

WINDRACERS

Temporary Airspace Change ACP-2022-051
Initial Assessment Meeting

23rd November 2022



Agenda

- Windracers
- ULTRA UAS
- Prior BVLOS Operations
- The Project
- Statement of Need
- ACP-2022-051
- Stakeholders
- Timeline



Who are Windracers

Windracers is a UAV technology company leading the effort for the use of uncrewed aircraft systems (UAS) to deliver critical cargo to remote areas of the UK.



ULTRA UAS Overview

Proven highly-automated platform with minimal operating costs



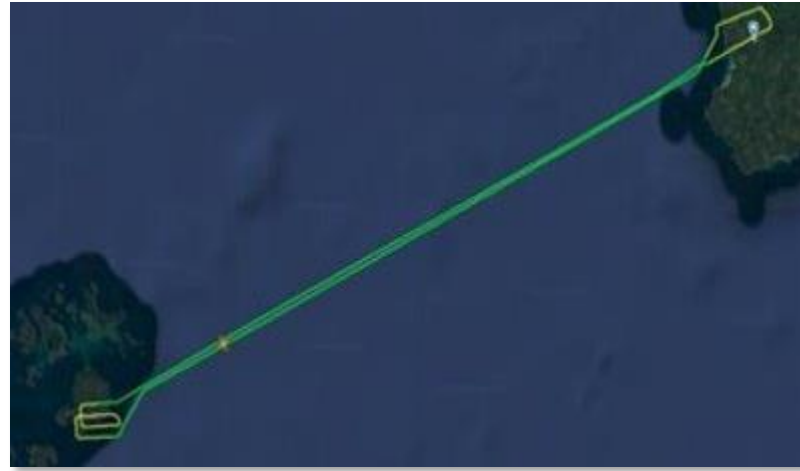
- Designed for robustness with broad wind & weather limits
- First flight in May 2019
- Extensive flight testing - hundreds of operating hours
- Highly reliable autopilot/avionics system
- Multiple BVLOS operations in the UK
- EC - Mode S + ADSB IN/OUT

Parameter	Design Goals
Range	550 Nm (+45min reserve)
Payload	100 - 150 kg
Empty weight	270 kg
Maximum take off weight	450 kg
Payload volume	700 L
Cruise speed	75 Kts
Take off and landing	150 m (Nil wind)
Maximum endurance	12+ hours
Electrical power	350W or 2kW
Runway	Dirt, grass and tarmac

Windracers BVLOS Operational Highlights



The Solent - 8 Nm Route

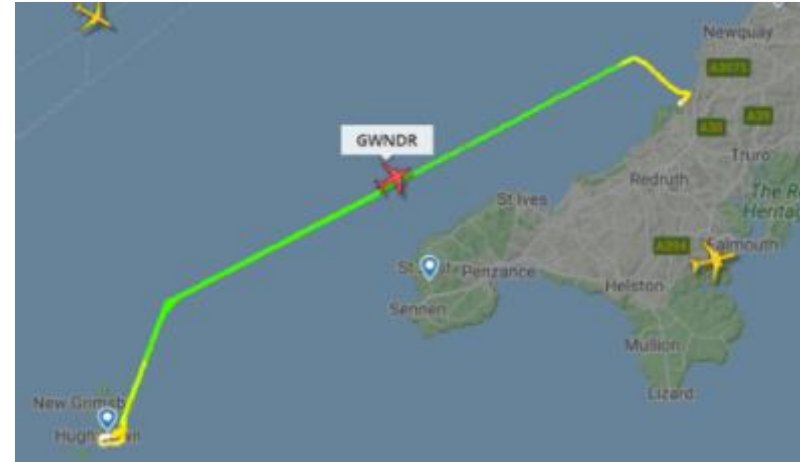


Land's End to St Mary's - 30 Nm Route



Predannack BVLOS Routes up to 120 Nm
Flight at 7000 ft AMSL

Strictly Private and Confidential



The Scilly Airbridge - 60 Nm Route
4 weeks scheduled flights

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Scottish Network - Routes up to 100 Nm
Reduced crew - Relayed BVLOS



The Project: SATE 2



- Sustainable Aviation Test Environment
- Project within the Innovate UK Future Flight Competitions
- SATE 1 started in 2020 and finished this summer
- SATE 2 is the continuation with a larger consortium
- Running until 2024

