair door and rear fuselage cargo door, the PC-12 NG offers the ultimate in versatility.

Mike Fizer/
Breezeway Studio





Geneva Airpark provides 'five-star' service to visiting aircraft.

Sampling Service

European FBOs

Fixed base operators (FBOs) – commercial organisations permitted to operate on an airport's grounds – aim to deliver top-of-the-line service for business and private travellers, while variously offering additional aircraft and airside services including refuelling, private taxis and minor maintenance. Many of Europe's FBOs appear similar at first glance, but each has something different to offer, as this sample reveals.

Geneva Airpark

Geneva Airpark is marketed as a 'Five-Star Residence for Your Jet'. Sophie Mabire, Geneva Airpark General

Manager, notes that the five-star aircraft service begins as machines are towed into the FBO's hangar. It occupies 10,000m² of the Airpark's 15,000m² of cark parking, apron and hangar floor space.

The Airpark's offer includes a dedicated aircraft laundry, refuelling and bathroom services, as well as interior and exterior cleaning. The focus is on quality and customer service, exemplified by the allocation of dedicated cleaning staff to particular aircraft. Mabire says: "If we outsourced the cleaning we'd lose the benefit of our dedicated in-house team."

The Airpark's customers travel for business and holidays – Geneva has access to many ski resorts. Several customers have contracts with the Airpark, although Mabire emphasises that the Airpark

has no direct contact with the end user – everything is organised and prepared pre-arrival, leaving the customer to fly on at their leisure.

Geneva Airpark has no maintenance mandate, leaving such work to co-located TAG and Jet Aviation. Mabire says customers actually comment favourably on the Airpark because it doesn't resemble a maintenance hangar.

Biggin Hill

London is well served by FBOs, notably including two at Biggin Hill Airport – Signature Flight Support (SFS) and BHA Executive Handling. Andy Patsalides, Marketing Manager at BHA Executive says the result isn't 'fiercely competitive', noting Signature Flight Support's presence as 'complementary'.

Biggin Hill is the closest business airport to central London. *Mark Rivett-Fotomotion*



“Having them on site helps us tap into the significant network of clients using SFS facilities elsewhere.”

Patsalides describes Biggin as “... the only dedicated business aviation airport actually located in the capital. It’s a designated UK Port of Entry with no runway spots. We pride ourselves on offering the fastest ‘touchdown to downtown’ of any London airport.”

BHA manages more than 20 hangars at Biggin Hill, with another 60,000ft² facility under construction. It will be sufficient to house six G650s, while larger aircraft, typically BBJs and ACJs, are also regulars at Biggin. An on-site Flight Kitchen serves the catering needs of visiting aircraft, while fuel and other standard services are inevitably also offered.

Patsalides notes the recent completion of a major new investment



Biggin hosts a Bombardier service centre.

in Biggin from HSBC. “It enables us to fulfil the next stage of our development strategy for further enhancing Biggin Hill’s reputation as the business aviation gateway to London and the City. Building on the success of the HSBC deal, we’re also introducing extended operating hours in the coming weeks.”

Reportedly worth £15 million, the finance package will help fund construction of a 140,000ft² office alongside the new hangar and business aircraft parking facility. It also funds construction of a four-star hotel, aiming to meet the steady growth in demand for the FBO’s services.

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Milano Linate Prime expanded its offering with this recently opened hangar.

Milano Linate Prime

For SEA Prime, the company managing Milano Linate Prime, aircraft maintenance has recently taken on a new importance after the announcement of a partnership with Bombardier for line maintenance. It marks a strategic move from Bombardier to re-establish itself in Italy and increase awareness of its MRO services in Europe. Milano Linate Prime General Manager Chiara Dorigotti says the partnership will help drive traffic to the airport, increasing Linate’s attraction to aircraft operators.

The partnership is just one component of the facility’s five-year business plan, under which Dorigotti says the FBO is targeting investment and looking to establish another long-term hangar facility.

Farnborough

Brandon O’Reilly, CEO of TAG’s Farnborough Airport FBO says: “TAG Farnborough Airport offers a complete portfolio of services dedicated to delivering a seamless customer experience. Based 40 miles from central London, we’re the UK’s only dedicated business aviation airport.

“We’ve repeatedly been ranked as the best FBO in Europe – in April 2017, we placed first in the Aviation International News FBO Survey 2017 (Europe,

Middle East, Africa and Asia Pacific category) for the 11th year in a row. The airport is certified to the International Standard for Business Aircraft Handling [IS-BAH], a global code of best safety practices managed by the International Business Aviation Council [IBAC].”

TAG Farnborough’s offering includes fast-track entrance to the airport for customers and crew, direct ramp access, the Aviator luxury hotel close to the site, in-house catering delivered through Absolute Taste, 240,000ft² of heated hangar space and 24/7 cleaning and engineering services.

O’Reilly says TAG has invested more

than £200 million transforming what was once a military flight test airfield into the current airport. “In response to an emerging demand for higher-volume flights, we’ve now invested an additional £1 million to create more space for passengers and crew. A new lounge accommodates up to 80 passengers, while also offering privacy and comfort to individuals or small groups.”

As the business aviation market grows, O’Reilly believes TAG Farnborough is well equipped to take traffic from congested airports. “Shifting business aviation traffic from commercial airports to dedicated



Milano Linate Prime is expanding its facilities under a five-year investment plan.



TAG's Farnborough facility offers extensive hangar and ramp space, and a modern terminal facility.



Farnborough's architecturally striking control tower echoes the airfield's former leading role in British military flight testing.
Anthony Weller/
ArchImage

business aviation airports could also benefit the community and the environment," he reckons.

Southend

Stobart Executive Handling owns and operates both Southend Airport and its FBO. "We do everything," says Glyn Jones, CEO of Stobart Executive

Handling. The overlap in services between the commercial airport and FBO is complementary, he says, with all the FBO's services, from ground handling, through catering to fuelling, provided in-house.

Stobart also owns a sizeable hotel close to the airport, helping the FBO offer a more complete, comfortable

package. Ultimately, making such extensive use of in-house staff enables Southend to offer the best rates in the UK, according to Jones. The airport also boasts 'very big' hangars, capable of housing large business jets.

Although it's located 40 miles from London, Southend enjoys good transport links. Jones says the rail service



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into London is among the best of any London FBO, while a helicopter shuttle into the city takes just 15 minutes.

Jones admits that customer awareness is a major challenge. International business aviation users are unlikely to recognise Southend as they might Gatwick, Luton or Heathrow. Marketing efforts are underway to raise the FBO's profile, while Jones says partners in the Middle East, US and Russia are also being sought.

