



# Skypports

**Skypports Limited**

**ACP-2020-038 - UAS BVLOS in Segregated Airspace**

**Targeted Engagement with Aviation Stakeholders**

**Version 1.0 – Dated: 8 May 2020**

## Amendment record

Issue	Amendment	Date
Issue 1	Initial Issue	08/05/2020

This document is controlled by the Change Sponsor (Skyports' SUA Operator). The initial release version and any subsequent revision will be subject to the approval of the SUA Operator. Amendments to this document will be recorded in the Amendment Record. For reference, a copy of this version and all superseded versions will be stored on a secure server.

If this document is updated following meetings with the Civil Aviation Authority (CAA) or for any other reason, the SUA Operator as Change Sponsor will publish a new version on the CAA Airspace Change online portal for all to see. This is to enable the CAA to refer to the correct version if it needs to publish a determination of whether an airspace change is a relevant option to investigate.

## Referenced documents

Document	Version	Version & Date	Source
ANO 2016	The Air Navigation Order (ANO) 2016 and Regulations	Version 5.6 21 March 2019	<a href="#">CAP 393</a>
CAP 1616	Airspace Change – Guidance on the regulatory process for changing the notified airspace design and planning and planned and permanent redistribution of air traffic, and on providing airspace information	Version 3.0 22 January 2020	<a href="#">CAP 1616</a>
CAP 722	Unmanned Aircraft System Operations in UK Airspace – Guidance	Version 7.3 4 September 2019	<a href="#">CAP 722</a>

## Acronyms and abbreviations

AMSL	Above Mean Sea Level
ANO	Air Navigation Order
BVLOS	Beyond Visual Line of Sight
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
DA	Danger Area
LAT	Latitude
LONG	Longitude
NHS	National Health Service
NOTAM	Notice to Airman
POC	Proof of Concept
SFC	Surface
SUA	Small Unmanned Aircraft
TDA	Temporary Danger Area
TOI	Temporary Operating Instruction
UAS	Unmanned Aircraft System

## Glossary

Aeronautical Information Publication	Long-term information essential to air navigation, including the detailed structure of UK airspace and flight procedures, which forms part of the UK Integrated Aeronautical Information Package. Sometimes informally known as the Air Pilot. Publication is the responsibility of the CAA but is carried out under licence by NATS. <a href="http://www.ais.org.uk">www.ais.org.uk</a>
Air navigation service provider	An organisation which operates the technical system, infrastructure, procedures, and rules of an air navigation service system, which may include air traffic control.
Airspace change proposal	A request (usually from an airport or air navigation service provider) for a permanent change to the design of UK airspace.
Airspace design	Together, the airspace structure and flight procedures
Airspace change process	The staged process an airspace change sponsor follows to submit an airspace change to the CAA for a decision. The process includes actions associated with implementation and post-implementation review, after the CAA or, where applicable Secretary of State, decision.
Airspace Modernisation Strategy	A co-ordinated strategy and plan for the use of UK airspace for air navigation up to 2040, including for the modernisation of the use of such airspace, prepared and maintained by the CAA, incorporating the previous Future Airspace Strategy. It is a requirement of the Air Navigation Directions 2017. <a href="https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-ModernisationStrategy/Aboutthe-strategy/">https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-ModernisationStrategy/Aboutthe-strategy/</a>
Airspace structure	Designated volumes of airspace within identified characteristics, including the equipment aircraft wanting to enter that airspace must carry and actions pilots must carry out before entering that airspace.  The volumes of airspace are designed to ensure the safe and optimal operation of aircraft.  Airspace structures consist of: (a) controlled airspace, namely control zones, control areas, terminal control areas and airways;  (b) airspace restrictions, namely danger, restricted and prohibited areas;  (c) radio mandatory zones, transponder mandatory zones;  (d) other airspaces specified by the CAA when

