## September 2013

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### GUILD VISITS PROGRAMME

Please see the Flyers accompanying this and previous editions of Guild News or contact Liveryman David Curgwen at guildevents@dcai.co.uk. These flyers can also be downloaded from the Guild website.
In this edition of Guild News

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EDITORIAL. THE HONORARY EDITOR WRITES: There are three important articles in this edition covering two subjects of great importance to the Guild, namely, future airport policy for the UK and eligibility of Unmanned Air Systems (UAS) operators for Guild membership on the basis of their UAS experience. I would urge Guild members to read them carefully as both subjects are likely to generate much debate in the months ahead. My thanks go to the authors who have been brave enough to put their heads above the parapet and contribute. I am always happy to accept thought-provoking articles for publication, especially as the October issue is looking a bit thin as I write.

THE QUEEN’S BIRTHDAY HONOURS. Many congratulations to Liveryman Air Commodore M J M Jenkins OBE RAF and Upper Freeman Air Commodore I R W Stewart OBE RAF, both of whom were awarded the CBE, and Mrs Phyllis Somers, who was also awarded the CBE in the Queen’s Birthday Honours List. As part of her charitable work Mrs Somers has generously sponsored for the Guild ten J N Somers Scholarships for a frozen ATPL.

ROUND BRITAIN BY CATALINA. Freeman Jeff Boyling reports: To commemorate the 100th anniversary of the attempt by Harry Hawker to circumnavigate Great Britain in a Sopwith Waterplane, Catalina G-PBYA will be flown around Great Britain in August. The provisional plan is as follows:-

Weds 21 Aug. Duxford to Southampton to land and unload passengers, then continuing round the coast displaying at Ramsgate, Great Yarmouth and Scarborough. Overnight spent at RAF Leeming.

Thurs 22 Aug. Depart RAF Leeming, return to coast and continue north past RAF Leuchars, displaying at Aberdeen, passing RAF Lossiemouth, displaying at Cromarty (a former RAF Catalina base) then continuing down the Great Glen to Oban.

Fri 23 Aug. ‘Rest Day’ in Oban, morning display, local flight then aircraft open for inspection in afternoon. Change of Captain and Crew Chief. The Editor hopes to meet the crew and aircraft at Oban.

Sat 24 Aug. Depart Oban, fly down between Jura and Islay to Larne, continue down coast before possible diversion to Isle of Man for fuel. Return to Irish coast and fly south to display at Dublin. Continue to Rosslare then cross Irish Sea to Pembroke Dock (another former RAF flying boat base) then south to RMB Chivenor, continuing to RAF St Mawgan/Newquay to stay overnight.

Sun 25 Aug. Depart RAF St Mawgan/Newquay for Lands End, then along coast to Falmouth for display. Continue along coast with possible fuel stop at Bournemouth, then round south of Isle of Wight before entering Southampton Water. There may be a possible water landing opposite Netley Abbey which was the finish point of the original 1913 race. After alighting on the water, return to Duxford.

Mon 26 Aug. Reserve back up day.

For more information on this ambitious and unusual project being organised by a Guild Freeman, see http://projecthawker2013.com/

DAM BUSTER’S 70TH ANNIVERSARY. Past Master Arthur Thorning recently made a small contribution to the recent wave of Dam Buster 70th anniversary events. He helped the Trinity College Oxford Chaplain arrange a service on Friday 17th May to commemorate the Dam’s Raid and Melvin ’Dinghy’ Young’s part in it. The idea came from the cadets of Oxford University Air Squadron and the College was happy to host the service. Melvin Young, a Trinity man, was the only Oxonian on the raid. He joined the University Air Squadron in 1937 and joined the RAF on the outbreak of war. He was posted to bombers and was forced to ditch on two occasions, earning him his nickname of ’Dinghy’. He played a major part in training up the crews of 617 Squadron prior to the Dam’s raid. He was the fourth to drop his Uprkeep mine on the Mohne Dam and his was the first mine actually to reach the dam wall. It worked as its designer Barnes Wallis predicted and the dam started to crack. The next mine finished it off. Tragically, his aircraft fell to the guns on the Dutch coast on the way home. Melvin and his crew were buried in the Bergen General Cemetary in North Holland. The Trinity College archivist put on a very comprehensive exhibition about Young and his contemporaries and Past Master Thorning got the task of preparing and giving the Tribute to Young at the service.

Past Master Thorning and members of Oxford UAS in the college chapel.
GLIDING FOR THE DISABLED. Liveryman John Brownlow reports: High pressure was dominant over much of the UK on the 5th May 2013 and produced excellent gliding weather for the opening day of the Norfolk Gliding Club’s long term scheme for teaching disabled people to fly gliders. With others, including the Peter Harrison Foundation, the Guild has generously contributed to this scheme, by helping with the cost of adapting an ASK21 two-seat sailplane so that paraplegics can operate all the controls. Four disabled people, the first students, were present on the 5th May when the club arranged a buffet lunch at its Tibenham airfield to thank all sponsors for their contributions to the scheme. In the afternoon, when the thermals were popping up nicely, the disabled students flew their initial gliding lessons in the specially adapted ASK21, and also enjoyed some local soaring. Some details of the modification may be of interest to readers. In the front cockpit, the modification to adapt the ASK21 involves linking the rudder to a hand control on the left consol so that the disabled pilot does not need to use the rudder pedals for yaw control. An airbrake control lever is positioned outboard of the yaw controller and can be set as required in a series of detents as opposed to the standard control which is infinitely variable throughout the airbrake range. To assist entry and exit to the front seat for those without the use of their legs the flight instrument and electrical control panel is hinged and can be moved clear. The dual flight controls in the rear cockpit remain standard and, of course, the instructor can override the student in the front seat.

Both airbrake and yaw controls can be seen in the photographs. Left rudder is applied by moving the yaw control forward and right rudder by moving the control back. The hinged instrument panel is also shown. See also the four initial disabled students and one of their instructors.

For further details of the scheme see the Norfolk Gliding Club’s website at www.norfolkglidingclub.com
TIM PRINCE TO HAND OVER AIR TATTOO CONTROLS. In 2014, after 42 years at the helm of the Royal International Air Tattoo, Chief Executive Tim Prince announced today (June 24) that the 2014 airshow will be his last.

As one of the airshow’s founding fathers, Mr Prince has helped build the event into what is widely considered to be the greatest military airshow in the world.

He said he couldn’t go on forever and that it was time to stand down and entrust the Air Tattoo’s future to a fresh pair of hands.

Mr Prince said: “For the past 42 years, the Air Tattoo has been my life and I’ve loved every minute of it. During this time I have been fortunate enough to have met some incredible and inspirational people and have made many wonderful friends. It’s now time to pass on the baton.”

The Air Tattoo was first organised by a group of aircraft-loving air traffic controllers at North Weald airfield in 1971. Driven by their passion for aviation, the Air Tattoo grew over the following three decades until, in 2003, Guinness World Records recognised it as the largest military airshow in the world.

The Air Tattoo continues to feature rare aircraft from countries that have never participated in British airshows before. In 2012, Japan, South Korea and Colombia were the latest names added to the list of 54 nations that have been represented at the airshow since the beginning.

Chairman of the RAF Charitable Trust Enterprises (RAFCTE) Alan Smith described Tim as a “fantastic” leader of the organisation who is greatly admired by the thousands of volunteers, employees, sponsors and customers who have always been very happy to follow his lead.

Mr Smith said: “The Trustees, the Directors and myself are hugely grateful to Tim for agreeing to remain with the company for the next 14 months (and two more Air Tattoos) to help both appoint and introduce his successor.

“Tim’s most important legacy will be that, along with Paul Bowen, he created the greatest airshow in the world and subsequently ensured, with the support of many others, its long term presence in the annual aviation calendar. As a result, thousands of people have benefitted from the millions of charity pounds raised.”

AIR SAFETY TRUST & GUILD OF AIR PILOTS’ TRUST Past Master Michael Fopp, Chairman Air Safety Trust and Guild of Air Pilots’ Trust, reports: At each of our trustees’ meetings we review the work of both Trusts and receive submissions for support appropriate to the aims and objectives of each charity. In the case of the GAPT these are primarily to provide scholarships and financial support for other worthy causes including the annual Cobham Lecture. The AST provides academic bursaries to City and Cranfield Universities, financial support in the field of safety to worthy recipients and supports the annual Tymms Lecture.

At our recent meeting (in June) we approved a number of scholarships and received applications for financial support. These were discussed and appropriate actions taken.

Recent awards of funding have resulted in the Mission Aviation Fellowship (MAF) running a very successful Safety Managers Course during May. Those attending represented MAF’s Coldstream, Mareeba, and Papua New Guinea operations. Other delegates included members of senior management from MAF bases in the Asia Pacific region, who attended modules on ‘Safety Management System Overview’, ‘Just Culture’ and ‘Safety Action Groups’. I understand that those attending from the senior management team are now better able to support and promote a positive safety culture throughout the Asia Pacific region, leading to a higher standard of safety within the programmes.

We are also investigating the award of an academic prize in an aviation safety subject with Southampton University following a generous bequest from Master Elect’s father’s estate to the AST. We hope that, in due course we can establish a close relationship with yet another university and continue to support academic study at centres of excellence like City, Cranfield and Southampton. As you all know, a number of the annual trophies and awards are also sponsored by our two trusts. This year’s selection of students for the three academic bursaries at the City University are well under way under the supervision of Court Assistant Professor Diana Green, with Liverymen Professor Marion Wooldridge, Miles Stapleton and Alan Foster assisting in the selection process. I have to commend Alan Foster especially for all his years of work for the Guild in our relationship with the City University. Alan was a founder of the courses, has taught modules on them for many years, and is now bowing out after this year’s round of selections. We are very grateful to him and I have written to him to express our thanks.

Future business looks to be interesting and we are trying very hard to encourage the Air Cadet Organisation to put forward a funding request which we can consider. We are also looking at some PhD research at Cranfield and awaiting “shopping lists” from some of our established “clients”. Only when we receive cogent and detailed requests for support can we make a choice and we encourage any organisation in need of help to examine our aims and frame their requests accordingly.
Six members of the GYM travelled to Anglesey and the home of Fast Jet training with a superb visit to 4 Flight Training Squadron at RAF Valley. Our hosts showed us around their new state of the art facilities, we were invited to join a briefing on warfare tactics and SAM avoidance and we had a look around their hangar and sat in the new Hawk T2. The T2 is a new variant of the Hawk trainer and allows faster conversion from Hawk to Typhoon.

It was also graduation day for the first 4 graduates on the new T2, so we joined them and the Chief of the Air Staff, Sir Stephen Dalton, for the ceremony and prizegiving. Afterwards, members of the GYM chatted with Sir Stephen about the Guild and his plans after he steps down from his post in 2 months time. It was also the final day at the Squadron for their current boss and after he had been ceremonially drenched with fire extinguishers by the graduates, we left them to enjoy their party. Sadly, the weather was poor all day and there was no flying but the hospitality shown by 4 Sqn was exceptional. We look forward to further trips to Valley and continuing the close ties between the Squadron and the Guild.

On 21st May the GYM took part in the third Youth in Aviation (YIA) parliamentary event. YIA brings together several organisations that work to further aviation amongst the younger generation. The event was well attended by both Lords and Members of Parliament, giving us a platform to discuss issues that are relevant to our young members such as trying to remove (or reduce to 0%) VAT on training and also pushing for airport expansion which in turn would allow airlines to grow and recruit. It was also a good chance to see the Houses of Parliament, especially for those who had not visited the Palace of Westminster before. After a busy afternoon GYM members retired to the Institute of Mechanical Engineers where they relaxed with a well earned beer.

GYM members also visited the Guild Garden Party at Old Warden on 30th June and the Guild Flying Club’s visit to Goodwood on 6th July.