He's confident that Southend will take 10% of the market share of the other London FBOs as it expands and improves over the next five years.



Bern

Situated in central Switzerland, Bern Airport serves the capital, Berne. Bern's FBO specialises in rapid, slot-free arrivals and departures, claiming regular 10-minute departures from car to jet and five-minute arrivals in the opposite direction. Crew rest, catering and refuelling services are available, while the FBO also houses customs and border facilities, and helicopter transfers can be had from local operators. Catering is by Henris Inflight Catering, which offers a large selection of first-class menus and appetisers, produced at the airport using fresh, regional products.

Thanks to its 1,730m runway, Bern can accommodate aircraft as large as an Airbus ACJ320 or 737-based BBJ. As a regional airport, Bern serves approximately 180,000 passengers annually, its 'VIP terminal' accommodating all passengers with personalised, friendly service. Business passenger security and privacy is guaranteed by dedicated agents, as well as by having customs and border guards in situ.

All services offered at Bern Airport are combined, so that the scheduled



Crew and passenger lounge at Southend. *Mulholland Media*

and business aviation services are complementary, thanks to excellent infrastructure and the terminal's compact, clear design, and efficiency. The latter is exemplified by the ready availability of unbooked slots, even during winter; the availability of Schengen and Non-Schengen arrivals at all times; and short onward distances to major cities, business areas and tourist attractions. Travelling by car, Interlaken and Grindelwald are within 45 minutes; Lausanne, Lucerne, Montreux and Vevey are reached in 75-80 minutes; and Geneva and Verbier are 105-115 minutes away.

As with Southend, the major challenge for Bern is visibility and the management is keen to promote its offering, especially the no-slots policy and fine geographical position for onward travel. ■

Above and this image: Among Bern's primary attractions is the easy access it grants to Switzerland's tourist and skiing areas.





Business Flight Center Helsinki

Helsinki's Business Flight Center (BFC) is part of Finavia, which operates 20 airports in Finland. Helsinki Airport is open 24/7 and slots are available at all times, with no night-time restrictions.

BFC provides full credit FBO services and its skilled, professional staff is available on-site 24/7. This enables rapid responses to all inquiries and handling requests.

The FBO is located in the Business Flight Terminal at the southern end of the apron. Its peaceful position provides smooth and very private

access between the terminal building and the aircraft. Ramp access is available for special visits.

The terminal has excellent facilities for passengers and crew. Beautiful VIP lounges are also available and ideal, for example, for company meetings.

Security check and border control/customs facilities are also available round the clock. For visitors arriving in Europe, Schengen entry control is easily made during a fuel stop.

We also have a large network of service providers, including ground services, catering, maintenance and transportation. We're delighted to assist with every request and question. ■



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Penetrating Corporate MRO Commsoft OASES

Nick Godwin is Managing Director of Commsoft, the company behind OASES (Open Aviation Strategic Engineering System), a comprehensive MRO control and monitoring software. Very well established among the commercial airlines, the product is now making inroads into business aviation, where operators and MROs are realising the benefits their airline colleagues have long enjoyed from the software.

With a dedicated team behind it, OASES offers huge levels of functionality with multiple capabilities; it's modular, embraces mobile technology and adaptable to integrate with existing systems. Ever enthusiastic, Godwin provides OASES's very public face – *EVA* managed to catch up with him during a rare few hours on the ground.

What brought you into the aerospace industry?

I was surrounded by aviation as I grew up. My dad was in the RAF, my uncle was an air traffic controller and my aunt was a hostess with British Midland at Glasgow Airport.

I spent my early career as a sales engineer with British Aerospace on the One-Eleven and 146 at Brooklands, and then I progressed to Prestwick with the launch of the Jetstream 31 and 41 regional airliners, before spending time with BAe in Washington DC. Then my career took me back to Scotland and on to Toulouse, in a joint venture with ATR, before I moved to the Derby area with Data Systems & Solutions (DS&S), a Rolls-Royce subsidiary.

I was briefly involved with Commsoft as a potential supplier to one of its customers, BMI, and then joined it in 2008.



Nick Godwin, Managing Director at Commsoft.

How did your previous experience influence your early work at Commsoft?

At BAe I was deeply involved in the launch, sales, marketing and specific upgrade projects around regional aircraft, including the J31, J41 and 146/RJ families. The work engaged my passion for aviation, while I learned about aircraft performance, operating economics and the factors, including maintenance, that contribute to them. I gained an extensive aviation grounding, but also understood the value of hard work, working in a leadership team and seeing new cultures worldwide.

Later, DS&S exposed me to the technical excellence of Rolls-Royce, but also taught me, the hard way, that organisations should not stifle talent. From a technical perspective, I profited hugely from understanding the power of data in transforming an operation with decision support tools and proactive reporting.

How would you describe Commsoft in 2008?

It was a nice company with nice people who had good intentions towards their customers, but I sensed that it lacked direction, consistent processes, energy and measurement. My first priority was to win more business, but at the same time it was clear we had to do more to retain

customers through service improvements, better processes and a more comprehensive technical offering, meeting the much broader functional requirements of an aviation engineering operation.

As a Chelsea fan, I often use football analogies around teamwork... we had to start from the back with a strong defence, build a global team ethic with a strong midfield and find some decent strikers! This increased energy, flexibility and focus on winning for our customers in delivering business value has become Commsoft's ethic... while also retaining a smile!

When I joined in 2008, there were around 35 customers. More than 20 of those remain, while OASES has now grown to in excess of 80 sites, supporting more than 120 aviation operations in 50-plus countries.

How has OASES evolved since 2008?

Commsoft uses a web-based service system. It's an extensive source of data covering customer-requested mods and improvements. We offer a personalised account manager team, which stays close to customers, backed up by detailed exchanges with our customer base at user groups, every 15 months or so.

Our developments are offered free of charge to all customers subscribing to the relevant modules within our standard rental model. Developments are driven by our customers' value needs. I'm always looking for more pace, but we've significantly developed much broader functionality and keep apace with technology through competitor benchmarking. We've just invested heavily in mobile technologies and interfacing with other systems, including electronic techlogs.

What benefits does OASES bring to business aircraft operators and MROs?

OASES works well in corporate aviation, but this has not been our focus until now. Several improvements have

been made in corporate aviation MRO and OASES can provide umbrella fleet management for operations managed in many OEM-embedded systems with many third party customers. The OEM-embedded systems dominate the market, but have weaknesses.

