
ACP – 2022 – 103

Final Submission

CAELUS Project Trial C – Ayrshire and Arran

July 24

Doc V4

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# 1 Introduction

## 1.1 CAELUS Project

1. This temporary change for an airspace trial is in support of the CAELUS ConOps which looks to trial various aspects of an ecosystem that could be required to facilitate a drone service for NHS, capable of being scaled to operate nationally. The trials will aim to further understanding of the safe operations of BVLOS and indeed all airspace operations in CLASS G airspace while validating the important potential improvements in NHS services. The flights for this temporary change are planned to occur within a TDA. UAS operations will need to scale to meet the demand of the populace associated with conurbations. This temporary change enables the project to evaluate and develop the supporting systems in the round across the whole ecosystem to ensure safe and equitable integration of crewed and uncrewed operations whilst providing NHS staff valuable opportunity to understand how a service might operate and to compare across diverse geographies by working within multiple health boards in Scotland. The TDA provides the safety of flight for all airspace users with the intention to reduce the segregation as these supporting systems are validated, developed and approved by the regulator.

## 1.2 CAP 1616 ACP Submission

2. CAELUS submitted a DAP 1916 22 Dec 22 for a trial ACP for BVLOS operations in the vicinity of Prestwick Airport in the Ayrshire and Arran region to facilitate UAS operations between University Hospital Crosshouse and Arran War Memorial Hospital. An assessment meeting was held virtually on 03 May 23 between members of the CAELUS Consortium and the CAA Airspace Regulation (AR) team and RPAS Team. During the Assessment Meeting it was agreed that it would be appropriate for ACP 2022-103 to follow the Temporary Change process as per CAP 1616. A redacted version of the minutes of that meeting was uploaded to the CAA portal on the 21 May 23 together with a redacted version of the presentation.

3. This document forms part of the CAELUS Consortium submission to the CAA for consideration under the CAP 1616 process for a temporary change and should be read in conjunction with ORA submitted to the CAA RPAS team.

## 1.3 Statement of Need

4. The Statement of Need submitted is replicated below for ease of reference:

Project Overview

The CAELUS (Care & Equity – Healthcare Logistics UAS Scotland) consortium is led by AGS Airports Ltd on behalf of NHS Scotland and the consortium partners and part funded by Innovate UK through the Industrial Strategy Challenge fund, Future Flight competition. The project which brings together AGS Airports, NHS Scotland, NATS, ATKINS, Cellnex, Connected Places Catapult and 10 other companies are working together to demonstrate the viability of a national drone network that can transport essential medicines, bloods and other medical supplies throughout Scotland. The project will deliver a Concept of Operations (CONOPS) for the transition to fully integrated UAS operations at a national level. This specific workstream, led by NATS will develop and publish a phased approach outlining proposed airspace constructs and detailing regulatory and technology gaps required to enable the transition. Elements of this CONOPS will be validated through live flight operations, differentiating CAELUS from other projects by seeking to move the industry forward by proposing and validating a method of operations that are fully integrated and sustainable.

Opportunities /Need
Healthcare opportunity

With approximately 26% of Scotland's population living in remote or rural areas spread across 69% of the land mass, service delivery can encounter constraints which contributes to treatment inequity. NHS Scotland encompassing the Territorial Boards and Scottish Ambulance Service (SAS) views the adoption of Unmanned Aircraft Systems (UAS) or drones as an opportunity to transform the patient experience and reduce the impact of traffic congestion and CO2 emissions. Key to this is the driver of the NHS Scotland Recovery Plan (2021) which highlights the essential need for research, innovation and redesign as integral to the recovery of NHS Services. For both

SAS and NHS Scotland equity in the delivery of healthcare is a key driver for involvement in this project as NHS Scotland considers how to remobilise and redesign services to address the needs of Scotland's health and social care challenges. A current strategic directive for SHIP (Scottish Health Industry Partnership) is to grow the economy (community wealth building) and support remobilisation, accelerating the adoption of Innovation into NHS and Social Care (Life Sciences in Scotland, 2022). A drone-based network has the potential to reduce mileage and produce significant time saving opportunities improving patient experience, outcomes and equity in care delivery. As a formal partner of the consortium, NHS Scotland via lead board NHS Grampian, are providing a joined-up approach bringing input and expertise from health boards and SAS under the "Once-for Scotland" banner. The NHS will define and support at ground level the clinical use cases that will be flown or simulated in the live and digital demonstrations.