As Upper Freeman
Paul Marc Christopher AYRES
Captain David Seaton BRAMWELL
David George CASHEL (HK)
Susan Alexandra D’ATH-WESTON (NZ)
Captain Robert Glyndwr EVANS (OS)
Captain Timothy John GLASSPOOL
Flight Lieutenant Paul HEPBURN
Cindy JACOBS (HK)
Patricia Christina JONES-BOWMAN (NA)
Captain Thomas Lee LANGE (NA)
David MARSHALL
Andrew RICHARDSON
Captain Anthony Frederick RUNDLE (NZ)
Captain Michael Peter SINCLAIR (HK)
Commander Simon Nicholas SPARKES
Wing Commander Alexis TANO
Brendan Mark TORRES (NA)
Billy Kin Hang WONG (HK)
Theo Nai Kin WONG (HK)
Mark Gerard WOODHOUSE (NZ)

As Freemen
Tristan Alexander Dennison CRAWFORD
Michael William DANN (AUS)
Anthony Wayne RHODES
Jonathan Michael WINDOVER

As Associate
Christopher Curtis Lee DODWELL (OS) (GYM)
Flight Lieutenant Andrew John MILLARD (GYM)
Alan Kimunguyi MUSASULA (HK) (GYM)
Adam Manfred WALICZEK (HK) (GYM)
Georgia Christine Grace WEEKS (HK) (GYM)
Marco Ming Yip WONG (HK) (GYM)

Acknowledged By the Court 11 July 2013

Christopher DE MARCO (NZ)
Geoffrey FEARNLEY
Tristan Patrick GOOLEY
Roger JOHNS
Andrew Bruce McKEEN (NZ)
Neale MOSS
Michael O’HARA
Derek PARRY
Robert ROSEWARNE (AUS)
David WILBY

Forfeit All Benefits
Andrew FONSECA
I wrote my Master’s Message for the last edition of Guild News just before our Livery Dinner which, this year, was held at Mansion House. I had been warned that if it was not a success then by convention the Master must accept responsibility. Thankfully, I didn’t have to find out if the warning was serious or in jest because 287 Liverymen and guests clearly enjoyed themselves enormously.

There was a wonderful atmosphere throughout the evening which, in the words of a Liverymen who attends every year, was “a perfect combination of formality befitting the occasion and friendly ‘family’ informality.” We owe a great debt to the Clerk and Assistant to the Clerk Ruth Cundy who both put an enormous amount of work into ensuring that such occasions run smoothly.

I was also warned that I would be very busy during my Master’s year; that warning was certainly serious. Whilst it was sometimes demanding taking very little leave for five years, I’m now able to use my accumulated leave to fulfill Guild commitments - both internal and external - which continue to be interesting, sometimes challenging and, almost without exception, enjoyable.

As a working company, we continue to liaise closely with aviation authorities and other agencies connected with licensing, training and legislation affecting pilots. In the ever-changing aviation world, we need to look not only at what affects pilots now but at the future of the profession. That includes, of course, doing what we can to help those trying to enter the profession.

An integrated course culminating in a frozen ATPL can cost up to £90,000. The modular route is not as expensive but still costs in the region of £45,000. Helicopter pilots spend even more obtaining their qualifications. We already help beginners in several different ways, but is there more we could do to try to ensure that their significant financial investment does not go to waste?

The recruitment process has, justifiably or not, become more complicated than it used to be. Talented applicants can, and do, fail at the first hurdle because their application doesn’t stand out from the crowd. Other talented candidates fail at the next stage because they don’t present themselves to best advantage in interviews.

I have asked Assistant Nick Goodwyn, Chairman of the Education & Training Committee, to look into the feasibility of a programme to improve applicants’ understanding of the selection process, to equip them with the skills to make a positive impact in job applications and to enhance their performance in interview.

Many members have current or recent experience of the selection process from the employer’s perspective. Are you one of them? Would you be prepared to help? By giving tips? By pointing out potential pitfalls? By mentoring a youngster trying to get onto the first rung of the profession? Please let me know if you would be prepared to help. You would not be obliged to attend meetings. In this electronic age much can be achieved by e-mail.

Whilst helping beginners is important, we should not overlook those who have lost their jobs through redundancy or temporary loss of medicals. Is there more we can do to help fellow members of our Guild to find jobs? I’d welcome any suggestions you may have.

By the time you read this message, I shall be somewhere between Vancouver and Washington. I look forward very much to meeting members of our North America Region, discussing the issues they face and exchanging ideas about how we should approach those issues. Although we are a Livery Company of the City of London, one of our great strengths is that the combined knowledge and experience of our members is truly international.

The international nature of the profession is always reflected in our annual awards, and this year is no exception. I am delighted that our guest of honour at the Trophies & Awards Banquet will be Captain Jim Lovell. Best known as the commander of the now legendary Apollo 13 mission, Captain Lovell will receive the Guild Award of Honour in recognition of his outstanding contribution to test flying and space exploration. I look forward to seeing you at the Banquet.

As I write, we are enjoying uncharacteristically glorious weather which made the Guild visit, arranged by IPM Cliff Spink, to the Practice Day for the Duxford ‘Flying Legends’ Airshow last weekend even more enjoyable. From our marquee adjacent to the Tower, we watched very impressive solo and formation displays by the IPM and Liveryman John Romain - being closely monitored by two representatives of the Duxford Flying Control Committee, PM Rick Peacock-Edwards and U/F Alan Lockwood.

We were given an interesting and informative tour of Buccaneer S.2B XV865 by the Hon Editor. Tom described the delights of hands off carrier launches and the sometimes ‘interesting’ experience of being a QFI in an aircraft without dual controls (only one ejection!), and assured us that the Buccaneer is one of, if not the, finest aircraft ever designed. PM Peacock-Edwards assured us that if only he could leave the Tower he could show us a ‘proper’ aeroplane. Think WIWOL!

The visit was all the more enjoyable for me because, when flying concluded, I was able to catch up with many old friends from my Duxford days. The camaraderie of fellow pilots and watching the sun go down over a beautiful airfield on a peaceful summer’s evening - a perfect end to a splendid day.

My very best regards to you, wherever in the world you may be reading this message. Fly safe.
On the evening of 29th May 287 Liverymen and their guests gathered in the magnificent setting of the Mansion House for the Guild’s 2013 Livery Dinner. The Dinner was preceded by a meeting of the Court. Ten new Liverymen were clothed, Air Chief Marshal Sir Stephen Dalton, Mr Peter Hewett, Captain David Singleton, Mr Christopher Green, Mr Ernest Seemann, Mr Paul Hewett, Captain Alastair Pinner, Mr Nicholas Goulding, Dr John McAdam, and Mr Stephen Slater. Master Air Pilot Certificates were presented to Master Elect Dorothy Saul-Pooley, Lieutenant Commander Wrighton, Lieutenant Commander Hands, Flight Lieutenant Harris and Captain Smith; a Master Air Navigator Certificate was presented to Squadron Leader Burgess.

Following the Court meeting a champagne reception started the evening’s proceedings. Dinner was announced by the Beadle, Mr Ted Prior and the Grand Master H R H The Duke of York, the Master His Honour Judge Tudor Owen, Guest of Honour Alderman Nick Anstee and Lord Mayor Locum Tenens processed to their places on the Top Table to the traditional slow hand clap. The Principal Guests included Air Chief Marshal Sir Brian Burridge President The Air League, Jenny Body President Royal Aeronautical Society, Mr Andrew Haines Chief Executive CAA, His Honour Judge Brian Barker QC Recorder of London, Captain John Hughes Master Master Mariner, Mr Patrick King Master Fan Maker, Mr Andrew Morgan Fishmongers’ Company, Lieutenant Colonel M Cubbins Army Air Corps, Lieutenant Commander C Barber Officer Commanding 750 Naval Air Squadron, Squadron Leader C Talbot, Officer Commanding University of London Air Squadron, Commodore A Menzies Clerk Honourable Company of Master Mariners, Mr M Davis Clerk Fannmakers and Mr N Chrimes Sword Bearer and Head of Programmes, Lord Mayor’s Office.

At the conclusion of the Dinner, after the traditional sung Grace and the passing of the Loving Cup, the recently elected new Warden Captain Christopher Spurrier welcomed the principal guests. He concluded by saying “This evening gives me a chance to talk about the many things our Livery Company does. The depth of knowledge and breadth of experience, both civil and military, available to us is quite extraordinary. Our Immediate Past Master is a retired Air Marshal. Our current Master is a pilot and a judge with wide experience of aviation law. We have pilots, navigators and aviation medicine specialists from all levels in these professions. We have our professional committees - the Tech and Air Safety, the Education and Training, and our Environmental Committee. We have three charities. We are uniquely placed to offer impartial opinion, advice and assistance to everyone, from a young person trying to start in our profession up to the CAA and Government departments trying to regulate it. So to all our guests, I bid you a very warm welcome and hope that you’re enjoying the evening. And when you go, I hope you will remember that this Livery Company is a great source of knowledge and a great force for good. Oh, and I nearly forgot. We also have a Golf Society.

Ladies and Gentlemen, I give you the toast. “Our Guests.”

In his speech, the Master, His Honour Judge Tudor Owen, remarked that Britain could be proud of its achievements in military and civil aviation. “We are proud to have many former and current members of the Royal Air Force, the Fleet Air Arm and the Army Air Corps in our Company,” he said, “and proud to have close and active affiliations with Units in each - some of which are represented here this evening.” He remarked that the Government appeared to accept the importance of the contribution that aviation made to the country’s economy, but one could be forgiven for regarding such declarations as rhetoric, given the lack of a coherent plan for UK airport development, the lack of any plans for an integrated transport policy and the imposition of an increasingly oppressive Air Passenger Duty on long haul flights. “Connectivity is the lifeblood of trade” he remarked, “Our aviation networks must have the capacity to serve both existing and emerging markets. Our competitors understand this and did something about it while the UK talked about it. The UK is still talking about it!” He urged that
urgent action be taken now to ensure that a major hub airport was kept in the UK, and that a comprehensive integrated transport policy be agreed on to meet the country’s needs in the 21st century.

He welcomed the Grand Master as a fellow Liveryman who had served 22 years as a helicopter pilot in the Royal Navy. He continued: “By now, some Liverymen will have been having palpitations, worrying that I’ve forgotten to mention you in my speech. And I know some of our Past Masters will be hoping to be at the front of the queue to tick me off for not doing so at the beginning of my speech. You Sir, know the reason.

The IPM, Learned Clerk and I were honoured to be received by the Grand Master at Buckingham Palace immediately following my becoming Master. His Royal Highness showed great interest in the work of our Guild, as did our Patron when he received the IPM last December to discuss a working-group proposal that we should change our name when seeking a Royal Charter.

Fellow Liverymen, I am delighted to announce this evening that Her Majesty has graciously approved a proposal, made jointly by our Patron and Grand Master, that we should be known as ‘The Honourable Company of Air Pilots’.

“We are not alone amongst Livery Companies in having Royal support and patronage, but we are unique in one respect. I cannot improve upon the Grand Master’s own words when he explained why our Patron and he had made the proposal.

Referring to the Royal Family, His Royal Highness said: “We are pilots. The Duke of Edinburgh was the first Royal pilot. I was a professional pilot. Prince William
and Prince Harry are professional pilots. It is entirely appropriate.”

After thanking the Grand Master and asking him to convey the Company’s gratitude to our Patron, he proposed the toast “Pride in the Profession”.

Alderman Nick Anstee, Lord Mayor Locum Tenens, responded on behalf of the Guests. He welcomed all present on behalf of the Lord Mayor, who was currently circling the globe courtesy of air pilots, noting with pleasure CAS’s presence, wishing him all the best for the future. He recalled that the last time the Guild had dined in Mansion House was in 2006, since then there had been considerable change in the world. The 108 Livery Companies, ranging from the traditional to the modern, were the largest philanthropic movement in the European Union, providing education, benevolence, endowing new academies, the list was almost endless. He felt that the Livery Companies were doing their good works too quietly and were deserving of greater recognition. He continued by reminding his audience that this year marked the 70th anniversary of the Dambuster’s raid, Operation Chastise. The vision and innovation of men such as Barnes Wallis, inventor of the ‘bouncing bomb’, who had been educated at Christ’s Hospital School, were an example of the contribution to national affairs that Livery Companies were able to give. He remarked that it was entirely right and proper for the Guild to be accorded the title of an Honourable Company and proposed the Toast ‘The Guild of Air Pilots and Air Navigators of London, may it flourish root and branch for ever’.

