



# UK HYDROGEN AIRCRAFT DREAM GETS EVER CLOSER: INDUSTRY PARTNERS PIONEER CRITICAL HYDROGEN INFRASTRUCTURE

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**Protium is working together with hydrogen industry leaders to deliver an ambitious project that could enable hydrogen-powered aircraft to take off from UK airports sooner than anticipated. Project HEART is a collaborative R&D project part funded by the UK Research & Innovation Future Flight Challenge. It is facilitating end-to-end hydrogen infrastructure capable of safely fuelling hydrogen aircraft, while simultaneously showcasing the increasing feasibility of green hydrogen technology within aviation. The endeavour will also help to shape future government policy in the sustainable aviation sector.**

Protium has partnered with Haskel and Nel Hydrogen. The pivotal integration of Haskel's ultra-efficient hydrogen compression system with a Nel Hydrogen electrolyser – a UK deployment record of the largest molecule distribution at scale equipment for Nel – will deliver hydrogen to power fuel cell-electric propulsion aircraft in trials. Project HEART's initial focus lies in regional airports, where it is developing a refuelling solution catering to aircraft carrying 9 to 19 passengers and a range of 500 miles. By harnessing sector-leading expertise and cutting-edge technology, the project is delivering a comprehensive solution that encompasses off-site hydrogen production, its transference to site, and refuelling of the fuel cell-electric propulsion aircraft via a mobile refueller.

The project's commitment to advancing safety around net zero aviation is evident in its close

collaboration with the Civil Aviation Authority. A series of insightful workshops is contributing valuable input and suggestions towards shaping future government policies related to hydrogen aircraft.

Simon Masters, Deputy Director for the Future Flight Challenge, commented: “Project HEART is delivering cutting-edge R&D solutions, showcasing how Hydrogen could very soon become a key part of aviation and an enabler for Net Zero travel. We are delighted to be working with Protium, Haskel and other project partners to deliver this vital research, which is an important step towards the introduction of hydrogen for passenger aircraft operations.”

Jake Martin, Haskel’s Hydrogen Business Development Manager EMEA, said: “Working with leading innovators and specialists in their field, we share a common goal of enabling sustainable and cost-effective transport solutions to revolutionise air travel. Haskel has seen increased demand for our GENO hydrogen compression systems within the tube trailer filling market in particular, and our standardised MP500 offers the perfect solution for aviation. We look forward to the exciting opportunities ahead!”

Said Spencer Lambrecht: “Project HEART represents the first MW green hydrogen generation project in the UK to begin production, with planned operation to start in mid-2024. Nel’s containerized MW system is based upon its safe and reliable PEM technology that has been utilised historically for the English naval fleet. With over 25 years of experience in hydrogen generation, Nel is excited to support Project HEART on this first-of-its-kind system.”

Jon Constable, Protium’s Chief Asset & Engineering Officer, emphasised the significance of the project; “We’re immensely proud to be working alongside hydrogen leaders with unrivalled experience to demonstrate that green hydrogen for aircraft is viable and increasingly closer as a solution for net zero aviation.”

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