# “AERALIS - A novel multi-role aircraft system providing major operational cost savings to our armed forces, significant export sales, and near-term high-quality technology jobs to the UK”

An Interview with Brian Hibbert CBE, Chairman of AERALIS

**Q: How will AERALIS help the UK aerospace industry?**

**A:** As you know, we’re developing a unique, highly innovative jet trainer aircraft which will be the world’s most capable and cost-effective future Military Flying Training System. I’m convinced, it will play a critical role as a shop window for UK whole aircraft design and manufacture.

Whole aircraft design and development is not very visible in the UK with most projects being international in nature. The costs of developing a very advanced system, and the limited market in any one country leads quite sensibly, to collaboration to share costs. Programmes are long and the time to see a vehicle flying is many years. Seeing a new aircraft flying is an event that excites many young people, it was certainly that for me. Victor bombers taking off was my first passion but early in my career seeing Hawk fly at Farnborough in the early 1970’s was inspiring.

AERALIS will showcase the depth of capability in the UK. It will be a very visible programme that can start immediately and have an aircraft flying in two years. An exciting and visible STEM programme running alongside the development will energise the UK’s future engineers with a particular focus on attracting more women into the sector.

AERALIS can have that effect in two years. Flying at Airshows around the UK, and then, abroad taking the UK aviation message to the world. Development of its multi-role versions can keep the excitement going for many years.

**Q: Is this a market opportunity for the UK now?**

**A:** The concept for AERALIS is driven by an international market that opens up in the mid 2020's at a time when the worlds current fleet of military pilot training aircraft is coming to the end of life either through fatigue or supportability issues and often both. When AERALIS was looking at this market, we noted that the traditional approach of buying 2 or 3 aircraft to train pilots attracted a very high cost of support, differing cockpits, multiple spares chains, multiple simulators. We looked for a solution that would dramatically reduce that cost. AERALIS, with its patented Common Core Fuselage plus modular wings and tail, leads to savings of up to 30% in training cost over the conventional approach. The cost of ownership is many multiples of the acquisition cost and the savings to military training organisations, already under budgetary pressure, are very significant.

The AERALIS pre-production aircraft will be flying within 2 years and Certification will take a further 3 years. Manufacturing will therefore start in time to meet the market need.

**Q: How does this meet the Government's goal of developing the UK export markets?**

**A:** This is a market driven programme. Whilst there is significant UK gap for an improved and lower cost military pilot training system this is far outweighed by the export opportunities. Many of these countries have bought UK military products before and would do so again. In addition to this the ability for AERALIS to be seen at Air Shows around the world, flying the flag for UK aerospace, would be of great benefit to UK innovation and technology.

**Q: How does AERALIS help to put in place better training for current and future systems?**

**A:** Both the AERALIS Basic and Advanced variant aircraft have a common Integrated Management System. The IMS is key to a number of functions but in particular it provides the data that is used to tailor training to the individual trainee pilot. Development of skills can be matched to the abilities of each student increasing the success rate during the process. Aggregation of trainee

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data will also be used to continuously develop the syllabus and approach to training. Having common simulators across the whole training process reduces cost of development, acquisition and training.

Having common interfaces across the aircraft and simulator also means that any software changes in the combat aircraft which require implementation in training are readily implemented over all platforms. This applies to new platforms, such as Tempest, as they come into service.

**Q: Apart from training can AERALIS provide any other benefits to the military?**

**A:** Air forces have many platforms performing often similar roles each with their own different support costs. These costs can be reduced significantly if the number of platforms can be reduced.

Our answer to this is AERALIS X. These are variants all based on the Common Core Fuselage and Systems but adapted to meet specific needs. Typical roles that AERALIS X could fulfil are; companion trainer to reduce use of front-line aircraft; adversary simulation to simulate attacks on ground or naval assets; loyal wingman UAVs. All versions can be reconfigured to provide a surge capability in time of need.

A key capability of AERALIS is the flexible engine nacelle module which accommodates different powerplants in a similar way to commercial aircraft. This will be particularly important as new green fuels and powerplants become available.

