



# The Air League Newsletter

Issue 5: September/October 2013

## EUROPE BACKS UK SPACEPLANE

**W**hen space engineer Alan Bond saw his British Aerospace-Rolls-Royce HOTOL spaceplane project abandoned by the UK government in the 1980s, he was convinced that the project's radical hybrid air-breathing/rocket engines would one day transform space transport, rendering conventional rocket-launchers obsolete and opening up new prospects for expanding space access, and even hypersonic air travel. Twenty five years on, his dream is gradually becoming reality, as the European Space Agency has decided to fund further studies looking closer at the proposed Skylon spaceplane and its systems.

Reaction Engines was established by Bond, and a team of highly specialised engineers, to develop, test and evaluate the hybrid engine technologies in order to build a practical hybrid powerplant that could deliver satellites into orbit using a re-usable winged spaceplane, that would take-off and land horizontally from runways. In recent years the company has successfully built working test models that prove the principles of the SABRE rocket engine that is now being further developed with the aid of a £60 million grant from the UK Space Agency. This will be flight-tested at the end of this decade and the first unmanned Skylon spaceplane could enter service in the 2020s. The new £1million ESA initiative, the Skylon European Launch Service Operator (SELSO) study, will consider how viable the proposal is as a future ESA reusable launch platform. Thales Alenia Space will investigate the specification for satellite deployment in geostationary Earth orbit, while QinetiQ will look at payload carrier options within the Skylon's cargo bay. Reaction Engines will head up the ESA study group

and amongst the other areas that will be considered are the operating facilities that may need to be added alongside ESA's existing spaceport at Kourou and last, but not least, the business case for a new spaceplane programme. The UK company has long focused on the radical new engine technology as the key to creating a new space access vehicle, but the highly innovative approach to the whole Skylon vehicle, as well as its engines, would allow routine transport between Earth and space for the first time, carrying a worthwhile payload at far lower cost than any existing or planned rocket launcher. Studies by Reaction Engines have shown that many options for further development could emerge, including manned earth-space transports and passenger-carrying designs that could reduce the longest global point-to-point journey times to no more than a couple of hours.



(Skylon image by Reaction Engines)

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## Responses to the Davies Commission on UK Airport Capacity

**The Davies Airports Commission published the detailed submissions it had received into its inquiry into UK airport development on 7 August. With the UK's major airports at Heathrow and Gatwick full, and others having limited capacity to cope with growth in air traffic that is forecast to double over the next 20 years, the Davies Commission has a major challenge to evaluate the 50-plus proposals it has received on the issue of developing new runway capacity. That new runway capacity is required to meet current and future demand for air travel is generally accepted by most, if not all, submissions. The critical "if, when and where" development decisions will be made by the Government based on the Commission's recommendations.**

In announcing the publication, the chairman of the Airports Commission, Sir Howard Davies, said they had received "imaginative and thoughtful" responses to the consultation with a "wide spectrum" of views on how best to proceed.

Proposals received by the Commission range from those from major airports and consortia, to the Mayor of London and a number of private individuals. They include four alternative additional runway options at Heathrow, three second runway options for Gatwick as part of a Constellation of airports to serve the South East of England, Stansted with a second runway or developed as a 4-runway hub, a number of hub airport sites in the Thames Estuary including proposals from the Mayor of London, proposals for use of Northolt, proposals from Birmingham and other regional airports to focus development away from the South East allowing the regions to take the strain, a new airport in the Bristol channel, remote rail-fed multiple airports and doing nothing. In addition, a number of UK regions called for improved, guaranteed access to the hub airport and the global air service connectivity that it affords them in whatever is proposed.

A number of submissions share the Air League vision and priority for action. Our submission to the Davies Commission

supported the need for new runway capacity and stressed that London Heathrow is the only viable option for development of a UK hub airport. It went on to show how new runway capacity could be developed at Heathrow within sustainable environmental limits through introduction of improved operating techniques and new quiet aircraft. It also proposed the possible use of Northolt for immediate improved UK regional access to the Heathrow global network.

The Commission will be publishing a shortlist of the most credible long term options, taking into account its assessment of the need for additional capacity, in December 2013. There will be further opportunities to comment and submit views on these shortlisted options in 2014.