	defining the airspace change process, such as, for example, flight information zones, aerodrome traffic zones, temporary segregated areas, temporary reserved areas or free-route airspace.
Beyond Visual Line of Sight (BVLOS)	An operation in which the remote pilot or observer does not use visual reference to the remotely piloted aircraft in the conduct of flight.
Consultation	Formal process seeking input into a decision, undertaken in line with the Gunning Principles, and government guidance
Danger Area	Airspace within which activities dangerous to the flight of aircraft may exist at notified times.
Design principles	The principles encompassing the safety, environmental and operational criteria and the strategic policy objectives that the change sponsor seeks to achieve in developing the airspace change proposal. They are an opportunity to combine local context with technical considerations, and are therefore drawn up through discussion with affected stakeholders.
Engagement	Catch-all term for developing relationships with stakeholders, covering a variety of activities including but not limited to consultation, information provision, regular and one-off meetings and fora, workshops and town hall discussions.
Feedback	Informal response to engagement – change sponsors may be expected to seek feedback from stakeholders in addition to formally consulting them.
Military operations	Operations undertaken by military aircraft, or military aerodromes.
Overflight	For the purposes of airspace changes, overflight is defined according to the CAA's report, CAP 1498 which outlines a measurement based upon community perception. It does not portray noise impacts. <a href="http://www.caa.co.uk/cap1498">www.caa.co.uk/cap1498</a>
Portal	The CAA's airspace change portal – an online portal containing details of all current and previous airspace changes, including the ability to respond to consultations. <a href="https://airspacechange.caa.co.uk">https://airspacechange.caa.co.uk</a>
Representative group	Stakeholder group that gathers together those with similar interests in a proposal. It could be at an industry level (for instance the Airport Operators Association), national level (for instance the Aviation Environment Federation) or local level (for instance HACAN).
Sponsor (or change sponsor)	An organisation that proposes, or sponsors, a change to the airspace design in accordance with the CAA's airspace change process.
Stakeholder	An interested third party in an airspace change or PPR proposal.

Statement of Need	The means by which the change sponsor sets out what airspace issue or opportunity it is seeking to address and what outcome it wishes to achieve, without specifying solutions, technical or otherwise.
Uncontrolled airspace	Airspace in which aircraft are able to fly freely through the airspace without being constrained by instructions in routing or by air traffic control, unless they require an air traffic control service.
Unmanned aircraft system (UAS)	An Unmanned Aircraft System (UAS) comprises individual 'System Elements' consisting of the Unmanned Aircraft (UA) and any other System Elements necessary to enable flight, such as a Remote Pilot Station, Communication Link and Launch and Recovery Element. There may be multiple UAs, RPS or Launch and Recovery Elements within a UAS.

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# 1 Introduction

Skyports (the change sponsor) is seeking a Temporary Danger Area (TDA) to be established during notified periods to enable the safe testing and demonstration of UAS BVLOS operations during a proof of concept (PoC) operation between 25 May and 5 June 2020 to transport medical equipment by small unmanned aircraft (SUA) from one healthcare facility to another in Argyll on the west coast of Scotland. The operation is provided support the National Health Service (NHS) and UK Government responses to the COVID-19 through the provision of necessary equipment to front-line healthcare staff.

This document describes the nature of the TDA and how the change may affect aviation stakeholders.

## 1.1 About Skyports

Skyports develops, implements, and operates end-to-end drone deliveries overcoming inefficiencies with traditional transportation methods within the medical, e-commerce and logistics sectors.

## 1.2 About segregated airspace and unmanned aircraft systems (UAS)

The legal constraints on flying operations, including UAS, within UK airspace are contained within the Air Navigation Order (ANO). UAS do not have an automatic right to airspace if safety provision cannot be made or if such operations would have an unreasonably negative impact on other aviation stakeholders. To integrate with other aviation stakeholders, UAS operators must ensure that their aircraft can demonstrate an equivalent level of compliance with the rules and procedures that apply to manned aircraft.

Until UAS can comply with the requirements for flight in non-segregated airspace, one-off or occasional BVLOS UAS flights outside permanently established segregated airspace may be accommodated through the establishment of segregated airspace on a temporary basis.

For flights within segregated airspace, while some restrictions may still apply, a UAS will generally be given freedom of operation within the bounds of the allocated airspace, subject to any agreed procedures and safety requirements. An authorisation to operate will consider the risks associated with any unintended excursion from the allocated airspace and it will also consider the possibility of airspace infringements. In addition, measures that may be put in place to enhance the safety of UAS activities will also be considered by the CAA during authorisation. For more information, see CAA CAP 722.

A temporary segregated airspace – a TDA – can only be requested and implemented once due consideration has been given to the possible positive and negative impacts of the airspace change proposal on other aviation stakeholders and the local community, which is the purpose of this document.

