

Report to Partnership Meeting 6 October 2022

Research and Strategy Delivery

SATE PROJECT UPDATE

PURPOSE OF REPORT

To update Members on HITRANS involvement in the Innovate UK Sustainable Aviation Test Environment (SATE) Project.

PROJECT OVERVIEW

Part-funded by UK Research and Innovation (UKRI) through the Industrial Strategy Challenge Fund, the SATE project 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 of the project started in November 2020 and ended in July 2022.

Funding worth £8.9 million has now been obtained through UKRI Future Flight Challenge for SATE to continue for a further 24 months. The funding will allow the SATE project to build on the success of Phase 1, which saw some pioneering sustainable aviation technology demonstration flights delivered, including: a successful collaboration between drone specialist technology firm Windracers with Royal Mail on autonomous flights; and the first hybrid electric flights for Scotland pioneered by Ampaire. This activity showcased the project on a global stage. Dedicated hangar facilities and office space have also been created at Kirkwall Airport.

While Phase 1 established the test centre, Phase 2 aims to allow SATE to expand on the success that has already been delivered and further develop a UK Centre of Excellence for Sustainable Regional Aviation. The project will allow technology partners to test in a real-world environment, taking them closer towards being able to offer sustainable innovation options for commercial use.

The project matches the new technology with practical use cases in the Highlands and Islands as part of Phase 2. These will include:

- Scheduled airline routes
- Offshore energy services
- National Health Service activities
- Island / remote region deliveries
- Environmental survey and inspection

Project highlights will include the establishment of a UAV hub-and-spoke delivery network, a first hydrogen-propelled regional-aircraft flight and a drone demonstration flight from Scotland to Norway.

As an exemplar early-adopter of other low-carbon technologies, Orkney is seen as an ideal 'living laboratory' for testing aviation and aerospace technology. Kirkwall Airport is well suited as a test environment location due to the variety of short routes it offers acting as a hub connecting Orkney's Island communities through its inter-island flight service. While the SATE facilities are based at Kirkwall Airport, Phase 2 involves plans to work with other Highlands and Islands communities

SATE brings together an international consortium of 12 partners, from industry, public sector, and academia. The partners are: HIAL, Arcadis Consulting Limited, Connect Places Catapult, The European Marine Energy Centre (EMEC), Flare Bright Ltd, The Highlands and Islands Transport Partnership, Loganair Limited, University of Highlands and Islands (UHI), Windracers Limited, Zeroavia Limited; Highlands & Islands Enterprise (HIE); and Orkney Islands Council. The project is also working closely with other local authority agencies.

HITRANS ROLE

Our role in the project is to lead on the Use Case Developments – investigating and developing use cases to embed the technologies developed through SATE in real world, operational scenarios. There are 5 use cases we are leading on, with the topics:

- Autonomous delivery
- Rapid air transfer
- Rural transit
- Maintenance and inspection
- Intra-city in rural situations

We are currently recruiting for a Project Officer who will lead on this work, identifying potential end users of the emerging technologies across the Highlands & Islands. The post-holder will be the first point of contact for Local Authorities, other public bodies, and businesses to gather an understanding of their transport needs that will be matched with new technology.

Additional activities HITRANS will undertake as part of the project is the installation of a charge point at Kirkwall Airport, and electric car club vehicles – both recommendations identified in the Low Carbon Surface Access Report completed as part of SATE phase 1.

HITRANS budget is £181,528 and is 100% funded.

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: Projects and Policy Manager
Date: 6th September 2022