Informing Regulation

Today, most beyond visual-line-of-sight (BVLOS) UAS operations can only be conducted within segregated airspace. The most common way to achieve this is to establish temporary danger areas (TDAs) for the UAS to operate within. Current regulation is designed to consider a per flight basis without means to provide a scalable solution. Recognised detect and avoid capabilities are basic. CAELUS intend to validate a developed concept of operations around airspace structure and use that is scalable and sustainable.

Proposed Operations

We aim to utilise volumes of segregated airspace across Scotland in a total of 5 locations to enable us to prove elements of our proposed future concept of integrated airspace. For this proposal, we intend to fly in the Ayrshire & Arran region representing use cases for West NHS Innovation board and Scottish Ambulance Service. The use cases will require the airspace to be in place for a maximum of 8 weeks with expected flying during 4 of those weeks. Our proposal is that we activate the segregated airspace for limited duration. The airspace dimensions and duration of activation will be informed by stakeholder feedback. This segment of flying will be undertaken by Skyports. A system of ADS-B Receivers will be deployed to demonstrate an additional layer of situational

awareness to the UAV pilot along the flying routes and contribute to the Detect and Avoid solutions that will form part of the demonstrations.

## 1.4 Concept of Operations

5. The CAELUS project is supported by a ConOps that has been provided to the CAA and the flights conducted during the activation of the TDA's will be used to support this in order to work towards the accommodation phase of BVLOS flights in unsegregated airspace and to meet the following objectives in a safe manner:

    a. Demonstrate safe integrated BVLOS operations in the vicinity of commercial airport operations inside Controlled Airspace
    b. Determine level of impact for crewed aviation
    c. Demonstrate UA Remote Pilot (RP) can communicate with ATC to ensure airspace is only segregated when absolutely necessary, minimising impact to other airspace users.
    d. Demonstrate the UTM capabilities that could enable upscaling and integration in the future through adoption of technology (such as sharing of flight intent data, mission requests, conformance monitoring)
    e. Produce final report which can be used by CAA to enable a pathway to regulation.

6. The ConOps has been developed to align and be consistent with the CAA Airspace Modernisation Strategy 2040 vision.

7. The CAELUS consortium has developed a mapping of the trial objectives that will be assessed during the flights planned for this ACP. This work has been completed through a number of workshops held within the CAELUS Consortium. The output of this is attached to the ACP submission as Appendix 1 and demonstrates how each objective maps to a Future of Flight 3 'parent' objective together with details of the data and outcomes necessary to demonstrate the success of the trial objectives.

8. The following data will be gathered in order to validate success of the defined objectives and to inform any advice and recommendations to the stakeholders/regulators involved in similar trials:

a. Operations fully conducted as per identified procedures. Any deviations from ideal uninterrupted flights are in agreement with pre-defined contingency procedures (e.g., rally point landing) and pose no additional risk.
b. Record any events that would not have occurred if the UAV trial did not take place. That includes aircraft delays, refused/delayed clearances, transits of airspace.
c. Collection of feedback via interview/questionnaire by ATC and RP.
d. Supervision of the UTM system by non-operational ATC. Collection of feedback via interview/questionnaire by ATC and RP. Confirm reliability of the system as well as accuracy/delay of the streamed data.
e. Gather CAA feedback on the received results. Agree on acceptable repetition required to confirm the concept; agree on any acceptable changes to the processes that would bring the trial a step closer to being considered "routine operations".
f. Calculations and data recording to determine the surveillance (non-operational) and UTM partners (Plane Finder and ANRA) systems benchmarks.

# 2 Airspace

## 2.1 Overview of Operations

9. The activity undertaken will consist of a series of live flights between University Hospital Crosshouse and Arran War Memorial Hospital. The flights will take place over the course of 4 weeks with a payload provided by the NHS. The live trial will see the Skyports UAV flying for 4 weeks during the validity of the AIC (target AIC publication date **12 July 24**) starting from **27 August 24** to ensure aviation stakeholders have sight of the AIC and promulgation of the activity will be via NOTAM a minimum of 24hrs in advance.

**10.** Operations will take place over a 4-week period with periods of activation up to twice a day.

## 11. Drone Flying Programme

- Skyports will publish their planned flying programme 48 hours in advance showing the planned start and finish times for flying activity and the sequence of routes to be flown. Each drone flight will be given an individual flight ID. The flight IDs are numerically sequential, and the suffix indicates the route to be flown as in the example table below:

- On receipt of the flying programme, Prestwick ATC will check the proposed day's schedule/staffing/planned radar maintenance etc to identify any known obstacles to being able to provide a SUACS.

