

Item:
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Report to Partnership Meeting 26 April 2024

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 is currently due to end in March 2025 following an approved extension.

LEAD PARTNER UPDATE

With effect from 5th February 2024, HITRANS replaced HIAL as Lead Partner of SATE, taking over WP1: Project Management. This has involved the transition of all associated SATE staff to HITRANS (SATE Manager, Regional Sustainable Aviation Manager, SATE Business Manager and SATE Project Coordinator), as well as communication activities for the project.

PROJECT UPDATE

An update is provided below for each of the technical Work Packages within SATE.

WP2: Use Case Development

HITRANS is leading the dedicated work package focusing on use cases for the emerging technologies in SATE. Areas being identified through the research include deliveries of time-critical supplies, improving connectivity in rural areas, enhanced tourism opportunities, and maintenance and inspection.

Findings have been presented internally to HITRANS and with SATE consortium members. Further engagement is currently underway to present the work across HITRANS local authority areas, specifically infrastructure committee meetings and community planning meetings.

WP3: Use Case Demonstration

The intention is for Windracers to trial in the Orkney Islands in summer, pending CAA sign-off. Significant work has been undertaken on developing the concept of operations and associated documentation for CAA approval. Subsequent operations will see Windracers undertake trials across Shetland and the Western Isles, with use cases being lined up to ensure that the services can meet business and community needs.

ARC Aerosystems are continuing to develop the C600 aircraft from Visual Line of Sight (VLOS) to Beyond Visual Line of Sight (BVLOS) operations, building on their earlier tethered flight trial at Wick John O'Groats Airport in October 2023.

WP4: Airport Infrastructure & Operational Systems

As part of the most recent Project Change Request, Cranfield Aerospace has joined the consortium to lead WP4. With their hydrogen expertise, Cranfield is now leading an assessment on what will be needed to safely refuel an aircraft with gaseous hydrogen in a commercial airport environment. Working closely with EMEC and HIAL, Cranfield has kicked off the activities with an initial focus on the concept of operations for commercial hydrogen refuelling.

WP5: Development of a Dedicated Test Environment Airspace

HIAL has recently submitted an application to the CAA Sandbox for the trial airspace test zone in the Orkney Islands, in partnership with Windracers. The CAA changed its requirement for trial airspace test zones in December, resulting in the requirement for SATE to apply to the Sandbox to proceed with the airspace developments. The outcome of the application is expected to be known by mid-May.

WP6: Impact & Policy Development

UHI has been finalising the energy modelling work, reviewing energy demand, generation, and storage. Connected Places Catapult has completed their demand model and geospatial analysis and are finalising their high-level impact assessment.

WP7: Exploitation & Dissemination

Arcadis is continuing work on the SATE exploitation plan, and HITRANS has been working closely with 3x1 on several SATE communication activities since the lead partner transfer, including:

- A new SATE website has been developed (<https://sate.scot>). The website is being continually updated, with feedback welcome on content and usability.
- Planning for the upcoming SATE Conference, being held in Inverness on 9th May 2024.
- Refreshing the SATE branding.

SATE was featured at the Scottish Tourism Signature Conference in March, with SATE's Business Manager, Lukas Princ, presenting on the realm of sustainable aviation technologies and the path towards new tourism opportunities for the region.

SATE was recently awarded the 'Multiparty Collaboration' award at the 2024 Scottish Knowledge Exchange Awards, following submission by UHI, recognising achievements in research and development across organisations, colleges, and universities. SATE has also been shortlisted in the Scottish Transport Awards in the Excellence in Technology and Innovation category.

BUDGET

HITRANS receive 100% funding based on the organisation classification within the UKRI programme. To cover costs associated with the Lead Partner move, HITRANS received an additional £363,692 grant, resulting in a total budget of £545,220.

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
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Date: 15th April 2024