



HYBRID ELECTRIC FLIGHT COMES TO SOUTH WEST ENGLAND WITH AMPAIRE

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Ampaire launches demonstration flights between Exeter Airport and Cornwall Airport Newquay this week, to advance the use of sustainable aviation, driving down costs and emissions on short regional routes. The flights are part of a series of government-backed trials aimed at moving the UK towards green aviation.

Demonstration flights will be flown by its Electric EEL technology aircraft. The EEL, a modified US-built six-seat Cessna 337 Skymaster, features a battery-powered electric motor at the front and conventional combustion engine at the rear, enabling a reduction in emissions and operating costs by as much as 30%. The aircraft will fly between these two regional airports, 85 miles apart, on a combination of battery and piston power, collecting valuable data to monitor fuel savings, efficiency and noise.

Ampaire uses the EEL as an important research and development platform. It is currently developing hybrid electric power train upgrades for 9- to 19-seat regional aircraft, including the Cessna Grand Caravan and Twin Otter. It views the near-term opportunity to transform existing turboprop aircraft as the first step to fully electric aircraft, which will become feasible as battery technology advances.

Ampaire Ltd heads a UK-based consortium created to explore regional electric aviation transport solutions. Last year the team received £2.4 million from the UK Research and Innovation's (UKRI) £30 million Future Flight Challenge towards the consortium's £5 million 2ZERO programme.

2ZERO (Towards Zero Emissions in Regional Aircraft Operations) involves the operation of hybrid electric aircraft on regional routes in South West UK, together with a study of the ecosystem required to enable the future of electric aircraft within existing airport and airline operations.

The 2ZERO bid was submitted by Ampaire Ltd and partners including Exeter Airport, Rolls-Royce Electrical, University of Nottingham, Loganair Ltd, Cornwall Airport Ltd, Heart of the Southwest Local Enterprise Partnership (HotSWLEP), and UK Power Networks Services.

"Low-emission aircraft are vitally needed on short haul regional routes to meet the UK's net-zero objective for aviation," said Dr. Susan Ying, Ampaire's senior VP for global operations. "We are developing commercial aircraft now that will begin this revolution in sustainable aviation with service entry planned for 2024."

She thanked the UK Civil Aviation Authority for its valued contribution and support of 2ZERO, expediently authorising the test flights this week.

The EEL will be based at Exeter Airport from where it will fly on two CAA-approved routes, taking it over the dramatic expanse of Dartmoor, or on a more southerly flight path along the stunning Devon and Cornwall coastline, before touching down at Cornwall Airport Newquay.

"The EEL flies very much like a conventional aircraft, with some new instrumentation for power management," said demonstration pilot Elliot Sequin. "We have flown it nonstop from Los Angeles to San Francisco and now the length of the UK without any difficulty. It is the forerunner of a new generation of efficient aircraft that will be easy to fly for pilots and cost effective for airlines."

Lord Callanan, Parliamentary Under Secretary of State, Minister for Business, Energy and Corporate Responsibility at the Department for Business, Energy and Industry Strategy, speaking in Exeter, commented:

"We are committed to championing our world-leading aerospace sector, which has a critical role to play in helping to build back greener and end our contribution to climate change by 2050. Today's hybrid electric test flight by Ampaire, backed by £2.4 million of government funding, is a significant milestone in making aviation cleaner and more sustainable. It shows the importance of government and industry working hand in hand to drive forward the innovations that will make electric flight a reality."

Robert Courts, Aviation Minister added: “We’re leading the charge on reducing aviation emissions through the consultation on our ambitious Jet Zero Strategy, which recognises the key role innovative technologies like hybrid-electric aircraft can play in decarbonising aviation. The test flights taking place today demonstrate how we can reduce aviation emissions, while collecting valuable data on fuel savings and efficiency to help future innovation.”

The Government Ministers were joined by VIP guests at Exeter Airport’s XLR Jet Centre, each invited to see the aircraft, meet with Ampaire management and test pilot Elliot Seguin.