- Prestwick PSR and Lowther Hill SSR both required for provision of SUACS.

| Flight ID | From | | To | Elapsed Time (nil wind) |
|---|---|---|---|---|
| CAELUS1A | Crosshouse | | Arran | 0030 |
| CAELUS2B | Arran | | Crosshouse | 0030 |
| CAELUS3A | Crosshouse | | Arran | 0030 |
| CAELUS4B | Arran | | Crosshouse | 0030 |
| Note 1 | | | | |
| Note 2 | Special Use Airspace Activity Information Service(SUAAIS) will be provide information on the status of the TDAs.<br>Special Use Airspace Crossing Service (SUACS) will be provided by PRESTWICK ATC | | | |
| Note 3 | Skyports will promulgate the TDA activation times and contact details of the Flight Operations Team by NOTAM at least 24 hours before the planned use. | | | |

Table 1 Periods of activation proposed during the 4-week period

### UAV Aircraft

12. Skyports DS will be using the Swoop Kite for drone delivery operations, supplied by unmanned aircraft system (UAS) manufacturer, Swoop Aero. The UAS has been specifically selected by Skyports to further enhance air safety through the addition of ADS-B 1090 IN and OUT, and Mode S, to further reduce the air risk profile of our operations and improve situational awareness.

13. Skyports have submitted their ORA to the CAA RPAS team and further details of this UAV can be found within Skyports ORA Vol.2 Swoop Kite. It is acknowledged that any approval of the ACP will be subject to the ORA approval, and no activation of the airspace will be possible without it.

14. An image of the Swoop Kite at Fig 1 and Table 2 below show the image and UAV specifications respectively.


*Figure1 - Swoop Kite EVTOL*

| | |
|---|---|
| ame | Swoop Kite EVTOL |
| Flight Performance | Max Range 160 km<br>Cruise Speed 68 kt IAS |
| OEW/MTOW | 22.5kg/26.4kg |
| Operating Conditions | Max wind speed: 30kts with gusts up to 44kts<br>Precipitation: Moderate rain (10mm per hour) up to 30 minutes, light rain (less than 2.5mm per hour) indefinitely<br>Temperature range: -10 degrees Celsius to 50 degrees Celsius |
| Transponders | Transponder 1090ES ADS-B Out and ADS-B IN , which can process uncertified ADB-B signals and Mode S |