Liverymen and their guests were invited to join the Master for a stirrup cup before departing.

Photographs of the Livery Dinner, courtesy Gerald Sharp Photography, an be viewed and ordered on line at www.sharpphoto.co.uk.
Most of the aircraft at Paine Field, just north of Seattle WA, are so new that they have yet to be painted, let alone carry a passenger. While many visitors are drawn to Everett to see Boeing widebodies roll out the doors of the world’s largest building, the true aviation aficionados come to see old aircraft. In recent times, the smaller hangars at Paine Field have been home to such interesting projects as the construction of Me-262s and the restoration of a de Havilland Comet 4c. The jewel in the crown however is the Historic Flight Foundation, well known on the far side of the Atlantic as the new home for “Grumpy”, arguably the best known B-25 in Europe, if not the world.

The roots of the Historic Flight Foundation (HFF) go back to 2003 when Seattle attorney and businessman, John Sessions (who is also an ATPL rated pilot), started collecting aircraft from the era between World War 2 and the Boeing 707’s maiden flight in 1957. The spectacular hangar at Paine Field was opened in 2010 and is as clean as any hospital but with the architectural aesthetic of an art gallery. Unlike art galleries however, there are no red velvet ropes to separate the public from the treasures. Visitors are encouraged to walk among the fully airworthy aircraft and view them from any angle and as close as they like. The staff and volunteers are as helpful as concierges. In short, HFF knows how to do things not just right, but perfectly.

One recent event organized by the HFF, which extended a special welcome to Guild members, was a one-day B-17 ground school, followed by a WW2 Field Mess Dinner and a flight in the Experimental Aircraft Association’s B-17 G, “Aluminum Overcast”.

The B-17 historical and technical lectures were given by experts who certainly know more about the aircraft than the folks who flew them during the war. Mike Lavelle, author, historian and Director of Public Programs at the Museum of Flight, related the history of the aircraft and how the Boeing Model 299 evolved to become the B-17 ‘C’ by the end of the war. Trish Beckman, a member of the Boeing Test and Evaluation team (and former Chair of the Guild in N. America), explained how the aircraft were ferried to Europe using astronavigation. Alan Peover outlined the technical systems on the B-17 and impressed everyone with his ability to answer questions on any topic from electronic turbocharger waste-gates to “Tokyo” fuel tanks. George Bowling, who was dressed in USAAF uniform and toted a WW2 “ammo box”, explained the B-17’s armament and ordnance. He certainly surprised the course when he mentioned the B-17 could carry up to 6,180 rounds of .50 calibre ammunition to protect itself. The HFF also gave each participant a CD of the day’s presentations, a DVD of wartime training videos and a copy of the delightful Haynes “Owner’s Workshop Manual” for the B-17 Flying Fortress.

At the Field Mess Dinner, hosted by John Sessions to welcome the visiting crew of “Aluminum Overcast”, Boeing’s staff historian Mike Lombardi related the company had to borrow money to build the prototype and then still more funds to fulfill the initial order of 13 aircraft placed by the U.S. Government. In contrast, as wartime production ramped up, by 1944 Seattle’s camouflaged Plant 2 alone was capable of producing 16 Fortresses in a single day. Of the 12,726 B-17’s built, 6,981 were built by Boeing in Seattle with the remainder being assembled by Douglas and Vega/Lockheed. Lombardi pointed out that this manufacturing arrangement required complete interchangeability of the modular components and very close ties with sub-contractors in the U.S. and Canada. He further related that Boeing’s nomenclature for the assemblies and the production systems on the factory floor were so well conceived, that the procedures have remained in use to the present day.

The dinner was also attended by three veterans of the U.K. based 8th Army Air Force, one of whom wore the same uniform he had been issued as a 20 year-old. It’s not often one gets to hear about the infamous Schweinfurt mission from someone who was there on the day, but it’s the aim of the HFF to make history come alive. Of course the appreciation of what these men had accomplished was sharpened by the presence of an airworthy B-17 parked just outside.

“Aluminum Overcast” is based in Oshkosh WI and tours the U.S. each summer, giving rides to around 4,000 enthusiasts. Although the aircraft was built during the war, peace was declared before it could be ferried to the U.K. and the $250,000 asset was quickly liquidated by Uncle Sam for a mere $750. The B-17G then earned its keep for many years around the world as a photo survey platform before coming into the EAA’s care in the 1970’s. Like the HFF, the EAA does not want to preserve ‘planes on sticks’ but rather to engage and excite the public with airworthy, iconic aircraft. Flying in a B-17 is simply a sensual experience, from the loudly complaining brakes and the smell of high-octane to the hammering of four Wright radials and the blur of the runway under 68 year-old wings. Once airborne, passengers are invited to tour the whole aircraft and are free to sit in the bombardier’s chair or to man the waist guns. The only admonition is to avoid stepping off the central catwalk onto the bomb bay doors, for obvious reasons. After a brief transit at 2,500’ to Port Townsend WA, the “Aluminum Overcast” banks steeply for its run back to Paine Field. One can only be amazed by the experience and to wonder what it was
like to fly at altitude during the war, deafened, half frozen, wearing oxygen masks and being shot at from both the ground and the air. One of Mike Lombardi’s slides of a B-17 crew comes to mind at this time. The photograph shows ten young Americans posing in front of their aircraft in England; nine were 18 year-olds and the captain was the ‘old man’ at 20. The crews were evidently as exceptional as Boeing’s design. After a 25 minute flight, we are back on the runway at Paine Field and back in the present, surrounded by dozens of Boeing’s newest and shiniest aircraft.

The Historic Flight Foundation has become the very definition of a ‘centre for excellence’. Aviation know-it-all’s can meet friendly and helpful people who really do know it all and come away elated and enlightened. Every visitor will certainly gain new insights and appreciation. The Foundation notes that John Sessions’ objective is to “share aircraft guaranteed to spark passion and inspiration” and this summer’s B-17 event is yet another example of that mission so perfectly fulfilled.

The South-East UK Major Hub Airports

A hub airport is usually defined as, “an airport with flights to lots of different places, where people can arrive from one city or country and get flights to other cities or countries.” Hubs rely primarily on transit passengers but many are also points of destination or departure in their own right, often attracting significant tourism and business activity. Heathrow, with its extensive, densely populated catchment area, fulfils all these functions and is Europe’s busiest airport, handling more than 65 million passenger trips a year. The largest share of the UK’s passengers, airmail and airfreight pass through Heathrow and its 90 airlines provide two thirds of the long-haul commercial flights originating in the UK to some 180 destinations, including seven out of the world’s top ten business routes.

Other nations have increased their national hub airport’s capacity by extending or by building new airports. In contrast, expansion at Heathrow has been restricted to passenger rather than aircraft handling facilities so it now operates close to (if not at) maximum capacity. Heathrow is fortunate in being able to operate year round without closures for prolonged periods of crosswinds but its lack of spare capacity limits its resilience. Lack of resilience leaves the UK’s principal airport vulnerable to unplanned events, which can be as diverse as deliberate malicious acts or periods of severe weather. With no operating contingency, anything that impedes Heathrow’s operating rates causes flight cancellations, as it has no spare capacity to recover a backlog. Aside from the more obvious loss of flights when snow covers the airport, low visibility conditions reduce the landing rate for operational reasons and flights are lost during periods of high wind strength. Current air traffic procedures keep approaching aircraft at least 2.5 nm apart, regardless of the speed at which they make their approach; as headwind strengthens and the aircraft’s speed over the ground reduces, each aircraft takes longer to travel the statutory 2.5 nm separation and landing rate reduces as the time between each arriving aircraft increases. Without spare capacity, any delays caused by reduced operating rates escalate into cancellations to recover to the normal schedule. Disruption at a major hub airport hurts domestic passengers and the international transit passengers on whom the airport depends for its international routes and hub status; UK airport disruption, visible to the whole world, also reflects badly on the nation.

Lack of spare capacity also means developing new routes to meet demands for travel to developing markets and countries is only possible by either sacrificing existing routes to established markets or by curtailing domestic flights. The loss of domestic and long-haul routes then degrades the attractiveness of Heathrow to transit passengers, further threatening Heathrow’s international routes and hub status. When airlines from developing countries find they cannot access Heathrow airport, their response is to look to alternative major hub airports elsewhere, rather than to alternative UK airports.

London airports other than Heathrow do have spare capacity but are not connected to Heathrow by transport systems that even approach the times and relative convenience of transit between Heathrow terminals. The plight of UK transfer passengers from Inverness or Newquay, who have to allow a minimum of an additional 3 hours connecting time at London just to get from an internal flight arriving at Gatwick to an international departure from Heathrow, illustrates this well. Furthermore, plans for future high-speed transit systems between the London airports do not exist and it is difficult to envisage such facilities becoming available in the near or even distant future. Thus capacity at other London airports cannot meet the needs of the domestic or international transit passenger seeking to transfer quickly and easily from one flight to another. Even if inter-airport links were established, airlines would find it extremely

UK HUB AIRPORT POLICY

Safely, efficiency and environmental friendliness are major areas of activity for the Guild. The UK Government recognises the important economic impact of the wider aviation industry. Each year over 4 million long-haul passengers visit Britain after arriving at the UK’s international hub airport, Heathrow. These visitors spend £4.4 billion a year, making up more than 5% of total spending in the UK tourist industry sector. Including long-haul visitor spending, aviation at Heathrow is estimated to benefit the British economy by adding £11.1 billion to GDP and providing 220,000 jobs. Even more importantly, by being located close to the UK’s financial heart, Heathrow’s air routes facilitate the majority of face-to-face business meetings between UK and overseas business people, which represents £590 billion a year of business deals that add more than £150 billion to the UK’s GDP each year.

If the UK is serious about retaining its status as the home of an international hub airport close to its capital with the attendant benefits that provides to the UK’s economy and business, urgent action is needed to sustain the current pre-eminent position of Heathrow against competition from mainland Europe and beyond. In the face of increasingly successful international competition, it is vital that the UK signal and start planning a solution capable of providing those same benefits to the UK’s economy and business for both the short and longer term (2050).

The Historic Flight Foundation’s collection also includes:

- Douglas DC-3
- Waco UPF-7
- North American P-51B Mustang
- North American B-25D Mitchell
- Grumman F7F Tigercat
- Grumman F8F Bearcat
- Canadian T-33 Silverstar
- Beechcraft Staggerwing D-17S

http://historicflight.org/hf/
unattractive (if not financially uncompetitive) to split their operations across a number of different airports serving the same city or hub. KLM now sees and positions itself as the airline of choice for Scotland and other parts of UK, attracting increasing passenger numbers through its own hub airport at Amsterdam.

Heathrow’s Benefits

Heathrow is close to the London conurbation and within two and a half hours by road of almost half the UK population, providing excellent connectivity for domestic and international travel; it is an important international gateway and a crucial link for the 8 million international travellers who transit through Heathrow each year. Transit passengers are important to Heathrow’s status as a hub airport because the high proportion of international transit passengers arriving from one country and able to transfer quickly to a connecting flight to another country sustains the economic viability of these international routes. Lack of sufficient transit passengers would deprive the UK of some of its international air routes. In today’s world, connectivity is critical for trade, investment and social cohesion. Located close to the UK’s financial heart, Heathrow’s air routes facilitate the majority of face-to-face business meetings between UK and overseas businesses, which represents £590 billion a year of business deals that add more than £150 billion to the UK’s GDP each year. Besides its role as an international hub, Heathrow provides an important link to UK’s non-hub airports. While the unique nature of the hub airport means it is well-positioned to act as the initial driver for long-haul routes, it is important not to ignore the markets which form the backbone of UK trading power. The UK Government appears to accept the importance of international air route connectivity through statements such as: ‘The protracted failure of successive UK governments to have a coherent programme for the development of the UK’s airports.

• Lack of any plans for, or even the intent to develop, an integrated transport policy for the UK so that road, rail, air and sea links form an integrated network facilitating easy and efficient transition between modes while also minimising the environmental impact of domestic and international travel.