## 1.3 Stakeholder engagement

Temporary segregated airspace is by its very nature not a permanent change to airspace; however, all change sponsors are under a statutory obligation to engage aviation stakeholders and any other relevant stakeholders by following the steps set out in the Airspace Change Process. For more information, see CAA CAP 1616.

Skyports is conducting a targeted aviation stakeholder engagement exercise before submitting our finalised proposed airspace design proposals to the CAA for assessment to ensure that all identified interested parties have had an opportunity to review the proposed changes and comment accordingly.

While Skyports has taken care to balance the needs of identified aviation stakeholders during the development of our airspace change proposals, we accept that stakeholders may raise unforeseen issues. We want to gain a full understanding of the implications of the proposed changes, recognising that there may be a range of competing priorities raised by different stakeholders. A report summarising our completed engagement will be submitted to the CAA, which will include original engagement documentation, original responses and analysis of the responses.

## 2 Engagement methodology

### 2.1 Overview

Skyports' aim is to proactively reach airspace stakeholders that may be positively or negatively affected by our airspace change proposal and to make it as simple as possible for them to provide views and opinions.

### 2.2 Approach

Skyports intends to proactively encourage aviation stakeholder engagement in the stakeholder engagement process by emailing them directly and calling by phone if necessary (especially if there is no email available), to generate as much feedback on our airspace change proposals as possible. We will inform potentially affected stakeholders directly in addition to using intermediaries, like representative bodies, where appropriate.

Materials containing technical information will be presented in an accessible way as possible so as not to create a barrier to providing feedback.

Consistent with the airspace change process, Skyports will upload its stakeholder engagement document on the CAA Airspace Change Portal for aviation stakeholders to view and provide feedback.

Through the portal, Skyports will send reminder notifications at pre-determined intervals during the period of stakeholder engagement.

Unfortunately, Skyports is not able to arrange any face-to-face engagement exercise due to the Government's requirement to maintain social distancing; therefore, communication can only be done remotely. See [2.5 Responses](#).

### 2.3 Stakeholder identification

Skyports aimed to identify all aviation stakeholders within a 10-mile radius of our route that might have been impacted positively or negatively by the proposed changes, no matter how small the impact. See [7 Stakeholders](#)

Skyports will encourage aviation stakeholders to inform us if there are any other aviation stakeholders that we have not identified that might be affected then we will proactively encourage them to provide their feedback.

### 2.4 Duration

Skyports intends to carry out its aviation stakeholder engagement exercise over a five-day period. We acknowledge this is significantly less than the standard 4-6 week engagement as per CAA DA/TDA policy; however, Skyports has agreed a shorter engagement period with the CAA which is sufficiently proportionate to the size of the change and the urgent imperative to support the UK COVID 19 response. Skyports has already completed an informal aviation stakeholder engagement exercise for us to build a comprehensive picture of how airspace is used in and around the proposed volume of airspace and gather any relevant information that might lead to a change in the airspace design. Skyports has shared its findings with the CAA.

### 2.5 Responses

While Skyports would strongly encourage all responses to our proposals to be placed on the CAA Airspace Change portal, if this would reduce participation in the stakeholder engagement process in any way, responses can be submitted directly to Skyports. We will then upload any direct responses to our proposals to the portal and/or share them with the CAA without delay. Unfortunately, owing to social distancing and Skyports staff working from home, responses by post cannot be accepted.



## 2.6 Alternative means of response

Emails should be sent to [simon@skyports.net](mailto:simon@skyports.net). Please title the email 'ACP-2020-038 UAS BVLOS in Segregated Airspace'.

Please be clear in email responses whether you are: i) in support of the proposal; ii) oppose the proposal; iii) neither support nor oppose the proposal; or iv) have any constructive suggestions for adaption of the proposals. Please provide a rationale for your position.

## 2.7 Dates of targeted stakeholder engagement period

This targeted stakeholder engagement activity period will take place between Thursday 7 May and Tuesday 12 May.

## 2.8 Deadline for responses

All responses should be uploaded to the CAA Airspace Portal by **17:00 on Tuesday 12 May 2020**, when the stakeholder engagement period will close.

### 3 Skyports change proposals

#### 3.1 Overview

Skyports requires TDAs within which to safely execute its operations and presented the following proposed airspace design to local aviation stakeholders.