# 3 Airspace

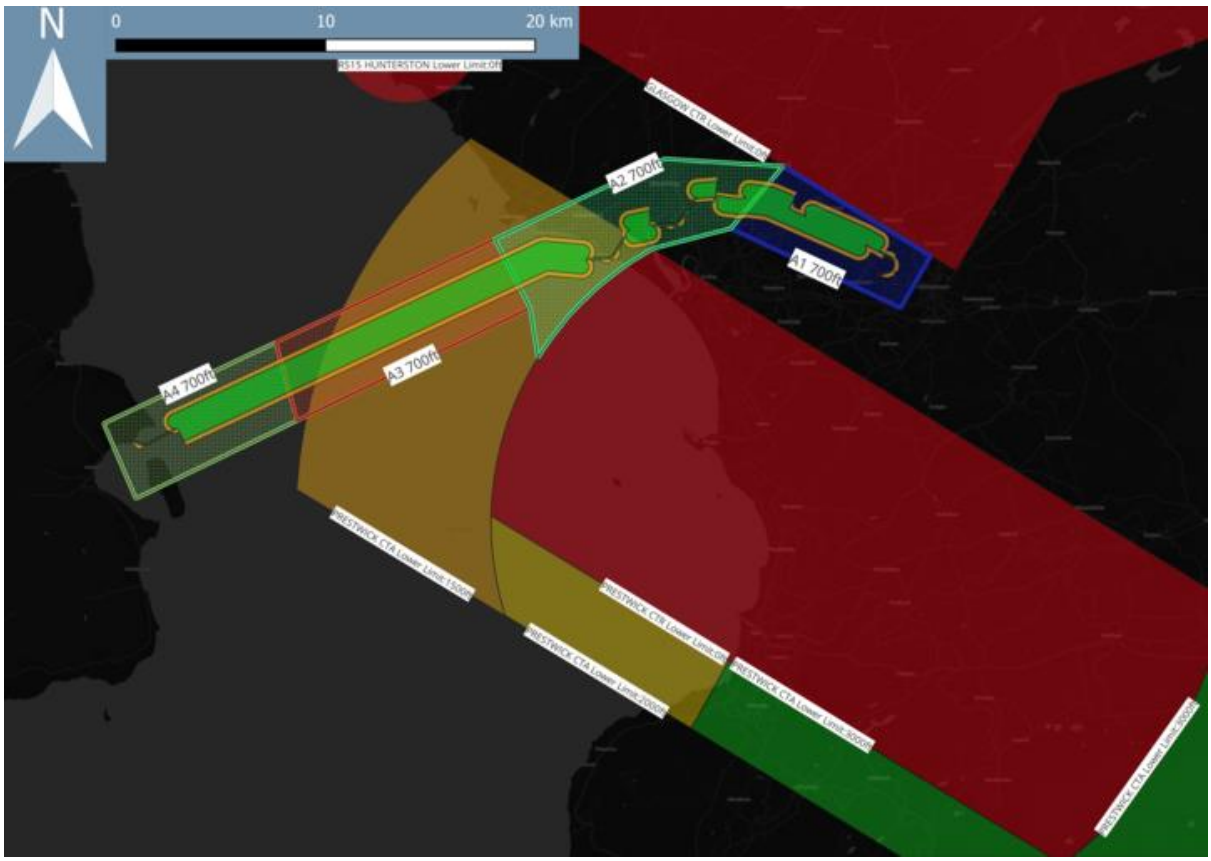


*Figure 2 - Proposed routing with TDA segments detailed*

15. The route itself is designed in such a way, so that it lies predominantly over sparsely populated areas and where possible over the sea (see noise assessment). The route is designed to mitigate populous and infrastructure ground risk, and the impact of noise pollution.

16. The TDA segments have vertical dimensions of Surface Level to a maximum of 700ft AMSL and lateral dimensions of 2-4 Kms and are in the form of a corridor which is segmented as shown at Figure 2. above.

The following is replicated from the draft AIC which will be submitted to CAA Airspace Regulation together with this document.

REQUIRED DANGER AREA AND TEMPORARY SEGREGATED AREAS WILL BE NOTIFIED BY NOTAM DANGER AREA XXX

EGDXXXA. (Segment A1) When required between 27 August 24 and 20 September 24 2024 a TDA is established within the area bounded by straight lines joining successively the following points:

a) 553805N 0043857W;
b) 553940N 0043635W;
c) 553723N 0042955W;
d) 553603N 0043116W;
e) 553805N 0043857W.

The TDA is established between surface and 700 FT AMSL.

A Special Use Airspace Crossing Service (SUACS) and Special Use Airspace Activity Information Service (SUAAIS) will be available during the hours of watch, from Prestwick Radar on 129.450 MHz. Additionally, a SUAAIS will be available from Scottish Information on 119.875MHZ. Pre-flight information will be available from the RPAS operator by telephone on the telephone number detailed in the NOTAM.

EGDXXXB (Segment A2). When required between 27 August 24 and 20 September 24 a TDA is established within the area bounded by straight lines joining successively the following points:

a) 553447N 0044739W;
b) 553603N 0044800W;
c) 553749N 0044936W;
d) 553951N 0044155W;
e) 553940N 0043635W;
f) 553805N 0043857W;

g) 553734N 0044227W; then anti-clockwise by the arc of a circle radius 8 NM centred on 553034N 0043540W
h) 553447N 0044739W.

The TDA is established between surface and 700 FT AMSL.
A Special Use Airspace Crossing Service (SUACS) and Special Use Airspace Activity Information Service (SUAAIS) will be available during the hours of watch, from Prestwick Radar on 129.450 MHz. Additionally, a SUAAIS will be available from Scottish Information on 119.875MHZ. Pre-flight information will be available from the RPAS operator by telephone on the telephone number detailed in the NOTAM.

EGDXXXC.(Segment A3) When required between 27 August 24 and 20 September 24 2024 a TDA is established within the area bounded by straight lines joining successively the following points:
a) 553310N 0045832W;
b) 553510N 0045929W;
c) 553749N 0044936W;
d) 553603N 0044800W;
e) 553310N 0045832W.
The TDA is established between surface and 700 FT AMSL.
A Special Use Airspace Crossing Service (SUACS) and Special Use Airspace Activity Information Service (SUAAIS) will be available during the hours of watch, from Prestwick Radar on 129.450 MHz. Additionally, a SUAAIS will be available from Scottish Information on 119.875MHZ. Pre-flight information will be available from the RPAS operator by telephone on the telephone number detailed in the NOTAM.