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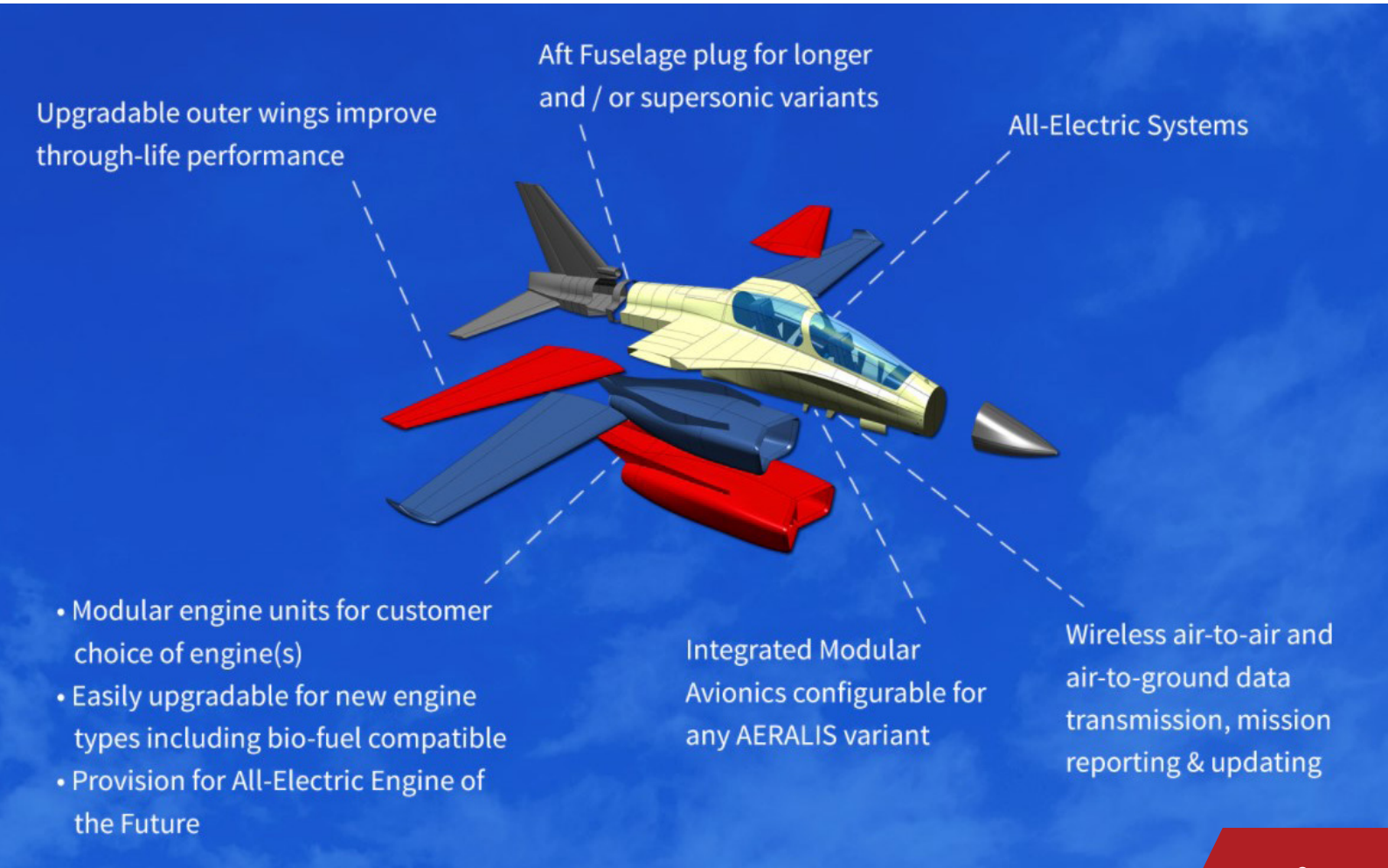


**Q: Do you see a role for the UK Government in this?**

**A:** Yes, clearly a project like this needs the support of Government and it needs the support of industry, the two need to work together.

As I see it, there are mechanisms starting to be put in place such as the Defence Growth Partnership. However, despite organisations like the Aerospace Technology Institute offering grants for feasibility studies, there is currently no UK Government mechanism for supporting a whole aircraft project. As a result, the skills and technologies required are not being developed. The Defence Growth Partnership and others should be supporting British industry in this.

Another problem we encounter is that aerospace research funding is seen as applicable to either Defence or Commercial applications. Defence research funding is clearly focussed on battle winning capabilities and not on reducing training costs. Other Government research funding bodies assume that if the immediate application is Defence then it will be funded out of the Defence budget. AERALIS falls into this gap, and hence receives no Government support, even though it is a very innovative project providing UK defence cost reduction and significant export markets for the UK Aerospace sector.

*Brian was Chief Executive of Lockheed Martin UK Insys Ltd until his retirement in November 2006. Since then he has taken on a number of non-executive roles including, Chair of the Bedfordshire Chamber of Commerce, National Board of the British Chambers of Commerce, and Chair of the South East Midlands Local Enterprise Partnership.*

*Brian joined Hunting Engineering Limited from Rolls Royce in 1973. After a number of different roles in engineering and project management, he was appointed Engineering Director in 1991 and Managing Director in 1993. He was Chief Executive for a management buyout of the company in 2001. The company was acquired by Lockheed Martin UK Holdings in October 2005.*

*A Chartered Engineer, Brian is a member of the Institution of Mechanical Engineers and Honorary Fellow of the Society of Environmental Engineers. He is a member of the Institute of Directors and a Fellow of the Royal Society of Arts. He has served on a number of bodies such as the Society of British Aerospace Companies, the CBI Technology/Innovation committee, and the Court of Cranfield University. In the 2004 New Year's Honours list he was appointed a CBE for services to the Defence Industry.*