• The protracted failure of successive UK governments to have a coherent programme for the development of the UK’s airports.

• More recently, the continued application of supposedly ‘green’ policy through the imposition of Air Passenger Duty that penalises those business and leisure passengers who choose to use the UK airport network rather than opting for alternative routes through non-UK airports.

The importance of a cross-Party agreement on the UK’s future plans for aviation and a wider integrated transport policy is highlighted by reversals in strategic decisions on airport infrastructure over the last 5 years. National transport strategy is too important to formulate on the fly; it must be considered and agreed in the broader national interest and not to satisfy short-term Party political aims.

Threats to Heathrow Airport

Despite Heathrow’s importance to the UK, it has been under threat from other European airports such as Amsterdam/Schiphol, Frankfurt/Main, Paris/Charles de Gaulle and Madrid/Barajas for a number of years. Heathrow now can only expand international routes by sacrificing domestic (UK and European) connections, but these competing airports have the spare capacity to take up additional international and domestic routes and the resilience to recover quickly from any unplanned operational delays. They are an inevitable draw for both UK and overseas business passengers. Air Passenger Duty Tax that only UK applies exacerbates this problem. Turkey’s recent announcement of its intention to build a 6-runway hub airport and continuing expansion of recently built international hub airports in the Middle East shows these threats can only become larger in the future.

Unless the UK sustains a competitive major airport with multiple international and domestic UK and European links, international businesses including financial and other services as well as investors from the developed world will lose direct access to London; those from rapidly developing parts of the world will never gain direct access. UK businesses would be at a disadvantage when competing with the rest of the world. Continued lack of capacity at Heathrow will leave the UK increasingly marginalised as major carriers migrate to alternative hubs, forcing business travellers and tourists to go to an airport on mainland Europe or even the Middle East to interline to reach or to leave their UK destination. If UK loses its hub airport it is difficult to see how, with the inevitable migration of business demand away from UK, a viable hub airport could ever be re-established in UK.

Provision of Additional Capacity

We must retain a major hub airport at Heathrow. That means doing whatever is possible now to increase resilience and capacity at Heathrow. Since planning permission already exists for a third runway at Heathrow to the north of the existing airport, this seems an attractive option. However, there are many options for increasing Heathrow’s resilience without the construction of additional runways as follows:

• Air traffic procedural changes could circumvent the present reduced landing rate caused by high winds as explained in paragraph 9.

• Increased use of Microwave Landing System (MLS) approaches in place of the conventional Instrument Landing System (ILS) to remove some restrictions on aircraft taxi patterns in poor visibility and sustain arrival and departure rates.

• An extension of operating hours for use by the quietest of aircraft types.

• The introduction of off-stand de-icing facilities, as proposed by the Begg Report, would improve dispatch rates during periods of winter weather.

• Operation with mixed mode runway operations, using both existing runways for arrivals and takeoffs, even if only at periods of high demand, would increase available capacity.

There are also many options, aside from the current 3rd runway plan, for early development of additional capacity at Heathrow, including the following:

• Extension of the northerly runway (27R) to the west to almost double its current length, providing the following capabilities:

  - Simultaneous takeoffs and landings from the northerly runway, increasing Heathrow runway capacity by almost 50%.

• Some arrivals flown to the western portion of the runway, releasing the ‘displaced threshold’ benefits described in paragraph 27 below.

• Some easterly departures flown from the western portion of the runway, allowing aircraft to pass the airfield boundary at greater heights with or without the use of increased power settings as described in paragraph 29.

• Construction of a parallel runway close to the existing north runway, sometimes referred to as a ‘close parallel’ pair of runways.

• This would permit takeoffs from the northerly ‘pair’ of runways, without waiting for the landing aircraft to clear the runway, providing an increase in landing rates. The increase would not be as significant as that from an extended double-length northern runway.

It is important that any shorter-term palliative action to retain Heathrow’s status as a major hub airport does not close off longer term options for increased utilization. Logical developments from the
options described in paragraph 20 are as follows:

- Extension of the southern runway (27L) to the west to almost double its current length, providing all the benefits described in paragraph 20 above and, with both runways at double-length, increasing Heathrow’s capacity by a total of 100% providing in all a capacity increase of 100% at Heathrow.
- With small adjustments to the M25, this would provide all the future capacity needed for the UK’s major hub airport.
- Equally, adopting the ‘close parallel’ concept for the existing southern runway as well as the northern runway is possible, though with major impact on some existing facilities and again not the same increase in overall capacity.
- More radically, there is space to construct 4 new runways to the immediate west of the current airport boundary at Heathrow which would also provide all the future capacity needed for the UK’s major hub airport, though at a significantly increased cost.
- Combinations of all of the above.

Careful selection of a number of the above options for double-length, close parallel and new-build runway would be possible. In contrast, the current 3rd runway plans do not lead to longer term growth options. This paper concentrates on operational and additional runway options that would facilitate increased runway capacity at any airport. Runway capacity is only one of a chain of factors and it must be matched by similar capacity increases in aircraft taxi patterns, immigration and security processes, passenger, baggage and freight handling and integration with onward ground transport systems. Additional capacity would allow development of further domestic and international routes. However, a capacity increase does not necessarily create a proportionate increase in aircraft movements. Retaining a proportion of the additional capacity in reserve would improve Heathrow’s resilience and absorb operating delays when necessary. Extra runway capacity can also be used to manage the airport’s environment by increasing its impact more effectively than is present by imposing ‘quiet’ unutilized slots or planned periods of reduced movement rates; these could be managed in consultation with local resident groups. Alternatively, a shorter flying day would be possible with increased operating rates.

Environmental Issues

The industry’s remarkable achievements in reducing aviation’s environmental effects help to alleviate the impact of additional flights at Heathrow. Aviation’s environmental footprint falls broadly into three areas, carbon dioxide (CO2), oxides of nitrogen (NOx) and noise. Many of the advances in aircraft and engine design address these synergistically but NOx and noise are particularly relevant to airports as each is considered individually as follows:

Nitrogen Oxide (NO) and Nitrogen Dioxide (NO2)

Car and lorry internal combustion engines and aircraft jet engines create NOx, which is the generic term for NO and NO2 formed when the nitrogen and oxygen in the air combine at high temperatures. NOx is a challenge for airports surrounded by motorways, as was apparent when Heathrow’s NOx levels remained unchanged when all flying was halted by a volcanic eruption in Iceland. Paradoxically, increasing engine-operating temperatures to make them more fuel-efficient can increase NOx generation but many of the actions that reduce NOx generation also reduce engine noise. Several measures are effective in reducing NOx generation, not least of which is providing passengers with efficient, convenient and affordable alternatives to road (especially private cars) forms of travel to and from the airport; unlike Heathrow with no mainline rail link, Frankfurt Main is served by 210 daily long distance trains. Other measures include powering airport vehicles electrically with fuel cells or batteries, fuel cell APUs electric taxing systems such as the Honeywell/Safran System demonstrated at Paris 2013, the WheelTug and TaxiBot can take aircraft from and to the runway without the use of aircraft engines. All the above would also reduce noise from aircraft and airport vehicles.

Noise - Aircraft Take Off

Just as steeper approaches reduce aircraft noise on the ground outside the airport, steeper departures or increasing the height of the aircraft as it passes over the airport boundary after take off can also reduce noise experienced on the ground. This is achieved by either extending the runway at the take off end or by requiring crews to set a higher power for take off than runway length would normally require (though this does increase NOx output).

Noise - Transport Mode Transition & Integration

When an airport is served by excellent rail connections matched with efficient and painless passenger and baggage handling, the number of domestic flights can be minimized, while quieter turboprop flights continue to link domestic locations such as particularly remote or island settlements. Turboprop flights to a nearby (ground-transport linked) satellite airport configured for very steep approach and climb out angles (as used at London City) will also alleviate noise at the major hub airport. As an example, Northolt would provide an effective satellite for Heathrow if good rail (or monorail) connections and passenger handling facilities link the two airports.
UK Commercial Aviation Beyond 2025

In parallel with action to retain Heathrow as a viable hub airport in the short term, a long-term commitment to provide capacity in the South-East of England is crucially important for UK tourism, business and the economy. Long-term options include the following:

- Further increase in Heathrow capacity as described in paragraph 21 above.
- Expansion of Gatwick into a major hub with the addition of at least 3 more runways.
- Expansion of Stansted into a major hub with the addition of at least 3 more runways.
- Development of a new very large major hub airport at a completely new site such as within the Thames estuary.

Other than further increases in capacity at Heathrow, all other options would require Heathrow’s closure to ensure the UK retains the scale of transit business necessary for a viable major international hub at a single location. Otherwise, an operational Heathrow would dilute and limit expansion at the new hub, increasing the risk of diluting and then losing the traffic and connectivity to other locations in Europe, as airlines seek to consolidate their operations. Airports now chase airlines for their business and major hubs compete to become gateways to entire continents.

The UK’s long-term hub airport, be it an expanded Heathrow or an alternative, will require detailed and intricate planning of air traffic control, airlines and ground transport and more comprehensive rail and road connections than exist at any UK airport today. Its location must allow surface access by the largest possible proportion of the UK population and longer distance domestic surface and air connectivity. It must have the full suite of facilities to handle domestic, connecting and international transit passengers, baggage and freight with the runway, taxiway, ramp and airport ground support facilities to match. Long-term planning must begin immediately to facilitate integrated development now and to ensure unconstrained or inappropriate growth in the surrounding areas does not threaten longer-term options. A balance of economic and political, rather than operational, factors will drive any final decision. The selected option must be financially viable and it is difficult to understand how some of the proposals would be commercially attractive to the airlines. The Guild is concerned that the issue is too difficult for government to select and enact a workable solution; this will leave the UK facing further behind in business and aviation terms.

Other Factors

If UK government does wish to sustain a major airport in UK, taxation policy must support that desire. UK Air Passenger Duty has made air travel through alternative non-UK hubs cheaper than using Heathrow. This might be appropriate when Heathrow is struggling for capacity but, since transit passengers sustain international routes, the unintended consequence is to damage the UK hub which damages UK’s international connectivity and the UK’s attractiveness to global business as well as the competitiveness of UK business. Airlines can adjust their route structures quite quickly so any change in passenger preference away from UK airports can quickly precipitate route changes.

Summary

It is essential that the UK has a hub airport with the connectivity necessary to support the needs of businesses and the UK economy. Heathrow is the de-facto UK hub airport but, operating at close to maximum capacity, it struggles to meet its customer commitments and is threatened by alternative hub airports elsewhere in Europe and as far away as the Middle East. If UK loses its hub airport, the present slow migration of UK domestic travellers, international transit travellers and global business away from the UK to alternative countries would escalate and it would then be extremely difficult, if not impossible, to re-establish and reverse that trend. Action is required now to keep a hub airport in UK and the only viable option is to increase Heathrow. It is important to understand that increased capacity does not automatically lead to a pro-rata increase in aircraft activity. Some of the additional capacity will be used for more flights but some can be retained and used to generate ‘quite’ periods or lulls within the existing operating period. Only Heathrow offers the potential for a capacity increase that is coherent with sustaining a major hub airport in the UK in the short term. Heathrow may also offer the best solution to meet the demands of air transport and international connectivity into the second half of the 21st Century and beyond, so infrastructure changes to support short term capacity improvement must also remain coherent with long term options.

It is essential that UK moves toward a fully integrated transport policy that recognises and supports the needs of all forms of transport and their complementary roles in containing the environmental impact of the movement of people and freight. Notwithstanding the need for comprehensive integrated plans, on-going migration of air activity away from the UK to competing hub airports in Europe and beyond requires the difficult decisions on how to sustain and then further develop UK air capacity to be taken urgently. These decisions should be made in the national interest and agreed cross-party to provide industry and business with the surety that plans made now will not be overturned by future governments.

Safe and Efficient Operations

Safety, efficiency and environmental friendliness are major areas of activity for the Guild. The Guild of Air Pilots and Air Navigators will strive to ensure that, regardless of which decisions are taken on the short, medium and long-term expansion of air capacity, air operations will continue to meet the current or higher standards of safety. These factors should be considered before the Government comes to a final conclusion.