EGDXXXD(Segment A4). When required between 27 August 24 and 20 September 24 a TDA is established within the area bounded by straight lines joining successively the following points:
a) 553510N 0045929W;
b) 553310N 0045832W;
c) 553111N 0050549W;
d) 553306N 0050716W;
e) 553510N 0045929W.
The TDA is established between surface and 700 FT AMSL.

A Special Use Airspace Crossing Service (SUACS) and Special Use Airspace Activity Information Service (SUAAIS) will be available during the hours of watch, from Prestwick Radar on 129.450 MHz. Additionally, a SUAAIS will be available from Scottish Information on 119.875MHZ. Pre-flight information will be available from the RPAS operator by telephone on the telephone number detailed in the NOTAM.

# 4 Buffer Policy

17. The activity within the TDA is a hazardous activity in accordance with the CAA Buffer Policy. However, since Prestwick ATC are the controlling authority providing the SUACS and management of the temporary airspace and have been part of the development of the TDA design and operating procedures, CAELUS2 is seeking dispensation from the buffer policy for the ACP-2022-103. The UA is also subject to an ORA approval, which contains the evidence that the hazardous activity of BVLOS flight can be contained within the planned volume of airspace. A HAZID has also been carried out in support of the TOI which enables the provision of the SUACS by Prestwick ATC.

## Special Use Airspace Policy

18. On 12 February 24 the CAA published “Policy Statement POLICY FOR THE ESTABLISHMENT AND OPERATION OF SPECIAL USE AIRSPACE”. This was after the date of submission for this ACP which consequently did not include that Policy. However, now it is being resubmitted the new policy has been taken into account and is now reflected within this ACP. In particular the following design principles from the policy have been utilised.

- When designing SUA structures, the following design principles shall be considered:
    - It should be as small as practicable and should be contained within simple geometric limits to allow for easy reference to all concerned parties.
    - The lateral and vertical limits should consider adjacent airspace and endeavour to minimise the impact to other airspace users.
    - Activation times should be the minimum required to facilitate the requirements for the SUA.
    - SUACS should be provided to maximum use of FUA.

### International Ayr Show- Festival of Flight

19. Through Engagement CAELUS has been made aware of this event which takes place on 6th/7th September 24. To mitigate the impact of the proposed TDA CAELUS undertakes not to activate the proposed TDA or operate on the 5th/6th/7th/8th September 24.

# 4 Operations

20. There will be no change to established aircraft routes below 7000ft, no change to existing promulgated airspace including holds or VFR reporting points. A Temporary Operating Instruction (TOI) will be in place for Prestwick ATC and Letters of Agreement will be held between Prestwick ATC and the UAV operator (Skyports). The Letter of Agreement, agreed in draft form subject to this ACP submission, has been submitted and will be in place prior to any operations taking place and will be subject to approval from the CAA Aerodrome Inspector:

## 4.1.1 Deconfliction Principles

21. As the ANSP, Prestwick ATC will be supporting the segregation of the UAV operating area and other airspace users. Temporary Danger Areas (TDA) in Class G airspace will be established and promulgated via AIC. Times of activation will be notified by NOTAM at least 24 hours in advance of drone flight operations.
22. There is one route defined: Crosshouse/Arran Only the airspace required for the route to be flown on each day will be activated.

23. The TDAs are sectorised and the upper limit of all sectors is 700ft amsl. The drone will operate not above 400ft above surface level at all times. A Special Use Airspace Crossing Service (SUACS) will be provided by Prestwick ATC who may permit other aircraft to access TDA airspace subject to the known status of activity within it and the relevant TOI and LOAs.

## 4.1.2 Infringements

24. In the event of an aircraft in emergency/priority flights or infringement of CAS by unknown aircraft, the ATCO will follow the procedures as set out in the TOI as approved by the CAA ATM Inspector.

### 4.1.3 Communications

25. The Remote Pilot (RP) of the drone will be located remotely at Skyports' facility in Buckinghamshire. The RP has 2-way communications with Hub Operators (HO) located at each of the take-off and landing sites.

26. All communications between ATC and the RP will be via telephone.

### 4.1.4 Weather

27. Drone flying will not commence when the visibility is less than 5km or cloud base is below 1500ft as reported in the Prestwick METAR. This is to help enable other VFR traffic to transit above the TDA and remain clear of cloud.

