

Transcript

Title: Hydrogen to the Skies
Creator: Swinburne University of Technology
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Hydrogen to the Skies is developing and trialling Australia's first sovereign hydrogen propelled drone, spearheading our journey to clean aviation. Led by Swinburne's Aerostructures Innovation Research Hub, or AIR Hub, the project brings together industry, government, CASA, and Air Services Australia to create a real-world design and prototype.

DR ADRIANO DI PIETRO: Hydrogen propulsion will allow us to fly the vast distances required to supply and connect our regional communities, including small remote Indigenous communities, without the need to refuel and with zero emissions. We are working closely with the Victorian Hydrogen Hub (VH2), a joint Swinburne and CSIRO initiative in the green hydrogen economy and working together, we're looking at hydrogen production, storage and industry and society integration.

JACK KORMAS: Textron Systems Australia sees the AIR Hub as one of the leaders in research and applied science in the aviation sector by leveraging cutting edge research, state of the art facilities, and highly innovative researchers, we can deliver new and innovative solutions that give us a competitive edge.

MARK HALLAM: The use of model-based engineering has enabled the team to perform simulated comparisons of battery-power and hydrogen fuel cell systems. With the tools and learnings the team have developed on project SHADE now already being applied to industry partnered projects, including H22S, providing Australia with a strong competitive advantage in the development of clean, advanced air mobility.

STEPHEN HARDIMAN: Utilising Industry 4.0 manufacturing tools at Swinburne's Factory of the Future has enabled production of Aerospace grade components in a fraction of the time compared to traditional manufacturing techniques. Developing digital twins of the battery and hydrogen powered systems have shown hydrogen powered UAS have increased performance and efficiency which results in a longer flight time and increased payload carrying capacity.

DR ADRIANO DI PIETRO: The AIR Hub is fast tracking a scalable and sustainable future for aviation in Australia - by bringing together research, industry, and education. By developing green and efficient hydrogen-powered uncrewed air systems, Hydrogen to the Skies will position Australia as a global leader in clean energy propulsion and its real-world applications. We are working on the next-gen of sustainable aviation - now.

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