

# Building Resilience in Fighter Jet Pilots

An Interview with Tim Davies,  
AERALIS Strategy Director



**Q: As well as building a new generation of trainer aircraft, AERALIS is also developing a complete training system. Can you expand on that?**

**A:** Yes, it's about both the plane and the pilot. If I start with the human side, flying a modern fighter jet, particularly in a combat situation, isn't just about knowing how to control the aircraft. It's about knowing how to manage the extraordinary stress that you're going to be under. So for AERALIS, mental health is a big part of pilot training.

It means we're looking at resilience training and from that we're looking at physiology, fitness training and nutritional support. To take one example, we're going to teach trainee pilots how to eat in the best way, using specially designed apps on their phones that will give them menus which they can use to help them make the right food choices.





**Q: Is eating the right food really that important for a fighter jet pilot?**

**A:** Very much so. What we've found is that trainee pilots, when left to their own devices, tend to pick food with the highest calorific value because they're burning up a lot of energy. The problem is that at the start of an exercise or an operation their blood sugar levels are very high but then, right in the middle of a flight, those levels drop which can seriously affect flight safety and the pilots' ability to learn from the flying experience.

So, from a very early stage, we want to get young pilots to understand the importance of slow release carbohydrates and we'll be making it an integral part of their flying training. All of our research is making that quite clear.

But it's not just about nutrition. With all the metrics we're developing across the whole biopsychosocial model, fundamental to our training system, we're going to be able to collect a lot of data going forward.



**Q: What will you do with that data?**

**A:** Well, the first thing to say is that it will be anonymised. We won't know the names of the students it relates to but what we will have is a big database and with the right metrics, we'll be able to continuously refine our whole training system, making it ever more efficient and, therefore, more cost-effective for the customer.

When you combine that with the AERALIS aircraft leasing model, you have a complete package that promises to transform the way in which the fighter pilots of tomorrow are going to be trained.

**Q: How is that going to work?**

**A:** The key point is that we're not going to sell our aircraft. What we're going to do is lease a sixth-generation flying training system. So, together with the aircraft, we're offering all the educational support that trainee pilots need – from the technical to the physiological to the psychological.

So, in one sense, it's a standard package based on the fact that we understand the physical and mental demands on pilots. But, on the other hand, we can flex that training, depending on anything from the aptitude of a particular student to the specific configuration of avionics that a customer wants in the plane. For example, a particular country might not want certain equipment on the aircraft because they don't use that on the front-line. Let's say they don't have any aircraft with radar. So there's no point in us leasing them the radar software and the radar courseware. That way, we can save that particular customer a lot of money.

Fundamentally, we're providing the foundational building of a resilient aviator. When you lease an aircraft from AERALIS, you will also get a comprehensively designed flying training system in every sense of the word.



**Q: Would I be right in describing it as a modular package?**

**A:** Absolutely. If a country decides that the aircraft needs a different engine or a different configuration of the training modules, then we can provide the re-configured plane as well as the instructors who will be out there ensuring that the students get precisely the training they need.

**Q: Is it true that some of your insights are based on personal experience?**

**A:** Yes, they are. When I came back from a difficult ground tour in Afghanistan, I was straight back into the cockpit instructing students, but I was later diagnosed with chronic stress which I had no way of understanding or dealing with. Nobody had taught me how to recognise burn out or develop the mental resilience I required to build up the mental resilience that I needed. Through AERALIS, we're going to change all of that.



**Tim Davies**  
**AERALIS Strategy Director**

*Tim leads the training aircraft design strategy and human performance strategy for the AERALIS aircraft, courseware and syllabus design.*

*Tim served as the most senior RAF fast jet flying instructor on the BAE Systems Hawk T2 jet trainer and has been active in military fast jet flying training for the last ten years including as a former Central Flying School Accredited A2 Qualified Flying Instructor in the Tactical Weapons role, and a former Tornado GR4 pilot and Electronic Warfare Instructor.*

*Tim is uniquely positioned to advise on training system, aircraft design and physiological aspects of fast jet flying training leading up to and including combat operations. His experience also includes the development of an independent advisory service helping organisations understand and improve human performance.*