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13. In November 2012, Heathrow provided direct flights to only Beijing and Shanghai in China
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17. Extract from the 9th Annual Assad Koteite lecture at the ICAO headquarters in Montreal on 29 November 2012 by Angela Gittens, Director General Airports Council
LIVERTMAN JOHN TURNER

SinclastissueIhave metCAA Head of Policy Aerodromes and Airports, written to Andrew Haines of CAA and Sir Gerald Howarth MP to further develop offers that each made at our Livery Dinner and embarked on what some would call a ‘Nonsense Watch’. It is early days as yet but I plan to contact news organisations directly wherever they miss-report aviation events. Approaches so far have included ITV News and Flight Global, the second eliciting very quickly a useful contact in the aviation media. The rationale is that by always politely pointing out errors, the media has the opportunity to make corrections while also recognising the Guild as a reliable aviation source; longer term, I hope they start to use the Guild as their first port of call for specialist information and advice. Please assist me in this whenever appropriate, including details of the Guild and my email address (dAA@gapan.org) so the media get a consistent and single point of contact at the Guild, regardless who makes the initial approach.

I have received 100+ responses to the email survey sent to all members earlier this year; after repeating the questions in the last Guild News there is still an on-going trickle for which I’m most grateful. As I anticipated having decided to keep the questions as open as possible, analysis will be a major task and extend over the next couple of months but it is important we make best use of the data provided.

Last year our Environment Committee contributed to the UK government’s Draft Aviation Policy Framework consultation and it was gratifying to see a number of the points we made reflected in their final report. More recently, based on the Guild’s UK Airport Policy Position Paper, we have also made two submissions to the UK Airports Commission led by Sir Howard Davies into the future of UK airports. Reports suggest the Department for Transport considered our input on short and medium term capacity improvements to be “as expected” and they have grouped it together with very similar inputs from the airlines; having just made our second submission, on long term options, we will have to wait to see if it has greater impact. I have also written direct to Sir Howard to convey our concern that neither the Airports Commission nor its Expert Advisory Panel have any members with experience of operating commercial aircraft within the UK aeromedical environment or knowledge of the inherent safety of flight issues. Although many of the commission’s deliberations will not touch on operational aspects, it is difficult to see how the commission or its advisory panel can understand the subtle but often critical aviation safety implications that even minor operational changes can impose. Stressing our independent status as a Livery Company and our desire to ensure the commission understands fully the potential safety of flight and aircraft operational impacts of its deliberations, I have offered Sir Howard Guild assistance in the form of independent advice on operational or piloting issues should he require it.

Continuing with the theme of letter writing, the increasing prevalence of people targeting aircraft with laser devices prompted me to ask CAA for details of the number and types of prosecution made each year for laser attacks. I was surprised to learn that the CAA do not compile this data and that the Criminal Prosecution Service, which does have the data, was reluctant to release it to CAA. My efforts will continue, not least to see if enforcement activity is in step with the frequency of offence and whether the majority of prosecutions are made in relation to the Air Navigation Order, which carries a custodial sentence, or a more recent law sponsored by CAA for which the maximum penalty is a fine.

I’m afraid that we seem to have an annoying gremlin in our website, or at least in my section (https://www.gapan.org/members/pages/from-the-desk-of-the-director-of-aviation-affairs-daa/) where I routinely post items that I think will be of interest. The gremlin keeps trying to hide some of the article titles but a full list is still shown on the grey index in grey at the left of the page! Current items include links to an update to CAP413 Radiotelephony Manual that introduces the new PAN PAN MEDICAL call, a particularly thought-provoking discussion paper on airport operating models by the Airports Commission, notification of changes to UK CAA’s senior management structure, Boeing’s thoughts on single pilot commercial air transport operations(!) and links to two SKYbrary articles, one on Crew Incapacitation and one on Somatogravic and Somatogyrical Illusions, the two most common forms of vestibular or ‘false sensation’ illusion that pilots can experience. If you’ve not discovered the page yet I urge you to take a look; the page also includes a RSS Feed to inform you whenever there is a new article posted if you’d like to stay updated.

Finally, our technical committees continue to be busy.

Education and Training Committee instructors’ sub-committee is finalising flight training lesson plans, currently complete up to ‘first solo’, to help training schools cover everything required by both EASA and best practice in a structured way. The main committee continues to monitor EASA and UK CAA licencing issues and progress on the new ‘Flying Start’ website (www.flying-start.org) that will be invaluable to those considering a career in military or civil aviation or in becoming a private pilot. There was also a short discussion over the potential of flight simulation in GA, which will continue at the next meeting once members have reviewed a proposal for a university research project.

Environment Committee had a cameo on Sustainable Aviation’s Aviation Noise Roadmap; this provided a useful update to much of the information embedded in our UK Airports Policy Paper and the expectation that the overall noise from aircraft will actually decrease, despite predicted increases in aviation activity. Discussion moved to the Airports Commission consultation paper on Airport Operational Models and whether it might be possible for the committee to proactively identify and research specific topics in advance of heightened public interest so that we would have pre-prepared positions for any future consultations or media enquiries.

Technical and Air Safety Committee had a cameo on the Military Aviation Authority (MAA) which has closed the loop of its ‘virtuous circle’ concept so that this year it will update or recalculate all its regulations first issued in 2010. MAA has seen constant operational deployments impact on crew competencies and, when incidents or accidents do occur, has switched its focus from the lowest levels (pilots and maintainers) to much higher command and organisation levels, recognising that senior behaviours and decisions have major safety impact as much as the operators. Committee discussion continued on Global Navigation Satellite System (GNSS) jamming, threats from space weather and laser attacks, and a set of ‘Guild Key Values’ that should be published shortly. Reports from external committees suggested that crews seem to take all flight deck alerts at face value rather than recognise that ‘false’ alerts are possible. This sparked debate over the current depth of crews’ systems knowledge, the number of possible alerts and whether modern training focused more on ‘know the alerts’ and ‘know how to cure the alerts’ rather than real system knowledge. Having run out of space here, I hope to be able to update you on developments in that debate in a later article.  

News from DAA
One of the most interesting visits organised by the Guild has traditionally been to RAF Brize Norton, for a look behind the scenes both at the vital military air transport hub and, as this year, a close-up airborne view of its air tanker operations. It is little surprise that it is always well oversubscribed.

There was however this year a significant challenge for our host for the day, Sqn Ldr Cat Thompson of 101 Sqn RAF. As we arrived, she had just received news that the KC-30 Voyager on which we had hoped to fly was unavailable.

The RAF’s newest aircraft had suffered a lightning strike the previous night over the Mediterranean and was grounded awaiting inspection, so as we tucked into much needed early morning coffee and given an overview of the history and current role of Brize Norton by Group Captain Eddie Cole; Cat was working hard at creating Plan B!

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TWICE THE SIZE OF ANY OTHER STATION

Gp Capt Cole, who is Group Captain Support for Brize Norton, gave a fascinating talk-through of the expansion of the airfield from its establishment in 1935, to the present day. It is now twice the size of any other RAF station, the workplace for 5,750 servicemen, civilians and contractors, and home to seven different flying squadrons operating five different types of aircraft.

These include the ubiquitous C-130 Hercules fleet which transferred from Lyneham in 2011 and the C-17 Globemaster. While outgoing types such as the venerable VC10 and Tristar are set to complete their service this year (there are now just four VC-10s and eight Tristars left), five of the 14 KC-30 Voyager aircraft are already on base and preparations are already being made for the entry into service of the Airbus A400M transport.

The base is also home to a diverse range of other operations, including the Airborne Delivery Wing who look after 13 different means of arrival by parachute, the facilities for inter-theatre and intra-theatre transport and Aero Med Evacuation operations. The arrival of new aircraft has also necessitated new construction on the base. In 2011, to accommodate the arrival of the tactical transports a new “C130J hangar” was erected on the far side of the airfield.

The latest addition to the landscape is the brand-new Air Tanker Ltd facility, built to accommodate the new Future Strategic Tanker Aircraft (FSTA) initiative. The MoD Private Finance Initiative (PFI) contract has an estimated value of £10bn., and will provide a full-service air transport and air-to-air refuelling capability for the Royal Air Force for the next 27 years.

A visit to this impressive new building, which can accommodate two Airbus KC30 Voyagers plus all the support facilities, was due at the end of our visit. First though, thanks to Cat’s efforts, it was time to fly!

PLAN B

Cat had in fact, come up with two options. The first was to join a Tristar of 216 Sqn for rehearsals for the Queen’s Birthday flypast. While initially sounding attractive, it would however have mainly involved a lengthy hold in cloud over East Anglia, so option 2 was taken; a 4 hour high-level tanker operation, refuelling up to a dozen Typhoons.

We were therefore duly dispatched to the rear cabin of Tristar KC1, ZD953, once British Airways G-BFCF (I can hear the log books opening already), which has for the past 30 years operated in a mixed refuelling and transport role with 187 seats in the rear cabin, cargo in the forward cabin area and underfloor tanks augmenting the wing tanks to allow a potential maximum of 139,700 kg of fuel to be carried.

Promptly away on time at 11am in the hands of Flt Lt Andy Millard and his crew, we headed out to over the North Sea just east of Teesside, to offload a total of 57 tons of fuel to Typhoons from RAF Coningsby and Leuchars.

Given the vast aviation experience of our members, the rapt sense of anticipation as the first fighters hove into view was surprising. Suffice to say, not a window was vacant as the cameras went into overtime.

TYPHON TANKING

The period on station allowed us a close up view of Typhoon FGR4 and T3 aircraft from four of the six squadrons which operate the type. Old RAF hands were quick to point out the squadron markings of 1, 6, 11 and 29 Squadrons, while for me, the quote of the day (the speaker should best remain anonymous) was “last time I saw this the fighters were Lightnings”; clearly many years ago!

The Tristar, unlike the VC10 and Voyager, has no underwing refuelling capability with all refuelling carried out from an under-fuselage drogue. However while it
wasn’t possible to see directly the refuelling being carried out, a brief visit to the flight deck allowed a view of the operation via a rear-facing CCTV camera, as well as being impressed by the relaxed discipline and precision of both the tanker crew and the pilots hooking up to the drogue.

After a memorable flight, it was back to Brize Norton, reflecting that we were probably the last GAPAN members to embark on such a sortie aboard the Tristar. Our next step was to look at the future, with the visit to the Air Tanker Facility and a guided tour of the newest Voyager on fleet, in the capable hands of Sqn Ldr Tim Rushworth of 10 Sqn, which has now taken on the flying duties for the new type and Geoff Winterbottom of Air Tanker Limited.

THE WAY AHEAD

It apparently takes a year and 100,000 man hours to create a Voyager from the base A330-200 at the Airbus facility at Getafe near Madrid in Spain. All the fuel necessary for refuelling operations as well as for the aircraft itself, can be carried within the tanks in the wings and fuselage. This leaves the cabin free for transporting up to 290 personnel, while the cargo hold remains fully available for military equipment. As no reconfiguration is required, the tanker aircraft can quickly be assigned to different roles or can even combine roles on a single mission.

The chance to walk around a brand-new airliner was certainly a first for me, and I suspect many other Members. The aircraft we boarded had flown just 26 hours, in the course of six flights. Imagine a ‘new car smell’ extending through a 300-passenger jet. It is very impressive!

Our last call was almost by way of a farewell, in the company of Sqn Leader Jess Gammon; taking a final look around VC-10 K3 ZA147 which was in the final weeks of its flying career. This venerable aircraft spent the 1960s with East African Airways before entering service with 10 Sqn in the late 1970s. Once again, not too surprisingly, a few Guild members present reckoned they have her in their logbook in her various guises!

FAREWELLS

Another important farewell and huge thank you, was delivered by our Master. Earlier in the day, Judge Owen was pleased to present a cheque for £400 which he gave to Gp Capt Cole on behalf of the Guild, to be passed on to the RAF Benevolent Fund.