Stephen Wiltshire, Operations Director, Exeter Airport commented: “We are incredibly excited and very proud to be supporting this initiative and to see Exeter Airport play a central role in demonstrating and developing this important technology. The future of aviation, as with so many aspects of our lives, has to be sustainable and only through innovation and the commitment of partnerships, such as ours with 2ZERO, can we highlight the potential of this emerging technology.”

Devon County Council leader John Hart said: “We are committed to cutting our carbon emissions and reaching net zero by 2030. But we are also doing our utmost to drive a clean economic recovery after the pandemic. That requires fast and effective communications with the rest of the country, so I am delighted to see Exeter Airport is taking a national lead in the exciting trials of this sustainable form of air transport.”

Simon Jupp, MP for East Devon and member of the Transport Select Committee said: “Cleaner and greener aviation is the future and Exeter Airport is at the forefront of innovation in aerospace. Hosting the first electric test flight on a route in the UK, demonstrates Exeter Airport’s determination to lead the way towards green aviation, which will also benefit the local economy and create jobs. I will continue to support every effort to help the aviation industry to recover and rebuild.”

Pete Downes, Managing Director, Cornwall Airport Newquay commented: “We’re passionate about being part of the solution in terms of the sustainable future of aviation and are incredibly proud to be partnering with Ampaire in this exciting project. At a time when demand for domestic regional travel is stronger than ever, it’s vital we work together to find the most sustainable way to deliver this in the future.”

Andy Smith, Head of Sustainability Strategy at Loganair said: “These trials are among the first of their kind in the world and we are extremely proud to be supporting Ampaire as it takes an important step towards achieving sustainable aviation. At Loganair, we have committed to becoming net zero by 2040 through our GreenSkies initiative and being involved at this early stage will support that goal, giving our staff a unique and industry-leading perspective on the ground infrastructure, and the servicing required in day-to-day airline operations.”

Dr Jason Atkin, Computational Optimisation and Learning Lab, University of Nottingham said: “The 2ZERO Future Flight Project will produce a major demonstrator to show how we can move towards net zero emissions in regional aviation. Our modelling and simulation research in this project utilises airport, airline and aircraft information to produce realistic and integrated models to evaluate how airspace, airports and aircraft could be used. These are valuable tools to inform aviation decision-makers as they develop their business cases for changes needed for net-zero emissions operations.”

Karl Tucker, Chair of Heart of the SW LEP, said: “Seeing the first test flight of the hybrid electric

aircraft from Exeter Airport today is incredibly exciting. The 2ZERO Programme offers a huge step forwards in transforming air travel in the future, helping the UK towards its target of net zero carbon flights by 2050. It's fantastic to be part of the consortium leading this project in the South West, which brings together the talent and expertise from our highly skilled aerospace workforce and smart aviation cluster.”

Kieran Coughlan, Head of Strategic Advisory Services, UK Power Networks Services commented:

“We are proud to provide the 2ZERO project with our industry-leading expertise in electrical infrastructure. UK Power Network Services will identify and test an aircraft charging solution ensuring that it meets all of the requirements, is reliable and resilient, and supports the viability of electric aircraft for regional operations. Today’s demonstration represents important progress for both the aviation and energy sectors in pursuit of sustainable, net zero solutions.”

Gary Cutts, Future Flight Challenge Director at UKRI said: “At Future Flight we are committed to leading a revolution in aviation by funding projects that will deliver real benefits to local communities. It’s great to see the work the 2ZERO project is putting in to developing not only a new aircraft with Ampaire, but also the infrastructure needed to support them. These developments in new aviation technologies give me confidence that future air travel will not only be greener, but also improve connectivity for thousands of people across the UK.”

Tim Johnson, Director of the UK Civil Aviation Authority, said: “We are pleased to see trials of innovative aircraft technologies that could improve the environmental sustainability of the aviation sector. The trials will enable the CAA to advance the safe and effective regulation of innovative services and products.”



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