Whatever options the Davies Commission shortlists in its final report will need to recognise that it is airlines which invest in route development and air service networks. That will require runway capacity to meet different segments of demand including hub, point to point, business, leisure and freight. The UK needs to respond to those different demands and develop capacity accordingly if it is to continue to compete in the global air transport market.

***Laurence Price***

***Details of the Davies Commission and Consultations can be found at:***

<https://www.gov.uk/government/organisations/airports-commission>.

<https://www.gov.uk/government/publications/long-term-options-proposals-received-by-the-airports-commission>

## THE CODY LEGACY

**I**t took exactly 100 years to the day, since his death in a flying accident at Farnborough on 7 August 1913, for a memorial depicting pioneer aviator, Samuel Franklin Cody, to appear as a permanent presence beside the road that he travelled on every day to work in the Army's Balloon Factory, later renamed The Royal Aircraft Factory. This later became the main entrance into the Royal Aircraft Establishment. On the morning of 7 August, 2013, over 300 guests and visitors, as well as two television units and a host of media, gathered in front of the Farnborough Air Sciences Trust Museum to witness the official unveiling by legendary wartime test pilot Captain Eric "Winkle" Brown RN, of the 7ft high bronze statue by acclaimed sculptress Vivien Mallock. The event was attended by a large number of aerospace industry guests as well as other aviation organisations and representatives of all three British Services and the US Air Attaché, representing the US Government. Immediately after the unveiling an Army Air Corps Apache attack helicopter flew over the statue, representing the Service's continuing link with Farnborough as the birthplace of British aviation. As the first pilot to achieve a sustained, controlled, flight in Great Britain in October 1908, in a powered aeroplane, the eccentric American-born ex-showman ruffled many official feathers at the time when he demonstrated that military aviation policy was flawed and aeroplanes were a practical proposition, offering a more promising future than the favoured kites and balloons. He was promptly sacked for his efforts! Even though by his untimely death in 1913 he had become a national hero, and a British citizen, he never received due recognition for his historic contribution to establishing Farnborough as the most influential centre in the country for aviation research development. However, his place in aviation history has at last been recognised by this very prominent public monument.

In retrospect it may seem incredible that Cody's aviation vision for the future, which extended to ideas for a long-range aeroplane and an airborne ambulance and air mobile surgery, could have been treated with so much outright hostility during the early years of British aviation. Even the arrival of French pioneer Bleriot on our shores a year later in his own aeroplane failed to deliver the immediate impact it should have generated in official circles. Instead of praising Cody's achievement in introducing Great Britain into the European "Flying Club" they banned further official work on powered aeroplane development, and he had to continue at his own expense, though allowed to borrow an Army-owned engine! The main pressure for a change in aviation policy came from the British press, and was soon taken up by Winston Churchill and other influential aviation-minded individuals and companies. As the rest of Europe pressed on rapidly with their own flying machines, the British Government was forced to change its negative attitude. This was the first example of successful aviation lobbying.

One hundred years later, official policies impacting on the aerospace industry, national defence and civil aviation still leave much scope for improving long term prospects. Under the government's Aerospace Growth Partnership initiative progress is being made in increasing funds allocated to studying future innovation, encouraging industry to invest more in new technologies and manufacturing processes, and encouraging more interest by students and apprentices in careers in science and technology. Cody's Anglo-American legacy remains a life-line in British defence, as almost all new programmes are wholly dependent on US co-operation. But without new programmes, UK-based companies won't be able to fully exploit their outstanding capabilities in high-tech manufacturing in the future. Already almost all new work on advanced integration and testing on UK cooperative programmes is carried out in the USA or Continental Europe (F-35, A400M and A350). Every other aerospace nation on earth seems to understand this. Today's seemingly healthy UK aerospace export figures are less robust than they appear, boosted by massive civil sales of Rolls-Royce aeroengines, but nearly all significant exports of aircraft result from a high percentage of industrial involvement in legacy Eurofighter and Airbus products. In the case of the Typhoon, the highest value exports are currently