In addition, despite having an important commitment in the City that evening, the Master remained with us at Brize Norton into the late afternoon. He specifically wished to personally offer the Guild’s thanks to Sqn Ldr Thompson who, with only one exception, has organised and hosted all the Guild visits to Brize Norton since 2004.

“This was the last visit to be organised by Cat, because she retires from the RAF next year” said the Master. “I am sure I will be joined by all Guild members in thanking her for making every visit such a success, for fostering the Guild’s affiliation with 101 Squadron - an affiliation we value highly - and with Brize generally. We wish her every happiness and success in the future.”
Guild visit to Brooklands

ASSISTANT JOHN DENYER

warden Chris Ford arranged the Guild’s latest visit to Brooklands for 20th May. It was a cold day with leaden skies and a keen wind, so we early arrivals gathered in the café as directed by the helpful staff at the entrance. Unfortunately, we had overlooked Warden Ford’s clear joining instructions which said to meet in the Club Room bar. Obvious really that given the choice of a Guild meeting in a bar or a café, we should have guessed it would be the bar!

So a mere 5 minutes late, the 20 or so visitors met up, to hear an introduction to Brooklands from our host Steve Bohill-Smith. Steve handed over to his knowledgeable team of volunteer guides, who explained the format for the day and provided interesting historical background on Brooklands and the many activities that have taken place there.

The Guild visitors were split into two groups; one to visit the simulators, and one to receive a guided tour of the museum, with the two groups swapping over after lunch. The simulator tour started with some background on Concorde G-BBDG from the Spartan comfort of an old British Airways shuttle bus. “Delta Golf” was the world’s first aircraft to carry 100 passengers at Mach 2, while it may be less well known is that the original carpet fitted down the aisle with an emulation and video of a flight piloted by the Guild’s own Captain (Past Master) Mike Bannister.

Next stop was the Concorde simulator. Originally located at Filton, every UK Concorde pilot will have flown this simulator. When it was removed from Filton every electrical connection was severed leaving it in a condition from which some thought it would never “fly” again. Now painstakingly restored in a joint project between Brooklands and Surrey University, and with a modern graphics system very much better than the original, it provided compelling realism as several Guild members had the opportunity to fly a left-hand circuit from Heathrow under the expert guidance of a retired Concorde Captain. Downwind there was the opportunity for a low pass over Brooklands, and in an unconventional approach to 27L, several tried their hand at flying through Tower Bridge.

While time did not permit all the Guild visitors to fly the Concorde simulator, there was ample time for all to try their hand at driving the McLaren F1 simulator. Originally Lewis Hamilton’s car, it now provided the cockpit for a simulation of a drive around the digitally restored Brooklands circuit. The drive was physically more demanding than one might imagine, with the aerodynamic down force at speed adding significantly to the steering loads. That down force was, we were told, sufficient at 150mph, to stick an F1 car to the ceiling, and to underscore the point, there was an inverted car above our heads in the simulator area. The drive took some getting used to, and several Guild visitors were heard outside on the real track later commenting on where they should have turned left, and trying to identify which trees they narrowly missed as they spun off!

The car exhibits were in magnificent condition, with the museum’s pride and joy clearly being their outstanding Napier Raimlit. Walking round the many fine cars and motorbikes, the 1900 Peugeot Voiture exhibit carried the caption: “Vintag cars on sale at R G J Nash’s Brooklands base during the GAPAN flying meeting in 1933. The Peugeot is on the far right”. The Guild has clearly been coming here for some time!

Brooklands was the first purpose-built motor racing circuit in the world, and operated from 1908 until the outbreak of war in 1939. The landowner of the time was persuaded by his chums to build it so they could indulge their new-found racing passions. Because there was no precedent, terminology and customs were borrowed from the world of horse racing. In the early days the cars were handicapped by weight, and the drivers wore “colours”. There was on-course betting, and to this day all over the world, the cars start in a paddock.

During WW2, the Government commandeered the site and located two aircraft factories there (Vickers and Hawker). Because of the need to erect hangars quickly, they were built on the ready-made foundations of the home straight, unfortunately ensuring that Brooklands could never again be used as a racing circuit (though more than half the track still exists). However, the airfield operated into the 1990’s (the author’s last visit was by Chipmunk in 1995) and there is still a grass strip on the site to this day.

From the earliest days of British aviation endeavour when AV Roe made his first flight under sufferance from the Clerk of the Course, some 18,600 aircraft were built or part-built at Brooklands, making it possibly one of the most prolific aircraft manufacturing sites in the UK. The irresistible combination of aviation and motor racing ensured that once again, this was an excellent Guild outing.

Trying out the McLaren F1 simulator

The Wellington, recovered from Loch Ness, undergoing restoration

The Concorde simulator in action
T

through the initiative of Upper
Freeman and Master Pilot Peter
Turner the Guild was invited by
Head of Operations, Darren Lewington to
visit Gloucestershire Airport and tour a
variety of companies based there to gain a
full insight into what makes the airport
such an important part of the local
economy. A party of 20 Guild members
including Past Masters Roger Gault and
Wally Epton together with Warden Chris
Ford and other Liverymen and Freemen
together with their guests visited facilities
involved in executive jet charter, helicopter support, flight training and
engineering support services.

Regrettably the “black flag” weather
prevented those members who had
planned to fly-in from doing so. Another
slight regret was that the newly re-built
Gloucestershire Aviation Museum was not
quite complete and although it had been
hoped the visit would have included a
preview of the Museum this was not to be.
However a splendid buffet lunch was
served in the VIP lounge at the airport
terminal thus completing the hospitality
extended to the Guild during the tour.

In his introductory brief at the start of the
visit Darren Lewington explained that
Gloucestershire Airport, lying in the heart
of the Cotswolds directly between
Cheltenham and Gloucester serves a
catchment area of 1.5m people and 3500
businesses from the Midlands to north
Bristol. It is considered to be one of the
smartest General Aviation airports in the
country. Commercially, it caters for both
business and leisure, with scheduled
services to the Isle of Man, Belfast City
and Jersey. The Airport is also home to
around 160 aircraft, ranging from single-
seat, homebuilt ultra-lights to multimillion
dollar, state-of-the art Executive Jets. Over
85,000 flights are handled each year,
making Gloucestershire Airport one of the
busiest in the UK.

As Head of Operations at the Airport
Darren was proud to explain that
Gloucestershire Airport is also rich in
history and is the heart of an important
culture for British aviation. Past
Master Sir Alan Cobham developed
ing-flight refueling at Staverton. In nearby
Cheltenham the Gloster aircraft company
first produced military aircraft in 1917 and
later built the Gladiator, Meteor and
Javelin fighter aircraft. Messier Dowty
and Dowty Rotol, the descendants of Sir
George Dowty’s famous company, are still
at the Airport, building landing gear and
propellers for world markets.

Unfortunately there was not enough time
to visit their factory but perhaps Messier
Dowty should be the focus for another
GAPAN technical visit in the future.

Following Darren’s excellent brief the
Guild visitors were divided into two
groups to tour the various chosen facilities
of interest. First up was a look at Captain
Peter Turner’s own company Executive
Aviation Services. Despite the fact that his
staff were locked into a CAA Flight
Operations Inspection and audit, the Guild
visitors were invited to view the hangar
and see two sample business jets - a
Cessna Citation and a Hawker-700 both
belonging to private owners managed by
EAS. Peter explained how charter
operations differ from airline operations
inasmuch as once the flight leaves
Gloucestershire the crew are responsible for
almost everything affecting the flight.

This included emptying the toilet, cleaning the
cabin, re-fuelling, re-catering and all
the necessary items to ensure aircraft and
passengers are properly attended to. In
fact the crew was responsible for all the
details normally associated with a large
cabin turn-around where there are teams
of ground support staff to ensure the
aircraft and crew are properly served, but
of course on a slightly smaller scale.

Next on the tour was Bond Helicopters
where Neil McPherson Commercial
Manager Emergency Services hosted each
of the groups initially in the boardroom
office for a thorough brief followed by a
tour of the Bond operations, pilot training,
and helicopter overhaul facilities. Neil
explained that the Bond Air services Fleet
currently comprises 3 Messerschmitt-
Bölkow-Blohm Bo 105DBS rescue
helicopters together with 23 Eurocopter
EC135T2x with a further 6 EC135T2e and
EC135T3 plus 3 EC145T2 helicopters on
order for delivery this year. These
helicopters service the UK Air Ambulance
brigades, the Police forces, and fly in
support of Lighthouses, Offshore Wind
Turbine as well as Oil and Gas
maintenance support. The Guild visitors
were able to get close to both the
Bo105DBS and the EC135T2 helicopters in
the Bond hangar

Bond Training Services operates a 6 axis
Level 3 Full Motion simulator for training
its helicopter pilots at Gloucestershire
Airport, and several of the Guild members
were able to sample the cueSim (a
subsidiary of QinetiQ) for themselves.
The helicopter simulator was able to
provide more simulated failure modes
than possible with real aircraft or other
training devices and as Neil McPherson
explained was a vital tool in their training
of helicopter pilots. Bond was able to
provide type and instrument rating
training, LPC and OPC together with MCC and EC135 rating renewals all “in-house”. It took quite some time to prise Guild members out of this area despite the temptation of an excellent buffet lunch awaiting in the Terminal!

The afternoon saw the visit touring 2 companies vital to Gloucestershire Airport and first up was RGV Aviation occupying one of the larger hangars on the site. A family run GA aircraft and avionics maintenance business established in 1973, RGV is an established EASA Part 145, FAA Repair Station with EASA Subpart G, and the ability and capability to support a wide variety of light aircraft, regardless of customer requirements. Alex Vincent, whose father founded the company and still takes an active part, is the managing director of RGV and enthusiastically briefed the Guild visitors inside the hangar on the nature of their maintenance support and overhaul business. There were a number of Cirrus SR22 aircraft in the hangar and RGV seemed to be the popular spot for maintenance of the type, but also in the hangar were a variety of Piper and Cessna types as well as smaller helicopters such as Robinson R22 and R44’s.

The other half of the afternoon visit was to Cotswold Aero Club which is run by Liveryman Phil Mathews who is a member of the Guild Education and Training Committee and a long time instructor with many instructional flying hours in his log book. Phil briefed the Guild visit on the role of Cotswold Aero Club in providing much needed flight training in the region. Cotswold is one of the oldest flying clubs in the UK and proudly boasts a professional attitude combined with a relaxed atmosphere for learning to fly. Typical of most club training organizations Phil explained that they provide training for PPL or NPPL, IMC (for as long as it lasts until EASA change things), and Night Ratings in their own fleet of training and touring aircraft. Phil was also proud of the fact that one of his instructors, John Cole had been awarded the Pike Trophy in 1996 by GAPAN and Phil was working hard to emulate this himself one day. The Guild visitors wished him luck in his endeavours.

The day was rounded off with tea and biscuits back at the Terminal VIP lounge with Darren Lewington summarizing the visit. Warden Chris Ford offered a special thanks to Darren, his staff and to all those at Gloucestershire Airport who had made it all so fascinatingly interesting. A group photo was taken in front of a Gloster Javelin destined for the airport museum, before everyone received a “show-bag” of Gloucestershire goodies and parted on their various ways home. A worthwhile visit appreciated by all.
Editor’s Note. The subject of whether Unmanned Aerial Systems operators should qualify for Guild membership on the basis of their unmanned piloting experience is likely to be debated by Guild members in the years ahead. Here are two different views; readers will doubtless decide for themselves which one they support.

**To Be an Unmanned PILOT or a Remote OPERATOR? That is the Question.**

**UPPER FREEMAN KEVEN GAMBOLD**

**What’s in a Name?**

The profession of Unmanned Aircraft Vehicle (UAV) operator is relatively new to mainstream aviation, hence its inclusion as a topic herein. There is a profusion of acronyms for these crewmembers that attempt to define their roles and assert their position but often seem to confuse and obfuscate the issues. Allow me a brief review:

- **UAV-p** Unmanned Air Vehicle Pilot
- **UAV-c** Unmanned Air Vehicle Commander (not necessarily the Pilot At Controls or PAC)
- **RPAS Pilot** Remotely Piloted Air System Pilot
- **AVO** Air Vehicle Operator (an Army term for UAV pilot)
- **MC** Mission Commander

There is also a violent reaction amongst the above individuals to the use of the term ‘drone’, for professional, aesthetic and even functional reasons. However, I think we can steer a middle course in this discussion by using the term ‘drone pilot’ to either please none or annoy all, but both with fairness in mind.