28. Prestwick ATC will inform Skyports whenever the METAR/SPECI reported visibility drops below 5km or cloud base falls below 1500ft when drone flying is taking place.

29. The drone has a number of other weather requirements which include wind speed, temperature and precipitation. Skyports will be responsible for continuing to monitor Prestwick METARS and TAFS to ensure all weather minima are complied with.

### 4.1.5 Emergencies

30. Emergency procedures are detailed in the Skyports ORA which has been submitted to the CAA RPAS Team. Further ATC emergency procedures are contained within the PRESTWICK TOI/LOS and subject to approval of the CAA ATM Inspector.

31. Prestwick ATC have developed a TOI for the safe operations of the BVLOS flights within the TDA proposed under this ACP and will be subject to CAA regulatory approval. It is understood that any airspace approved under this ACP will not be activated without the relevant TOIs having been approved.

# 5 Environmental and Noise Impacts

32. As part of ConOps development, the flights were carefully planned to minimise noise in the areas of operations. Skyports do not envisage any adverse impact on tranquility when operating over inhabited areas due to the following reasons:

- According to previous measurements, the mean maximum sound pressure level ($L_{ASmax}$) of the Swoop Kookaburra Mk III UA during take-off and landing is 76dB, and that when the UA is cruising at a height of 200ft AGL is 49dB, which is virtually undetectable from ground. The most audible part of the flight, i.e. take-off and landing, typically takes 17.57 seconds at standard climb/descend rate, and 8.98 seconds at maximum climb/descend rate. The UA is a hybrid-powered lift transitional platform which takes off and lands vertically. In normal circumstances, the UA will cruise at a height of 400ft AGL. While the UA to be used on this part of the CAELUS project is the next generation Swoop aircraft, the Kite, due to it being designed very similarly to the Kookaburra (fixed-wing, VTOL), we believe the noise impact of the Kite to be extremely similar to that of the Kookaburra. The operations will take place over 4 weeks. Skyports believes the noise impact with such a short span of time, and small noise footprint, is negligible.
- The sorties will be wholly contained within the temporary airspace which is comprised of a Temporary Danger Area where the airspace sits within Class G airspace. The majority of the sortie is required to be operated Beyond the Visual Line of Sight (BVLOS).

33. The routes were carefully designed that we prioritise operating over sparsely populated areas, and also where possible over the sea (see Figures 6 and 7 below; the colours denote population density). At key locations such as TOLPs, they were also chosen to be located outside/away from residential areas to minimise the noise impact during take-off and landing (see Figures 8 and 9 for Arran TOLP, 10 and 11 for Crosshouse TOLP.

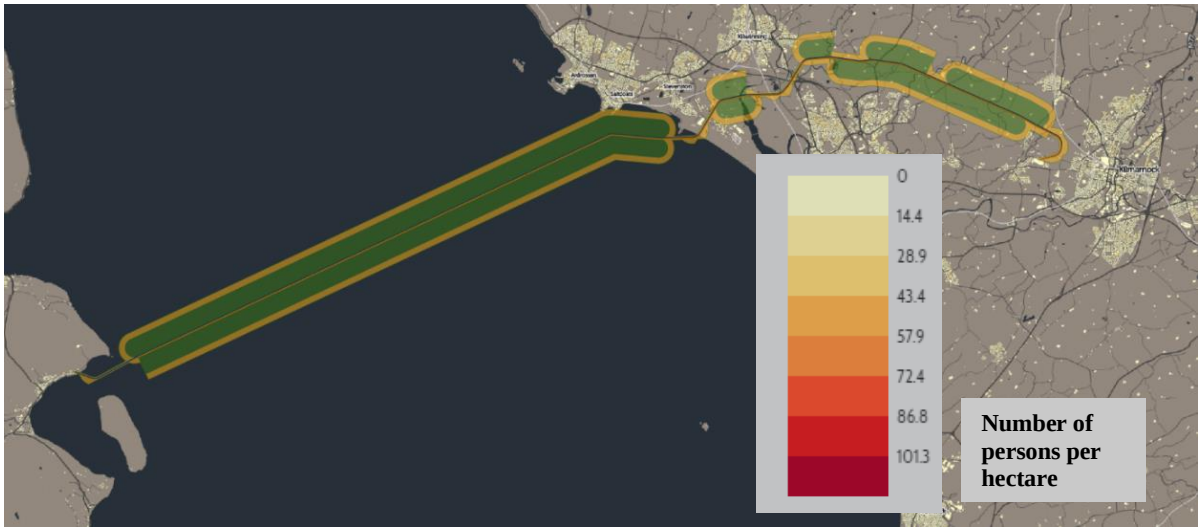


*Figure 3 - Population density map with flight routes overlaid (Crosshouse hospital to Arran Outdoor Centre)*