Commsoft has seen extensive growth with its CAMO customers, many of them looking after corporate aircraft for other operators. The basic principles of CAMO and MRO process control apply whatever an aircraft's role. As such, OASES covers these equally. But the corporate jet market is characterised by its much lower aircraft utilisation (typically 250-700 hours per annum for 'flexjet'-type schemes), compared to 2,000-3,500 hours for airliners. As such, OASES, which tracks hours, cycles and calendar-based events in parallel, covers all aspects. The difference is that an operator using OASES is more likely to be using a LUMP (low utilisation maintenance programme), with more emphasis on calendar-based checks.

From the MRO side, the processes of gathering, monitoring and managing production data from the shop floor are the same. OASES has been extensively developed to meet the requirements of various customers, including Harrods Aviation, to manage invoice generation and commercial management, and help develop future quotes.

While the processes for corporate aviation MRO are similar to those of airline MRO, a system like OASES has to cater for a much greater range of 'drop-in' customers, requesting smaller packages of work, or more diversity. As such, a corporate MRO is likely to have a larger range of customers from a wider registration base with smaller work content, all of which must be quoted clearly and invoiced promptly.

Commsoft currently has six corporate MRO customers, but we expect this to grow since OASES developments have focused on vastly improving functionality, including mobile applications, giving customer views.

Tell us more about Chelsea... And any other passions?

I'm a True Blue, an avid Chelsea fan, thanks to my family origins around southwest London. I like their combination of power, pace and skill, married to great mental strength – it's something all successful business need.

Otherwise, I'm an aviation nutter and something of an 'anorak!' I'm rare in enjoying long transit stops in strange airports, often with a camera. I've been hugely fortunate to enjoy in excess 80 countries and I've logged almost 10,000 hours from more than 5,000 flights from over 550 airfields.

Other passions include military aviation, airshow photography and music, which follows me around the world. My wife and I enjoy travel and we're working through our bucket list of places, food and cultures to visit together. And then there are the joys of our darling four-year old grandson and family gatherings. ■



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Bizjet Turbofans in 2017

Bring on the Fans

The quest for reduced emissions, increased fuel efficiency and lower noise and vibration levels drives business aircraft turbofan development. The majority of engines equipping new aircraft types are derivatives of 'fans' decades old in their original design, yet transformed in capability by the latest technologies. Although there are notable exceptions.

General Electric is looking towards seeing its all-new Passport enter service on the Global 7000, while the service debut of Pratt & Whitney Canada's PurePower PW800 on the G500 is imminent. Meanwhile, Dassault is looking forward to Safran's Silvercrest working as advertised, so that it can return in earnest to its delayed Falcon 5X programme.

General Electric

General Electric's flagship business jet engine, the Passport turbofan is powering Bombardier's ultra-long range Global 7000 through its flight test programme, with first deliveries scheduled for next year. The engine is installed as an 'integrated propulsion system' within a Nexelle nacelle, employing technologies derived from GE's development work on the GE90, GENx and GP7000 engines to reduce emissions and fuel burn compared to other motors in its class.

The manufacturer claims an 8% fuel burn advantage over existing engines of similar thrust, as well as emissions so carefully controlled that Global 7000 operators may benefit from reduced landing fees, or even no landing fees at all in some regions. The Passport has so far only been selected for the Global 7000 and 8000, but efforts to find other platforms continue.

GE Honda HF120.

Louise Michaud



General Electric tested the Passport turbofan under the wing of its veteran 747-100 test bed. Here preparations were underway for its first flight.



According to GE, the combined Passport and Global 7000 test programmes will accumulate in excess of 4,000 hours of engine flying in more than 8,000 cycles, equivalent to a decade of operations. Among other features, the high-tech Passport includes a front fan blisk with integrated blades for lower cabin noise and vibration, and software modulated turbine clearance. Reducing weight, while improving heat resistance and acoustic performance, the Passport employs ceramic matrix composites in their first non-military application to a GE engine.

Meanwhile, the CF34 remains in widespread use, particularly on Bombardier Challenger variants and the Canadian OEM's CRJ regional airliners. It remains as the production standard powerplant on the Challenger 650, albeit in its latest CF34-3B MTO form, considerably enhanced through years of development compared to the CF34 that powered the first CRJ100 airliners in 1992. The CF34 also power



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Embraer's Lineage 1000E, in its rather more powerful CF34-10E7-B variant.

General Electric partners Safran in the CFM International joint venture, responsible for the CFM56 that optionally powers the ACJ319, 320 and 321, and 737-based BBJ. Designed to replace the CFM56, the next-generation LEAP is being built for the A320neo and 737 MAX airliners and will subsequently appear on their new-build ACJ and BBJ derivatives.

GE Honda

Delivering around 2,000lb thrust, the HF120 has been designed as a next-generation light jet engine. Created by General Electric and Honda joint venture GE Honda Aero Engines, the HF120 is currently unique to the unusually configured HondaJet.

According to GE Honda information, the HF120 is the most advanced engine in its class, thanks to features including a titanium blisk fan and composite

fan outer guide vanes. It's also the quietest and toughest, with super alloys used in its hot section for higher operating temperatures and extended parts life.

Honeywell

Updated versions of Honeywell's classic TFE731 power the Learjet 70 and 75, and Dassault's Falcon 900LX trijet. The model was certificated in 1972, since when Garrett, and subsequently Honeywell, have delivered more than 13,000 engines. Constant product improvement has enhanced reliability and efficiency, to the point where the latest TFE731-50R offers as much as an 8% improvement in fuel burn compared to its immediate predecessor.

Honeywell also produces the HTF7000 line, delivering more thrust than the TFE731 and specifically for business jet applications. The HTF7000 base engine powers the Challenger 300, subsequent developments including the HTF7350B (Challenger 350), HTF7350G (G280), HTF7500E (Legacy 450/500) and HTF7700L (Longitude).

Dassault's Falcon 5X is launch platform for the troubled Silvercrest.

Dassault



GE Honda HF120.

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Pratt & Whitney

Pratt & Whitney partners MTU Aero Engines and Japanese Aero Engine Corporation in producing the V2500 turbofan optionally available on ACJ319/320/321 aircraft.

In its quest for an engine to replace the V2500 and compete with CFM's LEAP on the next generation of short/medium-range airliners, Pratt & Whitney worked alone to produce the PurePower PW1100G geared turbofan. Already in service on the A320neo, it will ultimately be an ACJ320neo option, while the PW1900G's Embraer E2 application will presumably lead to the engine powering future Lineage versions.