UKRI-Funded Partners

Self-Funded Partners

Project Supporters

Statement of Need

- SATE and UKRI
 - Test and showcase new technology for island and wider use
 - Create social benefit and economic prosperity
- Demonstrate the use of ULTRA Unmanned Aircraft System (UAS)
 - Deliver on demand supplies to remote communities
 - Reduce struggle from mistimed or limited logistics.
- Preliminary trials and engagement with key local stakeholders
 - Priority for medical supplies to remote health care service providers
 - Transport of mail to island communities
 - Logistic support to the supply chain of island industries
- Beyond Visual Line-of-Sight (BVLOS)
 - Establish segregated airspace
- Temporary Danger Areas to enable these operations in the Shetland Islands.
- TDA to be activated during short periods of time
 - Separately or in combination
 - Minimising the impact over other aviation activities
 - Anticipated that this ACP will last no longer than 8 weeks
- Participation of ATS for TDAs
 - Information or crossing services during operation

ACP-2022-051

- Planned Airfields:
 - Unst, Tingwall, Fair Isle, Foula, and Kirkwall.
- Current commercial interest involves:
 - Local councils
 - NHS
 - Scottish Water
 - Royal Mail Group
- What can we provide?
 - Middle mile logistics
- Data we can collect
 - Electric conspicuity data
 - Non-Cooperative data



List of Stakeholders

Key Stakeholders

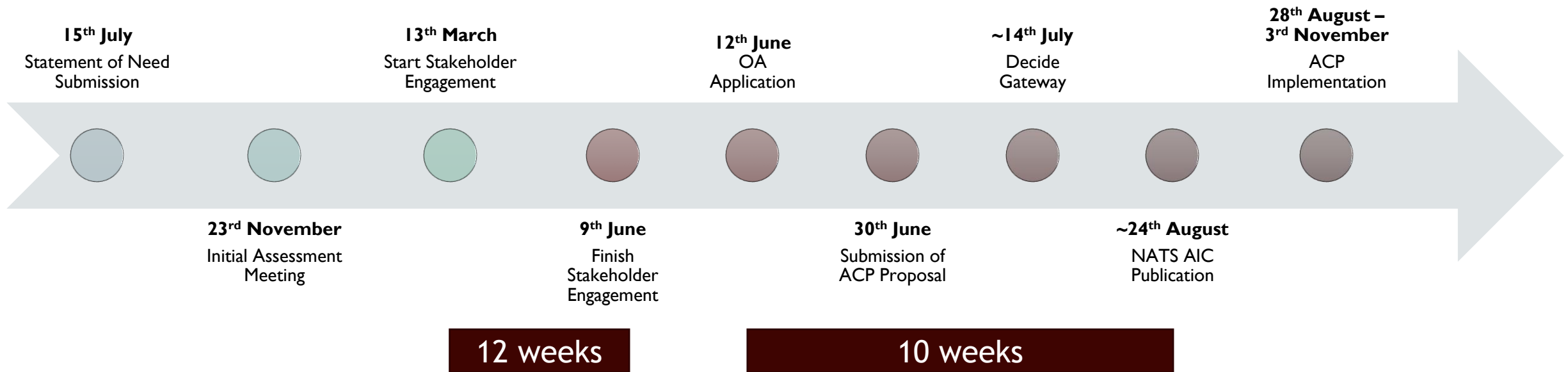
- Highlands and Islands Airports Limited (HIAL)
- Orkney Islands Council
- Shetland Islands Council
- National Trust for Scotland
- Airtask
- LoganAir
- Gama Aviation
- Wiking Helicopter
- Babcock
- Shetland Space Centre
- Northern Lighthouse Board
- Scottish Natural Heritage
- Local GA
 - Lamb Holm Airfield Orkney
 - GA Orkney
 - GA Tingwall
 - Shetland UAV Operators
 - Moray Flying Club

Wider Stakeholders

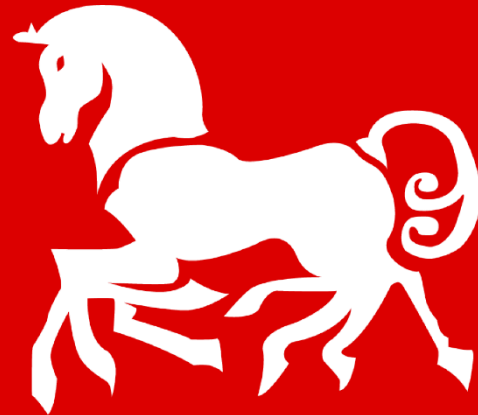
- General Aviation Alliance (GAA)
- MoD DAATM
- Navy HQ
- United States Air Force Europe (3rd Air Force-Directorate of Flying (USAFE (3rd AF-DOF))
- Airspace 4 all
- NATS
- Aircraft Owners and Pilots Association (AOPA)
- British Business and General Aviation Association (BBGA)
- Local police
- British Helicopter Association (BHA)
- British Skydiving
- Specialist Aviation
- National Police Air Service
- British International Helicopters
- Bristow SAR
- ARPAS UK

To be updated against NATMAC list

Proposed timeline



Thank you for listening
Any questions?



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www.windracers.org