34. The Arran TOLP is situated in a field next to the Arran Outdoor Centre, as illustrated in Figure 4. The nearest sensitive noise receptors are residential buildings located to the west of the TOLP, with the closest ones being 65m away (70m for houses to the north of the TOLP). Since this is a spoke location, a low volume of flights is expected to take place here; and with short take-off and landing of the UA, it is anticipated that the noise levels at this location and the impact of the noise events would be acceptable.


*Figure4- Arrival and Departure route to/from Arran TOLP (field near Arran Outdoor Centre)*


*Figure 5 - Arran TOLP and its closest building*

35. Both TOLPs for University Hospital Crosshouse and University Hospital Ayr are located on NHS hospital grounds, which means that they are close to sensitive noise receptors. However, the UA needs to take off and land as close to the hospital as possible to facilitate medical delivery for the NHS. Therefore, the TOLPs have been strategically selected at locations that have minimal noise impact on the public, while still remaining within an acceptable distance to the NHS, which retains the benefits of the operation. Furthermore, the noise level of the UA is expected to be the same or similar to vehicles and ambulances travelling to/from the hospital. For the Crosshouse TOLP there are 2 options, Option 1(fig 11) is in a field at the back of the hospital has been chosen to minimise any disturbance to patients and members of the public. Crosshouse Option 2(Fig 12) is in another field on private land approximately 200M North West of Option 1. The closest noise receptor is the farm buildings located next to the TOLP. This is not considered a blocker for this ACP given that the farm buildings are owned by the landowner of the field who has given his permission to the CAELUS consortium for the 4 weeks of these operations. The other buildings close to the TOLP are between 155m and 180m away from the TOLP with vegetation such as trees or bushes in between the

TOLP and the noise receptors. Given the limited time of these operations and the distance between the TOLP and those buildings, these are not considered to be negatively impacted by noise during this project. Similarly, the Ayr TOLP is located on the edge of the hospital boundary, far away from the main building, to reduce noise impact as much as possible.