Pratt & Whitney Canada

Pratt & Whitney Canada complements Pratt & Whitney's engine output with a huge range of small turbofans, turboprops and turbofans. Delivering between 4,700 and 8,000lb thrust, its PW300 series is well established in service, specific models including the PW306D1 (powering the Citation Sovereign+ and Latitude), PW307A (Falcon 7X), PW308C (Falcon 2000LXS and

2000S) and PW307D (Falcon 8X).

The 2,900 to 4,500lb thrust PW500 series includes the PW545C (Citation XLS+) and PW535-E (Phenom 300), while among the 900 to 3,000lb thrust PW600s, the PW615F powers the Citation Mustang and the PW617F1-E equips the Phenom 100.

Largest of Pratt & Whitney Canada's dedicated business jet engines, the PurePower PW800 powers the G500 in its PW814GA form and the G600 as the PW815GA. The PW814GA enters service on the G500 later this year, Pratt & Whitney Canada promising a 40% reduction in scheduled maintenance compared to comparable legacy powerplants. The engine also benefits from lightweight advanced materials, high efficiency and reduced emissions.

Rolls-Royce

During the 1990s, Rolls-Royce joined BMW in a joint venture that developed the BR700 turbofan. Bombardier subsequently chose the BR710 derivative for the Global Express, while Gulfstream applied it to the GV. Now the responsibility of

Originally an Allison product, the AE3007 powers the Legacy 650.

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Rolls-Royce Deutschland after BMW withdrew, the latest BR710A2-20 powers the Global 5000 and 6000, the BR710C4-11 equips the G550, and the G650ER and G650 employ the BR725A1-12.

The result of an entirely separate product line, Allison developed the AE3007 before its acquisition by Rolls-Royce in the mid-1990s. Built to power the Citation X, it remains in service on the latest X+ variant as the AE3007C2 and also powers the Legacy 650 as the AE3007A2.

Safran

Chosen for the Dassault Falcon 5X and Citation Hemisphere, Safran's Silvercrest has met a number of issues, delaying certification until early 2018 and the Falcon 5X's service debut until 2020. Performance, vibration and other problems led to an engine redesign, but Safran believes the Silvercrest's woes are behind it. In March 2017, Dassault was awaiting a set of new engines in order to resume the Falcon 5X test programme, having begun discussions with Safran over compensation for the programme delays.



Williams International

Although it has found a market in a variety of small-jet applications, the Williams International FJ44 is most readily associated with light business jets, today including the Citation M2 (FJ44-1AP-21), CJ3+ (FJ44-3A) and CJ4 (FJ44-4A); Nextant 400XTi (FJ44-3AP); and PC-24 (FJ44-4A-QPM).

The FJ33 is a smaller engine in the 1,000 to 1,900lb thrust class, developed by leveraging advanced technologies from the FJ44 programme. In its FJ33-5 form it powers the Cirrus SF50 Vision.

By April 2017, more than 5,000 FJ44s were in service, accumulating between them in excess of 11 million hours. ■

Williams International FJ33-5.
Williams International

Pilatus recognised the FJ44's reputation for rugged reliability when it applied it to the PC-24.
Katsuhiko Tokunaga





*Interview with
Michal Pazourek*

Flight Planning Level Unlimited

Large bizjets as well as VLJs and prop airplanes operated literally on 5 continents are clients for Prague based ABS Jets' Operations Control Centre (OCC). The department consists of 15 specialists delivering 24/7 services. Michal Pazourek speaks about challenges in today's world of flight planning.

Michal, what brought you to the world of operations?

My path to flight operations began 10 years ago when I became a flight dispatcher at ABS Jets. For the next several years I had an exceptional chance to gain experience along my superiors in the company's day to day operations. Then I became manager of the OCC and learnt to influence strategic decisions as well. I have seen the company's growth to one of the key players in the region. This development was accompanied by gradual extension of flight planning service to third-party clients. Since then, it has become one of the company's successful businesses. Last year, I moved on to other assignment in the company's structure but working in this fantastic environment was always very rewarding and unique.

Why unique?

I enjoy the variability of operations. One day an ordinary European or US flight is prepared while the next moment the goal may be completely different. A client is calling with a new request to deliver a brand new VLJ from Brazil to China departing in two days. A lot of communication is needed, the time is short and knowledge of variable areas specifics becomes a must. In the last two years our clients have operated into 700 different airports giving us a lot of feedbacks. Keeping our dispatchers trained to cope with ever-changing information is a real challenge. To see them performing well is a compensation for the whole company including myself.

Who are your typical customers?

They range from single airplane operators to manufacturers. We benefit from the differences among our company's own operations of B737, G650/550, E135 and our third-party customers. We regularly receive on demand, diplomatic, calibration, around-the-world or delivery flights requests. A very specific group are technical flights of our Prague based MRO clients. Non-standard activities and block flight levels may be needed resulting in sensitive coordination and route planning with the ATC units. The OCC typically works with common airplanes but sometimes a real gem is supported as was the case of full support given to a 1937 built Lockheed L-10A Electra crossing the Atlantic from Canada to the Czech Republic in 2015.

Would you like to share some real-life flight planning stories with the readers?

I believe that having a responsive OCC is a very important element in successful operations. The tiniest detail may be planned in advance but when unexpected situations happen, the OCC is needed to step in. Bad weather, change of routing or unexpected diversion for fuel are typical situations. When the crew flies or sleeps after a tiring flight, dispatchers are a step ahead. On one occasion we had an Embraer Lineage operating from Delhi to London. Lower assigned flight level and slightly stronger headwind contributed to unplanned technical landing. Our OCC was contacted by satellite phone with the request to suggest a quick and near option. During several minutes the landing was coordinated at a nearby airport with all ground services confirmed and fuel truck waiting on the stand. The team prepared new flight documentation and refiled the FPL. A few catering items were loaded onto the airplane. The OCC helped eliminate the ground time to the minimum extent.

Thank you Michal, where can our readers find out more about yourself and ABS Jets' OCC?

I and my colleagues will be happy to meet during EBACE at the company's booth 161. A lot of information is also available at www.absjets.com



Juggling Jets

Luxaviation UK's Aircraft Management Operation

Patrick Margetson-Rushmore was a founding member of London Executive Aviation in 1996. The company subsequently established a mixed fleet on its way to becoming the first executive air charter operator to gain European Joint Aviation Authority certification. Another significant milestone was its introduction of the Citation Mustang light jet into charter service, followed in May 2014 by its becoming part of the Luxaviation Group.