**Does Size Really Count?**

As with the manned aviation world, not all drone pilots are created equal: the example of the MQ-9A Reaper pilot is familiar to most, but the spectrum of their ilk includes the RQ-4B Global Hawk pilot, with a 33,000lbs airframe flying at 60,000ft (with no joystick), through to the RQ-11B Raven operator using a tablet and stylus to guide his 4 lb airframe around the local area. The civilian UAV world is replete with these smaller systems, a great many of them VTOL helicopter or quad-copter designs with camera-phone-like payloads and hobby-shop inspired Ground Control Stations (GCSs). The difference between Radio Controlled (RC) aircraft and these latter types is blurry, but current DRAFT regulations suggest that they are commercial in application and therefore reliant on their payload for successful operations.

Those same regulations are looking to categorize the UAVs in Classes, Types, Groups or such, but in a not-dissimilar fashion to manned Type Classification, and predominantly based on AUW or performance. It is anticipated that licensing of drone operators will conform closely to the current CPL Groundschool syllabi, although the requirements for ‘Flight Time’ have yet to be agreed upon.

**We Fear Change**

For the non-drone pilots out there here are a number of less obvious points about UAV operations that are worth a brief comment:

- **Joysticks:** VERY few Unmanned Aircraft Systems (UAS, meaning the aircraft, ground system and datalinks) have them. Most drone piloting is done via ‘scroll and roll’ (trademarked by author, BTW) on a digital map.

- **Field of View:** most systems have a payload camera that is typically slewable around the lower hemisphere. Some also have a forward view (nose or tail-mounted) camera for ‘First Person Viewing’ (FPV).

- **Day or Night Flights?** The majority of today’s payloads are both Infra-Red and Electro-optical, allowing for 24 hour operations. Other factors permitting. As another thought, would you log Day or Night hours if your UAV was in a timezone 14 hours away?

- **UAS Crewing:** many UAS are engineered to require both a pilot and a Sensor Operator (SO) or Mission Payload Operator (MPO). Being ground-based, most GCS crews find themselves ‘supplemented’ by analysts, engineers, supervisors and additional crew as the situation dictates. The ‘unmanned’ terminology is often an expensive misnomer in actual day-to-day operations.

- **Handovers:** the endurance of some UAS outlast the most ardent drone pilots, and so Handovers occur between crews in the same GCS, as well as between GCSs, sometimes countries apart. Nothing a good set of SOPs and checklists doesn’t solve though. There are Internal Pilots (IPs,) who fly from a GCS and External Pilots (EPs,) who do some of the take-offs and landings from next to the runway. Some systems have only IPs who take-off and land via FPV camera.

- **Simulated Live Flying?** There is no ‘seat of the pants’ experience with UAVs, although a 2D ground rush on landing is still a ground rush, trust me! There are many good arguments for simulation providing significantly more training benefits to the drone pilot than to her manned counterpart.

- **ATOL, ARS, FTS:** there are many ‘what if’s’ with UAVs, but the biggest has to be the concept of ‘Lost Link’. When that datalink inevitably severs, all the ‘Human In the Loop’ (HITL) discussions cease and the UAV becomes the master of its own destiny... sort of. By design, all modern UAS have Automatic Recovery Systems (ARS), some coupled with Flight Termination Systems (FTS) and the more modern (but not necessarily more complex) have Automatic Take-Off and Landing (ATOL) Systems. They are still flying blind, but what are you doing on a NORDO IFR flight plan? This is an emergency too: some even squawk 7500! Of course, this is where ‘Programmer Error’ replaces ‘Pilot Error’.

- **Sense & Avoid:** one of the major hurdles to flying UAVs in the National Airspace is the absolutely essential requirement to follow the ‘See & Avoid’ Rule of the Air. There are many ways that this is being achieved when all is going to plan (Kandahar airfield is the busiest single runway on the planet, and it has five (5) separate UAVs operating from it, without any extra consideration given to them), but when they go ‘Lost Link’ we need a technological solution, and we don’t have it yet. Close, with ground-based radars, ADS-B and AESA radars all flown successfully, but nothing yet operational. Please watch this space though, because I would put reasonable odds on the first proven Sense & Avoid (S&A) system being retro-fitted in 2 years of any certification. Who needs TCAS 2 now?

- **Like Us, Only (a bit) Different:** the current UAVs are fully piloted, by crews of the same ilk as manned aircraft. Their cockpit (GCS) is remarkably similar to a Garmin 1000-equipped business aircraft, and they navigate using their equivalent of a FMS. The latest technology is employed, including ATOL, ARS and S&A, all of which will likely migrate to the manned community. The duties of the PIC have not changed, but the tools to ease the tasks have been employed in force. Unmanned aircrews are simply Remote Pilots. 🛩️

In the interest of full disclosure, Keven was a Tornado GR1/4 pilot with 2 tours, 1500 hours and 2 shooting wars and a Predator MQ-1B UAV pilot with 2 tours, 1500 hours and 2 contingency operations (also shooting wars). He holds a commercial licence.
Acronyms

ADS-B  Automatic Dependent System - Broadcast  
AESSA  Active Electronically Scanned Array  
ARS  Automatic Recovery System  
ATOL  Automatic Take-Off and Landing  
AWU  All Up Weight  
CPL(U)  Commercial Pilot’s Licence (Unmanned)  
DH  Direct Hit  
FAC  Forward Air Controller  
FMS  Flight Management System  
FPV  First Person Viewing  
FTS  Flight Termination System  
GCS  Ground Control Station  
HE  High Explosive  
ISR  Intelligence, Surveillance, Reconnaissance  
NHS  National Health Service  
PIC  Pilot in Command  
PPL/CPL  Private / Commercial Pilot’s Licences  
QWI  Qualified Weapons Instructor  
RC  Radio Control  
RTB  Return to Base  
S&A  Sense & Avoid  
SOP  Standard Operating Procedure  
TLAs  Three Letter Abbreviations (like these!)  
VTOL  Vertical Take Off and Land  
WSO  Weapons System Operator  
(new name for Navigator)

Does Operating An Unmanned Aerial Vehicle Make You A Pilot?

WARDEN PETER BENN

In the week in which I considered this question, Flight International ran several articles on the UA V theme. The lead article was entitled ‘The Lonely Pilot’. “ACROSS” (Advanced Cockpit for the Reduction Of Stress and workload), it said, would: “work towards solutions allowing reduced-crew operations in a limited number of well defined conditions, such as long-haul flights….finally, ACROSS will identify the remaining open issues for the implementation of potential single-pilot operations”, partner company TriaGnoSys explained.

On to the next one:

“Remote-control airliner goes it alone for 500 NM.”

“A twin turbo-prop BAE Systems Jetstream research aircraft has completed a 500 nm flight through UK airspace under the command of a ground-based pilot and control of UK air navigations service provider NATS. Advanced sensors and on-board robotic systems were used to control the aircraft once in the air.”

A further one proclaimed:

“US Navy praises carrier milestone”.

“Northrop Grumman’s X-47B unmanned combat air system demonstrator has made its first aircraft carrier launch, becoming the first autonomous aircraft to launch from a carrier”.

Not bad for one week’s issue! On the face of it then, pilots are a breed whose obsolescence is well flagged-up and who should gracefully cede the title of ‘Pilot’ to those who facilitate the flight of these autonomous or semi-autonomous paragons of aerial virtue, whose potential operating economics must make every airline crewing manager salivate with delight, and whose loiter time delivers previously unimaginable effect to military planners.

On deeper analysis however, an alternative thesis emerges, and it runs along these lines: a Pilot may operate a UAV, but operating a UAV does not a Pilot make per se.

Analogy also serve to illuminate. Does operating a Remotely Piloted Vehicle, (RPV), effectively a diving robot, the maritime equivalent of a UAV, make you a Submariner? After all, RPV’s perform many very useful underwater marine roles; deep-sea exploration, recovery from wrecks, mine clearance. In fact, operating a RPV is a skilled task in itself and needs many skills derived from the environment in which it operates; knowledge of the sea and its ways; current, tide, salinity, charts and the like. Surely then, the title 'Submariner' could and perhaps should be applied to those who operate them?

It does not seem quite right though. When the Royal Navy or the United States Navy awards a set of ‘Dolphins’, the submariners’ badge of qualification, (equivalent in many ways to a pilots set of ‘Wings’), it does so to a person who is not just ‘of’, but ‘in’ and a ‘part of’ the element in which they have qualified. It denotes not just an ability to operate a machine in an environment, but also the acceptance of the implicit yet inevitable risks associated with doing so because the wearer is at one with the craft in that environment itself. Somehow, neither our RPV operator, nor the UAV one, fit those criteria.

Further than that, the UAV itself is an enormously variable feast. Some appear to be a kind of flying bedstead with a lifting
propeller at each corner, with about as much relationship to aerodynamics as a bumblebee - they clearly fly, but the mechanics of doing so are not at all clear cut and have less to do with a wing and the flying of same as than the triumph of raw power over gravity. Which is perhaps why another recent newspaper article announced that Farmers could soon track bumblebee - they clearly fly, but the mechanics of doing so are not at all clear cut and many UAV’s are capable of operating without any human input at all. Whither the ‘Remote Pilot’ now?

But what of the far more sophisticated UAVs, the “Drones” of recent conflicts whose ability to pick off the enemies in ‘The Long War’ have raised questions of legality and morality beyond the scope of this article, and which seem to loom large in public consciousness? These are indeed sophisticated flying machines; take the General Atomics ‘Predator’: 36 feet long, 65 foot wingspan, a payload of 1.7 tonnes, maximum altitude 50,000 feet, maximum range close to 1,000 nautical miles and seven hardpoints on which a variety of highly sophisticated weapons can be hung, not least the highly effective ‘Hellfire’ missile.

Does the operator of such a flying machine, ensconced on the ground in their bunker wherever a datalink of sufficient bandwidth permits, qualify as a Pilot? He or she may well be a qualified Pilot who has gone on to operating UAV’s from a career in manned military aviation and thus be a Pilot by prior training and experience, but general definitions are blunt - they are not Pilots merely by virtue of operating a drone: “Military pilots fly with the armed forces of a government or nation-state. Their tasks involve combat and non-combat operations, including direct hostile engagements and support operations. Military pilots undergo specialized training, often with weapons. Examples of military pilots include fighter pilots, bomber pilots, transport pilots, test pilots and astronauts. Military pilots also serve as flight crews on aircraft for government personnel, such as Air Force One and Air Force Two in the United States. UAV Operators do not fall into this category because they do not fly inside the aircraft they are operating”.

So says Wikipedia, and I am inclined to agree. That critical element of not being inside the aircraft they operate excludes them from the category of Pilot. Perhaps also the knowledge that, as the author of another piece in this month’s edition of Guild News puts it, the aircraft is flown largely by “scroll and roll” on a digital map with a mouse-type control adds to the element of physical and metaphorical distance from actually ‘flying’ the aircraft which makes the award of the title ‘Pilot’ even less applicable.

Our own Royal Air Force is even now delineating the training pipeline for UAV Operators. Whilst I have no direct knowledge of this programme, I understand that UAV Operators now wear a form of ‘Wings’ badge, and that they will receive flight training up to at least solo standard. They will be pilots to the extent of their training to fly an aircraft, but I will be interested to see how the rest of the RAF Pilot community reacts to any suggestion that these highly skilled but remote aerial vehicle operators are to be deemed ‘Pilots’, especially given the depth and thoroughness of RAF Pilot training required to merit that title in the manned aircraft category of military aviation...

Back to the civilian UAV case. So it is proposed that a commercial aircraft fly with only one pilot aboard, or perhaps none at all in the not so distant future. The technology is there to facilitate this, as the Flight International articles say. How realistic is this in the contemporary commercial aviation context? “Not Very”, would be my answer.

