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Renewable hydrogen takes to the skies

Australian aerospace startup AMSL Aero (AMSL) is looking to take hydrogen flight to the skies with the support of the Australian Renewable Energy Agency (ARENA).

On behalf of the Australian Government, ARENA has awarded $5.43 million for AMSL, as part of the Advancing Renewables Program, to develop a hydrogen powered electric Vertical Take-Off and Landing aircraft (eVTOL) named the Vertiia.

Similar in operation to a helicopter and fitted with eight rotors, the Vertiia will be capable of carrying up to five passengers over distances up to 1000km.

The $10.86 million project follows AMSL's successful development of a prototype battery electric version of the Vertiia aircraft.

The $5.43 million ARENA grant will support AMSL to undertake development and certification activities for the aircraft, culminating in successful demonstration with a test flight of the prototype. If successful, the aircraft will be one of the lowest cost and cleanest forms of air transport for ranges up to 1,000km.

Based at Sydney's Bankstown Airport, AMSL Aero was founded in 2017 to develop and manufacture zero emissions aircraft.

AMSL intends for Vertiia to be available for markets such as air ambulance, emergency services, and passenger and cargo transport. Due to its configuration, the aircraft offers new and innovative ways for emergency services to deal with specialised situations, including fighting bushfires.

The aviation sector is responsible for roughly 2.5 per cent of global greenhouse gas emissions, with nearly a fifth coming from short haul flights under 1,000km.

The development of Vertiia has received additional support from the Australian Government via the Emerging Aviation Technology Partnerships program.

ARENA CEO Darren Miller said the project is a prime example of Australian innovators taking the lead in developing renewable energy solutions.

"AMSL Aero is a homegrown Australian startup tackling one of the many challenges in the transition to net zero," Mr Miller said.

"Developing low emissions air transport will require a variety of solutions, including hydrogen and battery electric. AMSL's work on the Vertiia is truly pioneering in this space.

For end users like emergency services, and personal and cargo transport, this technology is an exciting prospect for cutting emissions and costs from air transport."

AMSL Aero Co-founder & Chief Executive Officer Andrew Moore said: "The significant funding provided by ARENA will mean that we can accelerate the design, build and certification activities for our long range, hydrogen powered electric Vertical Take Off and Landing (VTOL) aircraft. It will mean that patients and passengers will have earlier access to the aircraft as a result and will play a key role in decarbonising air transport in Australia and abroad. We are very thankful that ARENA backs companies like ours who are committed to clean technology that will benefit society and our planet."

ARENA's previous support for hydrogen transport includes the New Energy Services Station, currently being developed by Viva Energy in Geelong, and Ark Energy's deployment of hydrogen trucks at a Queensland zinc mine.

The AMSL Aero Vertiia is ARENA's first project in hydrogen powered aviation.

ARENA has additional funding available for renewable energy in the aviation sector through the ongoing Sustainable Aviation Fuels (SAF) Funding Initiative. The SAF initiative remains open to applications advancing the development of sustainable aviation fuels from renewable feedstocks.

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