In 2016, London Executive Aviation began trading as Luxaviation UK, while its customers discovered the benefits of access to Luxaviation's combined fleet of more than 250 jets, including Luxaviation UK's aircraft, among them examples of the Challenger 300; Citation Mustang, II and Excel; Falcon 2000LX/EX; and Legacy 600 and 650.

Now Margetson-Rushmore is Chief Executive at Luxaviation UK, working from its Stapleford Aerodrome headquarters in Essex. From here he oversees a variety of activity, including charter and aircraft management operations, a subject he discussed with *EVA* early in April.

What's the story behind Luxaviation UK?

We did our first flight on 1 April 1996, starting with piston aircraft and growing over the years so that we no longer have pistons; we actually retired our last turboprop in March this year as well. We combine aircraft that we manage with our own fleet of small jets that are available to hire.

Prior to the merger with Luxaviation Group we had about 26 aircraft, mainly in the UK, but we also had them with owners in Moscow, Paris and the South of France. Now we're part of the group there are 250 aircraft globally, other than in the Americas, making us the second largest business jet

operator after NetJets. The fleet's been acquired by Luxaviation's parent company by mergers with around seven other companies and it's made for very exciting times over the last three years or so.

And although we're now part of a large group, George Galanopoulos, my co-founder, and myself are still very much hands-on with the charters, brokers and owners.

Why do jet owners bring their aircraft to companies like Luxaviation UK for management?

People buying an aircraft, either personally or for company use, never really want to give the keys away, but they don't want the hassle of managing it. Owning an aircraft creates myriad issues from dealing with crewing and crew employment, through aircraft maintenance, to cross-border work. Aircraft fly into different countries with different languages and although the international aviation language is English, there are still the nuances of different cultures. On the financial side, collating bills, summarising them and answering

questions can become comparatively complicated. Lots of balls are juggled to make flying possible.

In a trip from A to B to C and back to A, there are constant changes behind the scenes. A five-minute conversation with the client calling to arrange the trip results in a four- or five-hour job organising it. And if something happens with the flight, it has a knock-on effect at all the other airports and airways that you're using. It can end up keeping our operations department busy for ten or 12 hours.

And the business is very highly regulated of course. We have a weekly external audit examining different aspects of our procedures, which means audits five or six days every month, and the Civil Aviation Authority comes in twice a year. Then there are one or two US companies that also come in and do their own audit annually or every two years.

Why do owners offer their managed aircraft for charter?

Typically owners fly between 100 and 200 hours per year. To offset some of their

Opposite:
Patrick Margetson-Rushmore, Chief Executive of Luxaviation UK.
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flying costs they allow charter to third parties. All our managed aircraft have a crew allocation and a location, and we also assign a dedicated operations manager, or key account manager, to coordinate every aspect of the aircraft.

We have a maintenance department that alerts the manager when work is due, the owner is informed and the work scheduled, but the owner doesn't have to be proactive to any extent, other than saying 'I want to fly on this day to this place'. But it's important for them to realise that by offering their jet for charter they aren't going to make money, they're only going to be able to offset some of their fixed costs.

Is maintenance on managed aircraft performed in-house?

We own limited maintenance facilities in Europe, although we have MROs in Africa and Australasia. But often the owner doesn't want the maintenance provider to be the same as the operator. As the operator I have responsibility to ensure bills are kept to a minimum and the work is done properly, and the owner wants to avoid the potential for a conflict of interests; in reality there isn't, because maintenance is so highly regulated.

Where we have aircraft of the same type, we'll negotiate volume discounts, using our buying power to reduce costs, and any benefits are passed on to the owner. Insurance is a good example of that too. It's not a big figure, but an insurance company might charge \$25,000 for an aircraft through us, while an owner going to the market to insure the same aircraft on their own might pay \$40,000.

We also get fuel at bulk discounts and that's another saving we pass on to the owner.

Luxaviation makes it easy for owners to see every aspect of their aircraft's financial management. How does the process work?

Within five weeks of the end of the month, an owner receives a financial summary showing gross charter income with a copy of every invoice issued; every item of expenditure, including crew, fuel, airport fees, de-icing costs, maintenance and so on, with a copy of the bills. The process is very open – we have a couple of owners who come in and audit us, checking all the books, and we're very happy for them to do that.

In terms of flying requirements, owners can log in at any time to see what their aircraft's

doing, whether it's booked in for maintenance, whether it's flying, where it's flying to or where from. It's important for them to be able to see if it's free on a particular date.

How does Luxaviation collate and maintain the operational, maintenance and airworthiness records for each of the aircraft it operates?

The owner keeps the ownership document, but we typically have a copy of it. There's the CAA 88 document that allows an aircraft to be used within Europe VAT free if VAT has been paid and dealt with, and the original of that remains in the aircraft while we retain copies in the office. And then we also hold the radio licences, certificates of release and all the other documents relating to a managed aircraft. Some of the maintenance records remain with the MRO, but we oversee them and have copies of all the key documents.

A new owner can see all the documentation at the MRO and here, checking work orders and certificates to be sure everything's been done correctly. It's really important, because we advise owners not to buy an aircraft unless they've checked its entire history since it left the factory.

Are your owners typically individuals or organisations?

In the UK it's around 60% private to 40% business organisations, although most private owners also use their aircraft for business. Out of the 250-aircraft Luxaviation Group fleet, I suspect the majority is corporate.

A small percentage of owners place more than one aircraft with us and a few place one with us and one with someone else, but most owners have only a single jet.

How does Luxaviation UK support owners' and charterers' trip requirements?

Although most people have their own cars, we'll arrange cars to collect people from home or office and bring them to the aircraft if required,



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and we arrange car parking at the airports they visit. We satisfy their specific catering and drink requirements, and keep a profile of their preferences.

We deal with all crew costs, including down-route hotels, we arrange the entire process of flying. We can, but rarely do arrange hotel accommodation for the customer, because they usually know where they want to stay, but we often arrange cars for their arrival.

We build the profile on all our clients, including basic information like passport details, remote clearance form requirements, visas, but also more personal needs.

If the customer's a regular flyer we might get to know that their children like Smarties for example, and we'll make sure there are Smarties on the jet. Then there are some customers who don't want food on board, or they want kosher food, or have some other requirement – we even provide their favourite newspapers.

What has changed in aircraft management? What's next?

Within Europe most people use jets now. There's a shrinking market for unpressurised piston aircraft, while turboprops, although they're highly versatile, are less likely to come to us. This is in part because we no longer have our own, but also because a turboprop owner is likely to have their own pilot and they don't want to pay the level of fees applicable to have the aircraft managed. The charter market for turboprops is also smaller than it used to be.