Flying a large civilian airliner is not the act of a mere automaton that disgraceful BBC documentaries such as ‘Jet Jockeys’, for those who remember it, imply. The fact that civilian air transport is as safe as it is derives not least from having two sentient beings in charge of the aircraft who are constantly creating and sharing a mental model of the environment they are flying in, and checking that each others’ mental model is indeed appropriate to that environment.

Could our single Pilot flying an airliner be overwhelmed by multiple failure cases that exceed his or her capacity, even backed-up by automation, to bring to a successful conclusion? Sioux City and the DC 10 comes to mind where, as those who saw Captain Haynes and his crew receive such justified awards at GAPAN’s own Trophies and Awards Dinner, a crew acting together overcame sustained multiple failures and brought an otherwise crippled airliner back to earth in a manner inconceivable by automatics or a single crew member alone. That case alone suggests that a single pilot in a large commercial aircraft is a step further than a prudent regulator or operator would want to take.

Flying a large civilian passenger aircraft without a pilot on board at all falls into the same category of unlikely for the same reasons. And if it is to be flown ‘from the ground’, where is the experience to do so safely to be derived from?

In the civilian airliner case the long co-pilot apprenticeships that are typically served before assuming Command, and with it the ultimate responsibility for hundreds of other peoples’ lives, serve to educate and distill that critical summation often called ‘airmanship’ that can only come from having been there many, many times before in the environment, with those lives depending on you as a crew, among the weather, the constantly changing circumstances of flight, air traffic control, visibility, and all the other variables that constitute the challenge of safe, efficient airliner operation.

Deprive a Pilot of that process of professional growth and you strip commercial aviation of the safety inherently derived from it. The air, like the sea, is merciless. Cut corners, seek short cuts, and the results are all too predictable. Just because you can do something does not mean that you should do it. Ned Ludd and his friends have nothing to do with any of this - this is not obstinacy for careerisms sake nor recidivism by a professional elite unwilling to accept change.

Operating a UAV is a skill of which the Guild needs to be and will be cognizant. I suggest that the applications for UAVs will be highly limited in the civilian passenger aircraft context, if not unacceptable, and that, despite their clear and growing military utility, their operators do not fall under the category of ‘Pilot’ in the same way that the operator of a Remotely Piloted Vehicle, (RPV), at sea does not fall under the title ‘Submariner’.

All of this is about more than mere semantics as well. It is also about perceptions. Piloting an aircraft as a profession has been under sustained if subtle attack for many years by people with a vested interest in dumbing down the image of that profession for their own financial ends.

Allowing UAV operators and Pilots to be placed in the same frame of reference and deemed equivalent by a body such as GAPAN is to invite people with crowded lives and no specialist knowledge looking-in on aviation to make the error of assuming that there is no real distinction between operating a machine at a distance and the act of piloting an aircraft in complex, crowded airspace in all weathers facing multiple, fast-changing variables and often with hundreds of human lives at stake.

I have sought to suggest that these are two very different activities and for very good reasons. I see no reason to aid and abet those with an agenda that comprises the erosion of public esteem for Piloting as a profession, and no reason for The Guild to take part in that process, wittingly or unwittingly.

The Author is a Commercial Pilot.
A
mid all the recent discussion about Heathrow and the long term future of the airport, one question that hasn’t been asked, is if it were to be replaced, what would happen to the current site? A recent visit to Berlin’s historic Tempelhof airport points to one solution. It is being transformed into an exhibition area and huge park.

Many Guild members I am sure have memories of Tempelhof. It was one of four airports which served Berlin during the old ‘iron curtain’ days before the demolition of the Berlin wall and German reunification. Schönefeld was in the Russian sector, Tegel in the French-controlled area, Gatow in the British, while Tempelhof was in the American sector of Berlin.

The three latter airports were pivotal to the success of the Berlin Airlift and Tempelhof, under American command, continued to be a vital link to West Berlin as the Cold War intensified in the late 1950s and 1960s. One little known piece of Tempelhof trivia is that in 1971, Gail Halvorsen, one of the pilots of the original ‘Candy Bomber’ which dropped sweets to children during the Berlin Airlift, returned to Berlin as the commander of Tempelhof airbase.

There are also stories told by Pan-Am and BEA veterans of their 727s, Tridents, Vanguards and Argosy freighters being intercepted by East German MiGs. They would try to crowd them from the approach corridors to trigger international incidents.

Then there was ‘the suit’. A nattily attired American assumed to be a CIA spook, who plied crews with Camel cigarettes and suggested they throw away noise abatement procedures and blast low over Checkpoint Charlie on full throttle, to keep the Russian guards on their toes!

Tempelhof’s history goes back much further. Orville Wright was one of the first to fly from the field in 1909 and Deutsche Luft Hansa was founded in Tempelhof in 1926. However, the airport buildings which we see today were built between 1936 and 1940, intended to become the gateway to Europe and a symbol of Hitler’s “world capital” Germania.

One of the airport’s most distinctive features is its large, canopy-style roof, which protected passengers from the elements and was able to accommodate most contemporary airliners during its heyday. Another odd fact: Tempelhof’s main building was once among the top 20 largest buildings on earth, but it had the world’s smallest duty-free shop.

Tempelhof closed in 2008, but its iconic architecture remains. The sweeping terminal and hangar complex is now Berlin’s premier exhibition centre and will in the future host a new Tempelhof museum, while the remainder of the airfield is in the process of being turned into a park and open space.

While no aircraft will ever fly from the airport again, the new “Tempelhof Free Space” is designed to continue to give the feeling and open aspects of the former airfield. New housing developments and technical parks are placed around the perimeter, allowing the central area to have unbroken vistas to the Berlin city skyline.

Inside, the former terminal remains as impressive as ever. Strict conservation orders have ensured that the check-in and immigration desks, embarkation signs, art-deco doors and even old-fashioned baggage scales remain in place. A couple of vintage sailplanes, the last Tempelhof aircraft residents, are suspended from the ceiling. It really is a true timewarp.

The reason why Tempelhof closed was that the airport suffered from housing encroachment around its approaches and the runways could not be extended to accommodate larger aircraft. In recent years, with both Schönefeld and Tegel at capacity, Berlin has made ambitious plans for the redevelopment of Schönefeld as “Berlin Brandenburg International Airport”.

However the 2.2 billion euro project, which was due to be completed in 2011 is now expected to over-run by at least five years and perhaps another billion euros. Perhaps that might be another salutary lesson for those making plans for Heathrow’s expansion or replacement.
One of the DH Moth Club members, Klaus Stewering, who keeps his own Tiger Moth G-APIH at Borken just north of Dusseldorf had invited the Club to commemorate the Raid with a visit of Moths. The most appropriate time seemed to be the 70th anniversary of the event. The actual raid had taken off from England on the 16th and returned on the 17th. This gave an opportunity for a second bite at the cherry if one planned for the 16th and in case of bad weather, allowing the 17th as the fall back.

Invitations were sent out early in the year and within a short time some ten aircraft and crews were signed up. Sadly subsequent withdrawals then reduced that to seven with six de Havilland consisting of two Tigers, two Hornets, one Leopard and a Chipmunk with one Tipsy Bellair making up the seven.

Of the seven aircraft, three were on British Permits to Fly, requiring permission to fly either in or over Belgium, Holland or Germany. France being the only Continental country to allow free passage without separate permission being sought each time. Transit through Belgium or Holland was left to the pilots concerned to seek permissions but as organisers we contacted the German LBA on behalf of the Tour. While the documentation was presented in good time, a delay in the application being dealt with then caused a problem at the last minute due to wording on one insurance cover note not being strictly in accordance with the EU Directive. That took until a day or so before departure to iron out, who would be an organiser? Guild participation was restricted to a Past Master, Dick Felix and myself, a recently elected Freeman. However we were pleased to have the company of Brett Warren from Botswana who shared a Tiger Moth with Stuart Beatty. Brett flew in from Africa specially for the event!

The Tour was planned to take place over some five days, routing UK to Abbeville, thence to Vallenciennes for an overnight on Monday 13th May, thence to Aachen and Borken on the 14th.

Borken was to be the base for the event, it being very close to one of the track lines of the Lancasters and within reasonable flying distance of the Dams. It has a permanent memorial to a Lancaster that crashed enroute to the target and is also home to the Borken Hoxfeld Flying Club. The facilities here were to die for, excellent hangars, heated for winter working, a Club house the envy of all, and a fully equipped control tower amongst the major points! The airfield is home to a collection of fixed wing light aircraft, mainly vintage and sailplanes of various types. A single grass runway [12/30 and 740m] serves the needs and proved more than adequate.

Accommodation was at two local hotels with travel being taken care of by mini buses, Klaus Stewering and his colleagues also provided breakfast and the evening meal from the comprehensively equipped kitchen at the clubhouse, a bar taking well care of the liquid requirements. No one could have asked for more, our German hosts had taken care of everything.

On the Wednesday morning after an introduction to the Mayor of Borken a visit to the crash site of Lancaster AJ-B was scheduled. Adjacent to the well kept memorial stone, tended by local villagers, a memorial service was undertaken. The Lancaster had clipped the top of a relatively low electricity pylon crashing in an adjacent field with the loss of all on board. The service was complete with a flypast of a Tiger Moth and a Stampe with black interplane strut streamers and the playing of the Last Post by a bugler brought emotions to the fore.

A further visit to a small but comprehensive museum at Raesfeld allowed the visitors to gain further appreciation of the Raid with the museum covering a number of aspects. The Mayor of Raesfeld welcomed the Tour and said how much it was appreciated. A boat tour of the largest inland harbour in the world at Duisberg rounded off the day.

The 16th dawned with an encouraging forecast for the start of the day but with rain moving in later. Our host had laid out three possible routes to cover the three dams with the intention that there would be loose formations of aircraft visiting each in turn. Pilots agreed amongst themselves whom to fly with based on type and cruising speeds since with the addition of our German colleagues there were some twenty aircraft involved! The German press had learnt of the intentions and both paper and local TV were in full attendance before the flight and at the Dams and at airfields enroute!

While the forecast had been acceptable, the viz flying east into the early sun caused some squinting for the first hour or so but improved as the sun climbed.

The first Dam for our flight of three was the Mohne followed in short order by the Edersee, thence to the Sorpe and for good measure the one the Raid didn’t reach, the Ennepe.

If the crash site of the Lancaster AJ-B had given an appreciation of just how low the Raid aircraft had flown to escape detection, the site of the Dams themselves brought starkly home the sheer skill of the pilots in getting down to the requisite sixty feet in the dark while twisting their way to the bomb release point. Quite frankly one would struggle to do it in daytime let alone in darkness particularly with a four engine, 102 foot wingspan aircraft weighing in at close to 30 tons. We had been warned that our height limit was to be 500 feet agl or there would be dire consequences, and we more or perhaps less obeyed this regulation!
Some aircraft called in at Allendorf to the south east of the Dams for coffee with a subsequent climb out over Prince Phillip's boyhood home at Battenburg. Dick Felix, who served as the Prince's personal pilot for some years was pleased to have the opportunity of refreshing his memory of the area.

The final airfield was at Paderborn and a visit to the Quax museum where we were treated to a splendid lunch in honour of our arrival. The museum has a considerable number of flying aircraft and operates a hire basis on some against proper check outs!

The less said about the Paderborn ATC the better, particularly after one controller on departure decided in his wisdom that some Tigers need taxi practice and sent the follow-me van to take them all back some distance to the parking to taxi back up to the hold. It was reported that the interchange provided non-German speakers with the opportunity to learn a number of new words of German!

Our return to Borken was in the heavy rain that was forecast but all landed back in safely with the strobes, runway lights etc in operation in the reduced visibility!

The same weather stayed for the next day with the UK members Tour leaving just before lunch on the 18th for a quick dash straight line across Holland and Belgium before crossing the Channel to a sunny UK!!! Dick Felix and the Hornet Moth departed shortly afterwards for their journey to Berlin and the Baltic coast, including Peenemunde.

It has to be recorded that the hospitality and organisation shown to the visitors by Klaus Stewering and all of his colleagues was just first class throughout and very much appreciated by all concerned.