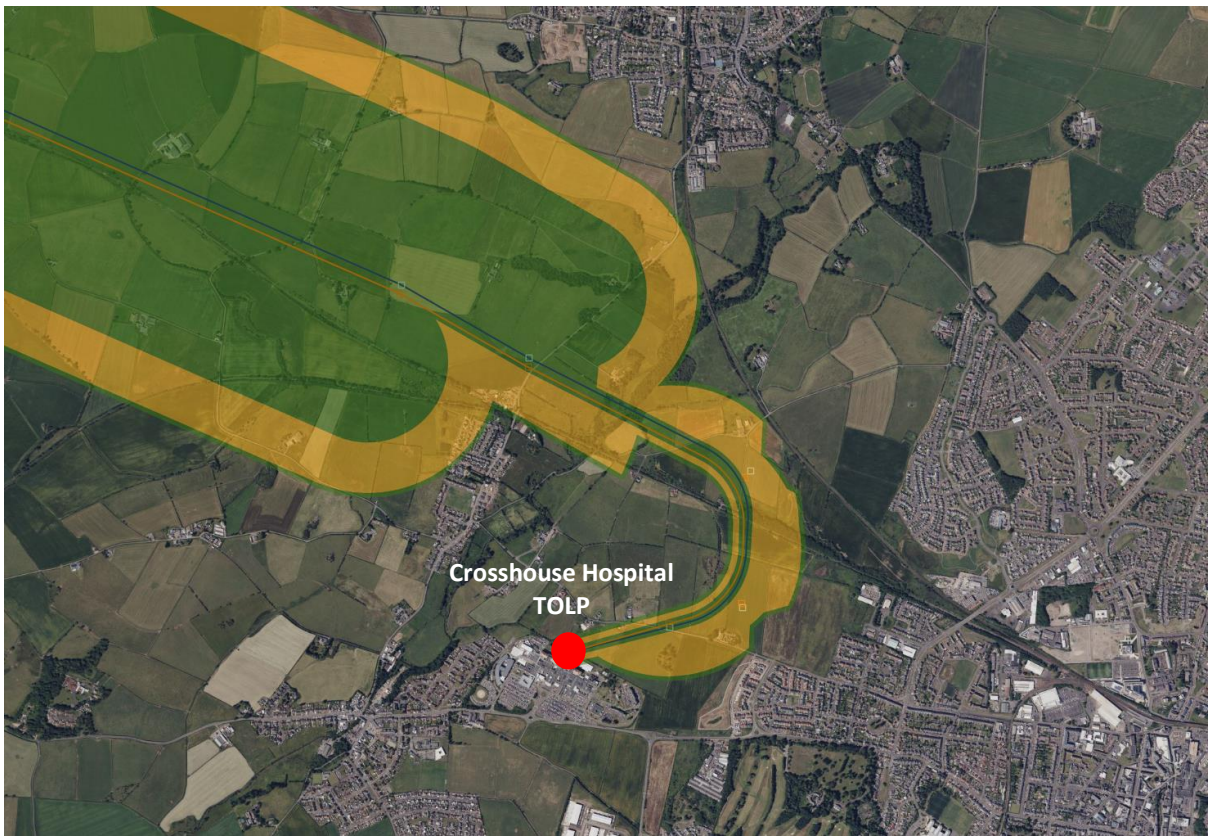


*Figure 6 - Arrival and Departure route to/from Crosshouse TOLP Option1 (University Hospital Crosshouse)*


*Figure 7- Crosshouse TOLP OPTION 1 at the back of University Hospital Crosshouse*


*Figure 8- Crosshouse TOLP OPTION 2 also at the back of University Hospital Crosshouse*

Stakeholders and Engagement

36. The CAA CAP 1616 includes the requirement for Sponsors to engage with aviation stakeholders and relevant stakeholders and give due consideration to the potential impacts of the change on airspace users. The proposal is subject to those requirements for a temporary change as detailed at para 4.13 of CAP 1616. The stakeholder methodology and summary of feedback and also stakeholder evidence are attached at Appendix 2 and 3 respectfully.

37. CAELUS undertakes to engage with stakeholders post the decision of the CAA regarding this ACP to inform them of the outcome. CAELUS undertakes to also inform stakeholders of updated operations 2 weeks prior to any planned flying to remind them of the operations and enable schedule deconfliction. Promulgation will also take place via the AIC which will be published in accordance with the cycle and NOTAMs issued at least 24 hours prior to any activation.

# 6 Complaints

38. It is understood by CAELUS that complaints may be received regarding the activation of the TDA and that these complaints need to be recorded and addressed appropriately. The stakeholders engaged so far have corresponded successfully via the caelus2airspace@traxinternational.co.uk email address and this email address will be provided in the email informing the stakeholders of the outcome as a method by which complaints can be raised. The AIC will contain this email address and ask that all are forwarded to the same for addressing. All complaints, together with any infringements, will be addressed and recorded accordingly.

39. The CAA AR team will be furnished with copies of any complaints, infringements and the outcomes of the same. The CAELUS consortium is made up of in part NATS and AGS and Skyports and there is a mature relationship between all parties, as well as an established relationship with Prestwick ATC which will allow the raising of any complaints that have been made by other methods, such as through Prestwick ATC direct, and the recording and addressing of the same. Again, the CAA will be furnished with copies of any complaints that are brough to the attention of any of the CAELUS partners in connection to this ACP

# 7 Safety Assessment

40. Temporary Operating Instructions by Prestwick ATC for the operation of the airspace (to be approved by the aerodrome inspector) and Letters of Agreement with the UAV operator will be in place to ensure safe operations. A HAZID was conducted at Prestwick ATC with the relevant stakeholders and forms the basis for the TOI.

41. Skyports DS ORA Vol 3. Swoop Kite contains further details of each hazard, mitigations, evidence, statements of tolerability and the safety risk summary statement for the operation of the platform to demonstrate the safe operation of the platform.

# 8 Summary

42. CAELUS seeks to develop the NHS Scotland use cases as detailed in the Statement of Need together with validation of the objectives in support of the CAELUS ConOps being developed by NATS. It is submitted that the temporary airspace is designed to minimise impact to other aviation users yet sufficient enough to contain the hazardous activity of the BVLOS flight. The stakeholder response was encouraging with a number of stakeholders engaging with meaningful discussions and their input was used to inform the final design and operations of the airspace. The final trial is also supported by a provision of SUACS by Prestwick ATC who have been fully engaged with the process.