Having said all that, single-engined aircraft are now permitted to operate commercially for charter in the UK and I think we may see a resurgence of single-engined turboprops and turboprops on the market. They're cheaper to buy and operate since they use less fuel, and therefore cost less to charter.

One of our customers places his jet with us, but also has a share in a PC-12, which he takes to places the jet can't go. And single-engined turboprops are as reliable as twin-engined turboprops, but there will be issues with customer perception of single-engine safety.

In terms of other changes, before the

recession, lots of people felt they'd own an aircraft because they believed it would go up in value, and several bought new aircraft to sell at a profit of a few million pounds. Now the opposite happens. New aircraft typically depreciate by 10% per annum and that's changed the nature of who's buying aircraft.

People are still buying new and they're buying pre-owned, but they're considering the point at which they want to buy far more carefully. There's an over-supply of aircraft for charter and charter rates haven't increased over the last eight years, so chartering effectively costs a little less now than it did eight years ago.

We see some customers looking for more for the same money, or coming to us saying that someone else is offering the same aircraft for a few hundred pounds less. There comes a point where we're happy to send them to the competitor – there's no point chasing turnover when the margins for an operator are very small. There's a perception that operators earn a lot of money from a flight, but the gross margin is actually around 10% before overhead cost.

How do you anticipate Brexit affecting Luxaviation UK's business?

It could be very difficult for us. There are myriad issues that need to be looked at and renegotiated: cabotage and the nine freedoms of the air, EASA requirements, pilot licence requirements, security clearances, customs control, taxes, VAT – if we're no longer part of Europe, do we need a VAT exemption certificate for countries into which we fly as well as for the UK?

But it's not a one-way ticket. If you look at arrivals and departures within Europe, Southeast England is typically the major arrival and departure point from and to Europe. So it's in the UK's interest to ensure a status quo and I'd suggest it's also in the interests of the remaining 27 EU countries to maintain it too.

We need to make the correct representations to the UK government to make sure the status quo remains and UK operators need to contact the European business aircraft associations to ensure they're thinking the same. It's the rational solution, but it might be politically difficult ■

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Tim Barber's first listing out of Duncan Aviation's EMEA office: a 2002 Citation Excel, with 4,187 hours total time. *Duncan Aviation*



Caveated Optimism

Pre-Owned Market – Down, Up, or Sideways?

“Every year there’s a bundle of people, always the same suspects, constantly hyping the market, telling of record years the year before. It’s all part of the PR spin. I don’t think too many people actually believe it. This year I’m hearing similar stories, positive views, but I’m hearing them from people I trust a bit more. So maybe, just maybe, 2017 will see an uptick.”

That’s the cautious, caveated optimism of veteran business aircraft broker Tim Barber, who recently joined US company Duncan Aviation to represent its business aircraft sales interests.

Barber, who previously started Jetbrokers Europe and is based in London, nonetheless sees the bizjet market as “...undoubtedly slow, flat. A few people are talking about prices going up; it’s certainly not being reflected



Tim Barber, newly appointed aircraft broker for Duncan Aviation.
Duncan Aviation

in the trade value guides at this point. There’s still far too much inventory.”

According to the AMSTAT market update, there were 2,421 business jets

for sale in January, or 10.9% of the market. That includes 644 heavy jets (10.2%), 822 medium jets (11.2%) and 955 light jets (also 11.2%). These numbers represent about a 0.2% improvement over January 2016.

“The pre-owned market is still trying to absorb the excess supply created during the run-up to the 2008 recession,” said Jahid Fazal-Karim, chairman of the board at Jetcraft, the largest international buyer and seller of business aircraft. “Although the inventory is edging back to equilibrium, the pricing of pre-owned aircraft is seemingly lagging.”

One glimmer of optimism has been the so-called ‘Trump Bump’, based in part on Donald Trump’s penchant for flying on private aircraft and his promise to spend money to improve US infrastructure, including airports. “Having a president of the United States who is business aviation friendly probably ultimately will do the market no end of good,” said Barber. Fully

80% of business aviation executives say the new US president will have a positive impact on the industry.

Daniel Jennings, president of The Private Jet Company in Palm Beach, Florida, an area where Trump often hangs out, said demand for selected aircraft types surged in the first three months of 2017. “We’re very busy with calls from prospective private jet buyers, particularly in the US market. If this trend continues, I believe we’ll see the market approach a balance between supply and demand for the first time in several years.

“There’s still a sense out there that the market is in a slump,” Jennings admitted, “but I believe we’re seeing the best indication yet that the slump may soon be over. With fewer aircraft available, we’re also seeing the ones with the best pedigrees – lowest flight time, best maintenance record, and newest interiors – being sold fast.”

Chad Anderson, president of Jetcraft, added, “The resale market is healthier than it’s been in a long time. Yes, values are depressed, but there’s still an adequate level of buyers to exchange aircraft with and, worldwide, sales are up.” Last year was Jetcraft’s strongest in its 55-year history.

Falling Prices or Rising?

AMSTAT stated that average asking price trends ‘continue to be a mixed bag’. Heavy jets have ticked up since mid-2016, but are only back to the January 2017 level of \$15 million. Light jet ask prices are up slightly to \$1.66 million, but medium jets are down almost 10% to \$3.23 million.

“The market is heavily polluted with old aircraft. The minute you go to 25 or 30 years old, everything seems to be on the market,” said Barber. “But the question is, are they really on the market, or is somebody just sticking them out there and praying?”

For example, “G450 inventory has risen and prices have fallen horribly over the past year. One broker was talking about prices increasing 15% on G450s. I’m less convinced; I’ve not seen that.”

Various theories are offered for the price plummets of recent years: the Great Recession, of course, but also Brexit in the UK, the malaise of once-promising new-wealth economies including Brazil and China, and the rise of the US dollar and subsequent decline of Sterling and the Euro. “Every time there’s a degree of political uncertainty in the world, the market seems to slow,” said Barber.



Jahid Fazal-Karim, Jetcraft's owner and chairman of the board.
Jetcraft

“One explanation for the delay in the residual value recovery may actually be artificial,” noted Jetcraft’s Jahid Fazal-Karim, citing the company’s ten-year market forecast, released in October 2016. “Five years ago, OEMs were extending inordinate discounts to jump-start sales... residual values of five-year old aircraft remain stagnant at 55% of initial list pricing. One natural consequence of this may be that sellers who paid higher prices three to four years ago are reluctant to offer their aircraft for sale, further slowing the market.” Jetcraft’s 2016 market forecast calls for 7,879 unit deliveries, representing \$248 billion in revenues (based on 2015 pricing).