focused on a very small number of Gulf customers who are buying aircraft that were once destined for delivery to the RAF. (The UK's Typhoon fleet was planned to total 232 aircraft but is now destined to fall to just 107). But what will replace the Typhoon on today's busy production lines at Warton? Even the ambitious phased Anglo-French plan for a new generation of remotely-piloted air systems now appears to be faltering. The decision to have no catapults or arrester wires on the new aircraft carriers will ensure that these new warships will only ever be able to operate F-35B aircraft and helicopters, and not any future RPAS, which reduces their future utility greatly. The UK's important share of Airbus wing work has been steadily reducing with each new model, and even though there has been much investment in new UK manufacturing facilities, maintaining a leading role in Airbus wing work cannot be taken for granted, and the AGP recognises this in its active support for advanced aerodynamic and new materials research.

Thankfully, with the current backlog of thousands of Airbus aircraft on order, this is not a short-term issue. In terms of transport policy vision, as we see in this issue, the next government, regardless of make-up, will urgently need to get things moving on London airport capacity before it is too late.

The ghost of Sam Cody must be bemused at how Great Britain's leaders appear to be struggling to provide a coherent plan to safeguard hard-won aviation leadership. Three cheers therefore to Alan Bond and his Skylon team, who have defied the sceptics over nearly three decades, but who is now offering the opportunity for true game-changing UK leadership in space technology, supported this time (at last) by modest government investment, now endorsed by Europe. While this is but a tiny fraction of what the UK gives away in foreign aid every week, it shows what strategic vision should be all about.



# Blue Skies and

**O**nce again the Royal International Air Tattoo at RAF Fairford proved to be an aviation watchers feast, with a huge number of participating military aircraft, from all over the world. What was most immediately noticeable however this year was the complete absence of United States participants - for the first time in RIAT's history. This was in line with the drastic post-sequestration defence cuts imposed by the US government which had also seen the US military withdraw from the Paris air show a few weeks earlier. The RIAT organisers were to be congratulated on rising so magnificently to the severe challenge of off-setting the shortfall in US aircraft on display by expanding

the international participation and including a very large number of privately preserved heritage warbirds.



*ABOVE - This BAe 146 is a rarely seen VIP model from No32 (The Royal) Squadron.*

As a result of these efforts there were still plenty of interesting and unusual aircraft to see from as far away as Brazil and Oman, as well as from the three UK Services, QinetiQ, and from just about every NATO nation, especially the newer East European members, who arrived displaying fighters, trainers and transports as well as helicopters, many dating back



*ABOVE: A Eurofighter Typhoon of the Italian Air Force rocketed around the skies dramatically.*



*ABOVE - The Red Arrows opened each display with their usual panache.*

*BELOW - Head-on the Reds look as slick as ever.*





ABOVE - Foreign fighters line up

BELOW - This unusual QinetiQ BAE RJ-100 is a multi-engine trainer in ETPS use.



to the Warsaw Pact era. The old favourites were also well represented, the Red Arrows and Vulcan bringing the usual gasps and post display applause. When it eventually retires the mighty Tin Triangle will be impossible to replace for sheer awesome

BELOW - The Airbus Military A400M is now proving itself to be a very capable airlifter.



spectacle, but if support funds continue to flow, it may be with us in the air for at least a couple more years. Making a farewell appearance this year was the beautiful Vickers VC10, a gorgeous shape in the sky, despite its current dull overall grey colours, but so evocative of the UK industry's post-war golden era, which was so full of innovation, variety and hope. The VC10 has been flying around the world in RAF colours continuously since 1966 and by the 1990s the service fleet had expanded to 27 aircraft in the role of strategic transports and aerial tankers. An outstanding record by any standards.



ABOVE - Retro WW2 style livery for RAF Tucano trainer

BELOW - This Tornado GR4 of 617 (The Dam Busters) Sqn carries suitably vivid tail markings.



