

## Report to Partnership Meeting 25 April 2025

### Research and Strategy Delivery

### SATE PROJECT

#### PURPOSE OF REPORT

To update Members on developments in the Sustainable Aviation Test Environment (SATE) Programme.

#### BACKGROUND

Part-funded by UK Research and Innovation (UKRI) through the Industrial Strategy Challenge Fund, SATE created the UK's first operationally based, low-carbon aviation test centre at HIAL's Kirkwall Airport in the Orkney Islands. Launched as part of UKRI's Future Flight Challenge, which supports the development of greener ways to fly, the first phase started in November 2020 and ended in July 2022. The second phase kicked off from July 2022 and ended 31<sup>st</sup> March 2025 following an approved extension. Future phases are being developed, with more detail provided below.

#### PROJECT UPDATE

##### Demonstration Flights and Technology Updates

Following Windracers 9 weeks of trials in the Orkney Islands in Summer 2024, the next set of trials is planned for the Shetland Islands starting from June 2025, pending CAA approvals. The aircraft has a cargo capacity of 700L, a payload capacity of 100kg, and a range of up to 600km. The trials will be enhanced by ongoing work with the Rural Energy Hubs project, rolling out practical demonstrations to show how barriers can be overcome when implementing carbon-cutting initiatives.

Use cases are being developed to further provide insight into how the technology can improve connectivity and services. Stakeholder events are being planned in Shetland to offer local businesses and stakeholders an opportunity to see the aircraft up close and gain wider information on the programme.

ARC Aerosystems will be conducting untethered VLOS (visual line of sight) flights at Wick John O'Groats Airport, currently scheduled for May, pending CAA approvals. Incremental untethered VLOS flights have been taking place at Finmere Aerodrome following CAA approval, in preparation for the Wick flight.



### Airport Infrastructure & Operational Systems

Cranfield Aerospace Solutions have concluded their work dedicated to airport infrastructure and operational systems, working closely with EMEC, Cranfield University, UHI, HIAL and the CAA. Several reports have been completed to help inform hydrogen operations in the future at smaller regional airports and aerodromes. These include a Concept of Operations (CONOPS) for the technological, operational and logistical challenges of fuelling hydrogen powered aircraft, and fuel assurance procedures and risk assessments covering different forms of hydrogen fuel for aviation.

### CAA Hydrogen Sandbox

SATE has been selected as one of 13 projects under the latest phase of the Civil Aviation Authority's Hydrogen Sandbox to create a better understanding of hydrogen technologies, shape future regulation, and ensure they are safely adopted into the aerospace sector. Work is currently underway to finalise the programme of work with partners.

### Development of a Dedicated Test Environment Airspace

SATE has been continuing its work with the CAA as one of six projects under the Integration Sandbox that will help safely integrate drones flying beyond visual line of sight (BVLOS). HIAL and Windracers have partnered for the Sandbox trial that will see operations across Orkney. The SATE airspace trial will facilitate the establishment and cost-effective uncrewed aviation operations on a commercial scale within Orkney that will fulfil key use cases around logistics, survey and inspection. Learnings from the six trials will support the CAA's ongoing development of policy and regulations to enable drone flights to be fully integrated with other airspace users. Within SATE 2 timelines, the airspace change documentation pack has been compiled, with the trial due to occur in 2026 pending further funding confirmation.

## Engagements

The final Quarterly Review Meeting will take place with the consortium in Inverness on 29<sup>th</sup> April. The meeting will cover project closure aspects, reviewing achievements and next steps. Presentations will be given in the afternoon by project partners HIAL, CPC and UHI, covering the airspace work, business models and reflection of progress made throughout the programme.

SATE has recently joined the European Regions Airline Association, looking at shared learnings with members across Europe, highlighting our commitment to continued work with European partners and knowledge transfer.

SATE members attended the Project CAELUS showcase event, continuing our collaborative work with AGS Airports and focus on healthcare drone use cases for the region. The SATE team also presented at the Uist & Barra Community Energy Forum, furthering dialogue with local stakeholders to build a foundation for future implementation activities in the area.

The SATE team also featured on the University of Birmingham's new Future Flight Social Insight podcast – a series of six podcasts to start a national conversation about the future of flight.

## Future of Flight Industry Group

Jayne Golding has been appointed by the Aviation Minister, Mike Kane MP, as a member of the Future of Flight Industry Group. The group brings together government, industry and other key stakeholders to collaborate on the development and delivery of a Future of Flight Plan that will accelerate growth of Future of Flight safely and securely in the UK. The first meeting took place on 1<sup>st</sup> April where funding of £20 million was announced to advance new flight technologies.



## Funding Opportunities

We have been exploring funding opportunities for continuing our work on sustainable aviation across the Highlands & Islands. We've applied to the ICNZ Outer Hebrides Transition Fund focused on Western Isles operations, the Inverness City Region Deal focused on Highland operations, and Innovate UK focused on CAV opportunities in Kirkwall. The Innovate UK project has been successful in receiving funding to conduct a feasibility study and is currently in the setup phase.

We are also continuing discussions with UKRI on the next round of Future Flight Challenge. The UK Government announcement on 1<sup>st</sup> April of £20 million funding included an allocation of up to £5 million for the next round of Future Flight Challenge. We are currently working on draft proposals for the programme while we await publication of the funding application process. We are also continuing dialogue with European partners looking at several Horizon Europe calls opening later this year.

## **BUDGET**

HITRANS receive 100% funding based on the organisation classification within the UKRI programme. HITRANS current budget sits at £1,051,131. The overall project budget is £14M.

## **RISK REGISTER**

### RTS Delivery

Impact – Positive

Comment – The SATE project supports several RTS objectives, particularly in the field of low carbon transport.

### Policy

Impact – Positive

Comment – The SATE project contributes to policy development by helping to meet the Government target of the Highlands & Islands becoming the world's first net zero aviation region.

### Financial

Impact – Positive

Budget line and value – The SATE project attracts high intervention rates, with SATE phase 1 funded at 70% and SATE phase 2 at 100%.

### Equality

Impact – Positive

Comment – The SATE project delivers environmentally sustainable aviation and therefore helps to ensure lifeline transport options are sustainable in the long-term.

## **RECOMMENDATION**

Members are asked to:-

1. Note the report.

**Report by:** Jayne Golding  
**Designation:** SATE Manager  
**Date:** 10<sup>th</sup> April 2025