Stonebriar Commercial Finance executive vice president Michael Amalfitano said, “Owners and operators who turn over their aircraft on average every three to five years are now holding

onto their aircraft an average of six to eight years.”

Jennings recommended that buyers take advantage of current prices before they go even higher. “In 90 days, you’re going to see a tightening market. Someone purchasing a private jet six months from now will almost certainly pay a higher price than they would today, and quite possibly for a less-desirable aircraft.”

Educating the Customer

Duncan’s Barber told *EVA* he tries to make sure the buyers and sellers he works with understand the market. “There’s nothing worse than somebody with \$10 million in their pocket going out and trying to buy a \$15 million plane, thinking that everyone’s distressed and they can ‘steal it’. Every time I deal with somebody who talks about ‘distressed assets’, I get a little bit nervous that I’ll be doing a lot of work and never quite delivering what they expect.”

He provides information on the number of aircraft on the market, how long, pricing trends, where the inventory’s rising, where it’s falling, and so on. “They also need to understand what aircraft they’re going after. You get people who are little bit broad in their expectations – one minute they’re talking about a G450, then they’re talking about a Citation Sovereign. Narrow it down; make sure they’re focused and totally understand their mission.”

For example, a buyer might fly in Europe 90% of the time and 10% transatlantic. “The cost-effective solution,” said Barber, “is to cover what you need of the 90% with the aircraft purchase, then charter for the odd 10%, the long-haul transatlantic stuff.”

A customer might acquire a Gulfstream G550 to go from London to Munich. Barber said the mindset is: “I know it’s overkill, but I don’t want to mess about with anyone else’s plane.” “Don’t buy an airplane larger than you need for your mission profile simply because they are so cheap,” advised Allen Qualey, Senior Advisor for 1st Source Bank of South

Jetnet data shows the average number of days required to sell a used Gulfstream G450 has dropped from 730 (or two years) in October 2016 to 266 in February, a 70% improvement in six months. *Gulfstream*



Dan Jennings, president of The Private Jet Company.
The Private Jet Company

Bend, Indiana. “Hire a consultant to assist in this area – it’s a small amount of money well spent. Many buyers are too thrifty to spend a few dollars up front, but they pay a huge price later.”

Barber said: “Sometimes people realise that they bought the wrong aircraft. They trusted their mate’s advice and bought what looked like a great deal, then realise the aircraft doesn’t actually do what they thought it would do. They need to take eight people, they need to take luggage, and suddenly they’ve got to do a tech stop (for refuelling), and everything they were told about the aircraft was wrong. That’s

a hugely expensive mistake when you’re buying a depreciating asset.”

On the selling side, Barber said about two-thirds of the aircraft on the market are being sold by brokers. “Everyone is a broker. Pilots are brokers. Crew are brokers. MROs are brokers. CAMOs [Continuing Airworthiness Management Organisations] are brokers. Then you’ve got the people who sell yachts and jewellery and cars and jets. There are all manner of intermediaries. And the odd number who are dedicated to brokering.”

The typically cycle, Barber explained, is that an owner often attempts to sell an aircraft themselves. “Then, after the frustration of dealing with a flaky buyer, after six to 12 months, they’ll give it to a broker to sell... by which time, of course, they’ve lost a further 10-12% of their value. If you’ve got an asset depreciating at 1% per month, you don’t have to spend too much time on the maths to understand that you’ve got to shift that pretty damn quickly.”

He also cautioned against the multiple-broker approach. “With multiple agents working for you it’s hard to retain control and before you know it, someone you’ve never heard of is purporting to represent the aircraft and offering it at a price well below what you would accept. The right broker, exclusively mandated, will give 100% to achieving a sale and protecting

the online presence of your aircraft by preventing secondary, unauthorised marketing. The commission will ultimately be about the same, you just focus your efforts on working with the right partner.”

Barber advises buyers and sellers to work with brokers who are members of the National Aircraft Resale Association (NARA), which promotes professional standards and a 14-point Code of Ethics. The association now has more than 100 members. He warned: “Sometimes the slickest websites are run by a lone broker operating from a spare bedroom while purporting to offer a global network.” ■



Chad Anderson, president at Jetcraft.
Jetcraft



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Expanding the Evolution Suite

UAS LinkEvolution

UAS International Trip Support has chosen EBACE 2017 as launch platform for UAS LinkEvolution.

The company describes it as “... a powerful communication technology that provides seamless global connectivity to the cockpit and the cabin using powerful datalink satcom networks.” It joins UAS FlightEvolution as the latest addition to the UAS Evolution suite.

Compatible with all current satellite networks, LinkEvolution offers a comprehensive set of cockpit and cabin functionalities that UAS says “... ensure crew and passengers are always connected throughout their mission.”

Working with the latest avionics systems, LinkEvolution enables crews to send messages, uplink flight plans, review weather data, synchronise aircraft health data with ground stations and participate in advanced navigation

initiatives, including controller-pilot data link communications (CPDLC).

On a wider scale, LinkEvolution’s datalink capability delivers worldwide, unlimited VHF and satellite ACARS services, including AOC and ATN messaging for all avionics types; notably, it also ensures complicity with all current and future avionics mandates. Cockpit communications are further improved through provision of global telephone connectivity via any satellite network, including safety services.

In the cabin, passengers benefit from a range of internet, fax and telephony services. Multiple internet and Wi-Fi options become available based on a variety of satellite technologies, while faxes can be sent and received by onboard machines – automatic fax detection will be supported. Also available across all satellite networks, LinkEvolution promises high-quality telephone connectivity with one-number and fleet dialling support. Data compression and acceleration

technologies ensure data-intensive tasks are completed as efficiently as possible.

UAS completes the LinkEvolution offer with: “... 24/7 worldwide technical support through a network of industry-leading engineers and technicians,” and promises access to unlimited datalink communications over all VHF and satellite networks “... with no ‘per kilobit’ charges or satellite premiums, for a fair price with no hidden fees.”

FlightEvolution

UAS only launched the first Evolution Suite component, FlightEvolution, at NBAA last October. A mobile and desktop app aimed at pilots and dispatchers, UAS FlightEvolution enables complex flight planning, with weather checking and aircraft performance calculation functions. It also improves situational awareness in flight and therefore sits comfortably alongside LinkEvolution to provide a near-complete inflight data and connectivity solution ■

UAS co-owner and founder Mohammed Husary is a great exponent of the UAS Evolution suite.
Nihad Nadam/UAS Trip Support



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A-Group's Russian FBOs

The Deal of a Lifetime!