# Hackney Students take to the Sky



ABOVE - Sir Roger Bone with seven of the Skinners' winners

**On 9 August 2013, The Air League Trust backed by Boeing and in cooperation with Linklaters LLP and British Airways completed a glider flying scholarship programme which saw eight students from Skinners Academy undertake a two-week gliding course at the London Gliding Club in Dunstable. The inner city young ladies – the boys could not match them during selection - were aged 16 and over and they achieved the milestone of a solo flight under the Air League's Boeing-sponsored flying scholarship programme.**

Building on Linklaters' existing links with a number of East London schools, Skinners' Academy students were invited to apply for a gliding taster day followed by a delay of selection tests and interviews at BA HQ, Waterside. Out of over 40 that applied initially, eight made it through.

Andrew Perkins, an Air League Trustee who masterminded the whole programme, commented: "The Air League's role is to promote 'air-mindedness' in young people and to illustrate to government how vital aviation and aerospace are to the economic wellbeing of the UK. Inspiring young people with such challenges made possible by leading aerospace companies is pivotal to our success. The Air League has received tremendous financial support from Boeing as well as practical assistance from British Airways who ran the aptitude tests and Linklaters LLP who managed the applications.'

"Boeing is immensely proud to support the Air League student flying scholarships and give young people the chance to develop new skills and gain the confidence to pursue their life goals," said Sir Roger Bone, president of Boeing UK. "Boeing is committed to inspiring young people to continue with their education. The scholarships are the perfect way to harness the enthusiasm young people have for aviation as the UK searches for the next generation of aerospace innovators."

Roma Gajre, aged 17, a budding pilot from Skinner's, now wants to work in aviation when she is older. "I've always loved planes, but I didn't think that sort of opportunity would come up at my school," said Roma. "I jumped at the chance to apply to learn how to fly a glider. I cannot believe that, less than two weeks after setting foot in one, I am almost ready to fly solo."

"We're grateful to the Air League and Boeing for giving our students the chance to learn how to fly a glider solo," said Jenny Wilkins, Principal of Skinners' Academy. "They have learned so many valuable life skills such as communication, self-reliance, responsibility and teamwork that will stand them in good stead for their future careers."

## NEW CAS



ABOVE - At the end of July Air Chief Marshal Sir Andrew Pulford KCB CBE ADC RAF (on the right) a former Wessex and Chinook pilot took over as Chief of the Air Staff - the most senior RAF Officer and first helicopter pilot ever to be professional head of the Royal Air Force. He has taken command of the RAF from Air Chief Marshal Sir Stephen Dalton GCB ADC LLD(Hon) BSc FRAeS CCMI RAF (left) who is retiring from the Service.

Photo-Crown Copyright MOD/RAF 2013.

# LEADING EDGE *update*



ABOVE: An RAF A330 Voyager flight refuelling tanker, which is now replacing the last of the VC10s at RAF Brize Norton.

## RAF Brize Norton Visit

Thanks must go to Flt Lt Lucie Martin for organising such a well-rounded and enjoyable visit to RAF Brize Norton. The comprehensive programme covered nearly all aspects of the base including thorough aircraft tours of both the Hercules C130 J & K models and the impressive latest addition to the RAF, the Airbus A330 Voyager. There were informative presentations on the role of the different squadrons, the Air Tanker coalition and Brize as a whole. It was also an excellent opportunity to socialise in the Officer's Mess and carry out flights in the VC-10, Tristar and C130 J Simulators. We even managed to fit in a Night Vision Goggle demonstration, which proved to take some getting used to for some members of the group, who somehow managed to fall over various objects while wearing them.



A personal highlight for me was flying the VC-10 into Kai Tak airport in Hong Kong via the famous 'checkerboard' approach, pulling off such a smooth landing that nobody in the sim felt the touch-down, this was followed by the instructor trying to offer me a job! Another unique opportunity was hanging out of the top hatch of a Hercules C130J, definitely not a view you get to see every day. Flt Lt Martin was able to offer a valuable insight into the role of a pilot in the RAF, as well as operations within the RAF's largest base. She was an excellent ambassador and a real credit to the RAF and The Air League alike.

**James Johnston**

Once again, Lucie Martin provided not only the Air League, but also GAPAN members, with a fantastic and very well organised trip to RAF Brize Norton. In addition to an NVG demo and a privileged insight into the new Voyager operations, naturally the highlight was getting hands on with the aircraft in the simulators. Not only one, or even two, Lucie had organised for use to fly THREE RAF simulators; Tristar, VC-10 and C130J Hercules. The full motion simulators were so real; a fantastic experience and great fun for the many keen pilots on the trip. I'm sure I speak on everybody's behalf when I say an excellent time was had by all. Many thanks again to Lucie.

**Thomas Small**

# MEMBERS' NEWS



**Dan Wheatcroft** - The League recently ran an article regarding the RAF's new Remotely Piloted Air Systems Pilot (RPASP) personnel; as one of the four Officers selected I have lived in the US for the last three years now and so don't get to see the newsletter very often, but my mother kindly brought the article to my attention via e-mail!

I wanted just to pass on my gratitude, since my successful selection for the RAF's RPASP programme was thanks in no small part to the League, whose Educational Trust awarded me a Flying Scholarship in 2002, which I completed at Pilot Flight Training at Oxford Kidlington Airport (I forget the sponsor of the award but I do remember the reception at St James' Palace!)

I feel very strongly about the importance of the Air League's work, as I know you all do, and thanks to the Trust's fostering of my interest in aviation I now find myself at the forefront of the RAF's newest and most

exciting emerging technologies. Also, I am still keeping up the 'actual flying' outside of work and have garnered almost 250hrs now and will soon be achieving my FAA CPL/IR. It brought a smile to my face to go all the way back through my logbook to see that first scholarship flight in 2002!

Thank you again to all of you who work so hard to promote Britain's aviation interests, and most importantly, the aspirations of her young aviators.

**Regan Hawthorn, Air Power Association Flying Scholarship 2013** - I just wanted to convey my gratitude & thanks for awarding me a flying scholarship this year. It has been my dream to be a pilot in the Royal Air Force, and getting a flying scholarship has not only allowed me to further my flying ability & experience, but also put me in good stead for what lies ahead. I am currently undergoing the RAF selection process for Pilot, for which I hope that all my adventures so far will count.

I chose to go to Booker Aviation at Wycombe Air Park in High Wycombe. The only flying experience I had before this scholarship was within the Air Cadets, and so it was great to be able to experience civilian flying. Perhaps I will even go on to get a Private Pilot's Licence. I cannot thank The Air League Trust and my sponsor, The Air Power Association, enough for what I have received and although I am unable to return such an investment, I would love the opportunity to help The Air League in any way I can.



*Robert Ross at South Warwickshire Flying School where he completed a Swire flying scholarship*

## 2014 Subscriptions

Revised subscriptions with effect from 1 January 2014 were approved at the Air League AGM held on 13 June 2013. The new rates will be:

| Corporate Membership Category   | Rate (Direct Debit) | Rate (Cash)    |
|---------------------------------|---------------------|----------------|
| <b>RED</b>                      | £4,000 & above      | £4,000 & above |
| <b>WHITE</b>                    | £1,250-£4,000       | £1,250-£4,000  |
| <b>BLUE</b>                     | £650-£1,250         | £660-£1,250    |
| <b>GREEN</b>                    | £200                | £220           |
| Individual Membership Category  | Rate (Direct Debit) | Rate (Cash)    |
| <b>Full</b> (over age 22)       | £67                 | £70            |
| <b>Retired</b> (over age 65)    | £47                 | £50            |
| <b>Intermediate</b> (age 22-27) | £47                 | £50            |
| <b>Student</b> (under age 22)   | £35                 | £38            |

1. Subscriptions are revised annually.
2. Individual Life membership £900.00.

### New Members

**Corporate Members:** Stratajet

**Individual Members:** Annabel Bacon, Neil Charlton, Devarun Chowdhury, Kate Helsop, Ashley Hodges, Charlotte Kerr, Toby Scobell, Daniel Steele

### Diary Reminders

3 December: Council meeting - RAF Club

For up-to-date information on all our activities please visit our website at [www.airleague.co.uk](http://www.airleague.co.uk) where you can register for changes to be sent to you by email as they are announced.



*ABOVE - The Director with flying instructors and Air League and RAFA scholarship winners at South Warwickshire Flying School on 12 August. The Director was renewing his PPL to keep up with the younger generation.*



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