Russia's A-Group owns FBOs at Moscow Sheremetyevo and St Petersburg Pulkovo airports. Founded in 2006, the company has rapidly become the leader among the country's business aviation providers, priding itself on delivering service standards equalling the best available anywhere in the world.

Both Sheremetyevo and Pulkovo are award winning airports, the Moscow facility in particular enjoying a long pedigree as a centre of Russian aviation. A-Group's Terminal A at Sheremetyevo is the most recently completed anywhere in the country and offers customers the highest levels of comfort and convenience, especially with its ready availability of slots and favourable routing.

For onward travel by road, the terminal is just 9km from Moscow's outskirts and 30km from the city centre, while the Pulkovo facility is only 1km from St Petersburg's ring road and 14km from its centre.



A-Group Head of PR & Marketing,
Nadia Turovskaya. A-Group

A-Group's classic St Petersburg Pulkovo terminal building. *Marina Lysseva*





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Helicopter operations comprise a significant proportion of traffic in Moscow and St Petersburg. *Marina Lystseva*

Pulkovo Contrast

Contrasting dramatically with Sheremetyevo's modernity, A-Group's Pulkovo terminal occupies a spectacular period building sympathetically renovated in 2013. As with the Moscow facility, however, it features a dedicated helipad, extensive hangarage and large aprons – the latter, in both cases, easily accept a Boeing 747. Also opened in 2013, Moscow's helipad was the first of any Russian FBO.

Pulkovo's two hangars offer a combined 6,400m² of floor space, sufficient to accommodate 12 mid-size jets, while Sheremetyevo's three hangars have capacity for 32 aircraft of the same size, over 16,500m². St Petersburg opened its first hangar in 2013 and its second this year; Moscow opened its third hangar more or less simultaneously, 2017 therefore marking a major period of expansion for the company.

Given the harsh winter climate at both locations, it is perhaps no surprise that A-Group operates 12 Vestergaard Elephant de/anti-icing vehicles, but it also runs its own Schopf and Lektro aircraft tugs, and a fleet of cleaning, maintenance and transport vehicles.

Nadia Turovskaya, A-Group's Head of PR & Marketing, explained more:

Why has A-Group established its FBOs at Sheremetyevo and Pulkovo? Are there plans to open FBOs at other Russian airports?

Sheremetyevo and Pulkovo are the largest and most developed airports in Russia in terms of passenger facilities and aviation infrastructure. Moscow Sheremetyevo has received international awards for service quality and safety, and was named best in Europe for quality, service and punctuality by the Airports Council International.

Its two runways enable safe operations with no delays, regardless of the weather, while the airport also has several hotels from the most respected global chains. Beyond that, it offers all the services expected of a top international airport.

Pulkovo has also been subject to several awards and is St Petersburg's only international airport. With Russia's 'Northern Capital' the second most popular destination for business aviation clients, our FBOs represent the most convenient means of flying between Moscow and St Petersburg.



A-Group's owned fleet of service vehicles enables significant operational autonomy. *A-Group*

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At the moment, we see no major demand for FBOs similar to our Moscow and St Petersburg facilities in other Russian cities. However, it's an opportunity we're open to in the future.

What is the mix of aircraft traffic through your FBOs? And where are your customers coming from or travelling to?

Our statistics show that 22% of traffic comprises heavy jets, 18% is ultra-long range aircraft, 10% mid-size jets and 7% light jets. Helicopters account for another 20%, since we've our own helipads, in close proximity to the terminals. Turboprops are rare thanks to the specifics of Russian air traffic, but we often see large VIP and VVIP aircraft, including BBJs and ACJs. The remainder of our traffic is cargo and special mission flights.

The ratio of domestic to international traffic is 59:41. Our most popular domestic destinations

are St Petersburg, Sochi, Krasnodar and Ekaterinburg. Internationally, most passengers fly to Nice or other airports in southern France, Geneva, Zurich, London or Helsinki. These European flights account for most of our international traffic, but as we noted during MEBA 2016, there is growing interest from the Middle East.

How has A-Group managed to develop such high standards in only ten years? How do you recruit and retain the right people?

Ten years is actually quite a long time span, but we aimed to provide only the highest standards of service, safety and confidentiality from day one. We've drawn on the experience of our colleagues in Russia and Europe to adopt the best solutions and practices. Sheremetyevo also presented us with great opportunities from the start. As Russia's primary international airport, it already maintained the highest standards in civil aviation.



Pulkovo's beautifully restored, yet thoroughly modern terminal. Even Pulkovo's meeting rooms exhibit a sense of grandeur.

Marina Lystseva



Sheremetyevo offers comfortable, modern passenger and crew facilities.

One of Sheremetyevo's well appointed meeting rooms.

Marina Lysitseva

It's also very important to realise that we've developed an entire infrastructure, not only the terminals. We operate handling and de-icing services, and our extensive hangar space can house more than 40 mid-sized jets.

And A-Group really values its staff! We select the best professionals from all over the Russian aviation industry and do our best to keep them by providing excellent working conditions, corporate development programmes and various forms of motivation. Aviation is the deal of a lifetime for our team; they are sincerely passionate and inspired people.

Are A-Group's facilities audited by regulators and/or the companies using them?

Of course. The Russian aviation authorities audit and monitor our operations and once in a while large companies, like GlobalJet, also audit us.

Considering Russia's climate, de/anti-icing is a vitally important service and we pass annual De-icing/Anti-icing Quality Control Pool (DAQCP) audits.

What are the key features of A-Group's Sheremetyevo terminal?

Sheremetyevo Terminal A is the newest and most modern in Russia. Designed and built to advanced specifications and in accordance with the latest standards, it offers distinctive comfort and provides the highest level of service for passengers and crew. Located in Russia's most developed airport, it's the best choice for Moscow.

And Pulkovo?

Our terminal in Pulkovo is a heritage building constructed in 1951 by world-renowned architect Alexander Gegello. It was renovated in 2013 and we carefully preserved its historical design and detail, while simultaneously improving it with modern technologies for comfort, safety and security.

What aircraft and trip planning facilities does A-Group offer?

As a full-service FBO we provide everything from handling to aircraft cleaning. Our clients can choose from three fuel providers, ensuring they achieve a competitive price. We don't yet provide heavy maintenance on-site – it's a service little developed in Russia, but we're considering the possibility and looking for MRO partners. ■

A-Group's vehicle fleet includes passenger transport cars. Direct ramp access speeds car-to-aircraft transfers. *A-Group*





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