Two adjacent TDAs of two different altitudes are required to facilitate our operations and minimise the impact on other aviation stakeholders in the area, following feedback Skyports received during its informal aviation stakeholder engagement exercise.

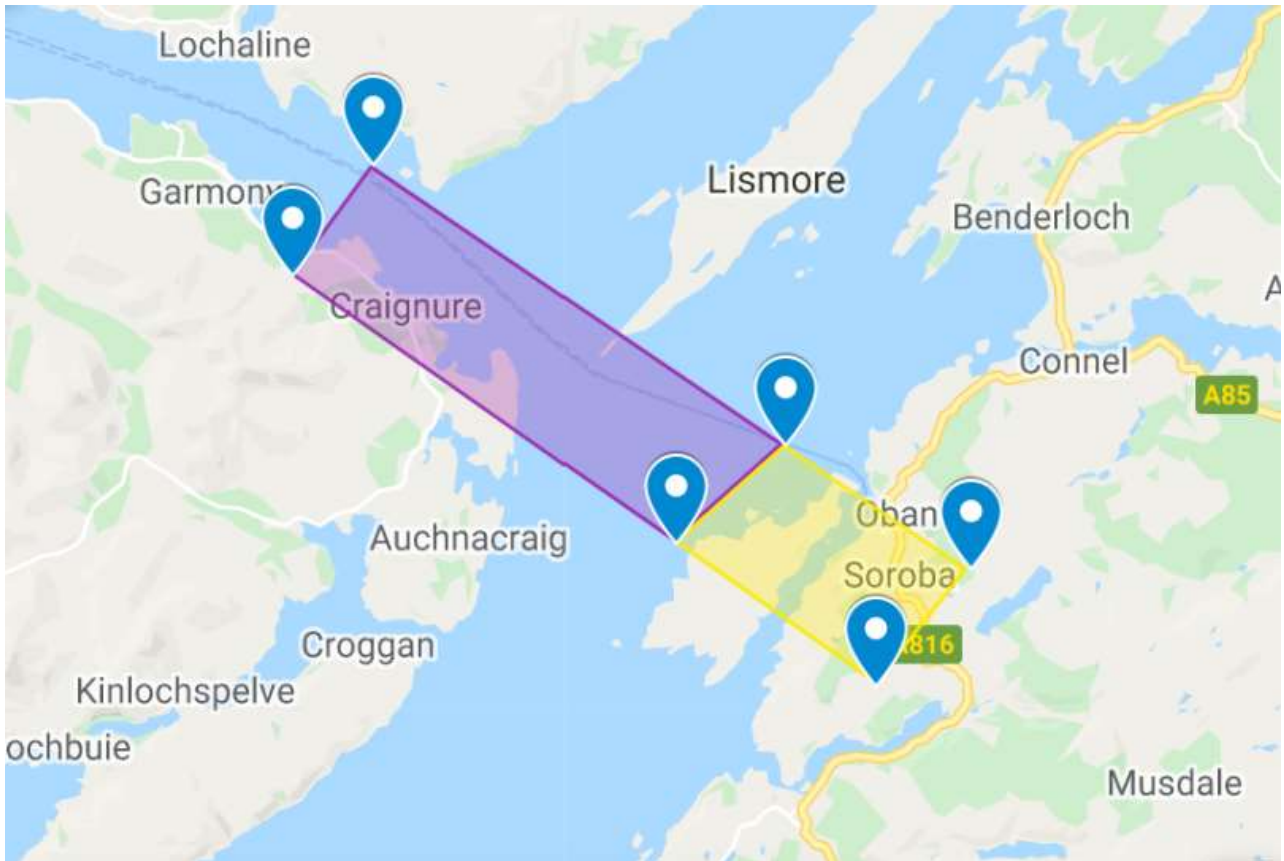
#### 3.2 Temporary Danger Areas

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
1			2	3
	Area bounded by straight lines joining		Lower Limit: SFC  Upper Limit: 720ft AMSL	Activity: UAS BVLOS  Hours: When notified  Sponsor: Skyports
WP	LAT (N)	LONG (W)		
1	56.4012	-5.43782		
2	56.37165	-5.48161		
3	56.40783	-5.57474		
4	56.43287	-5.5232		

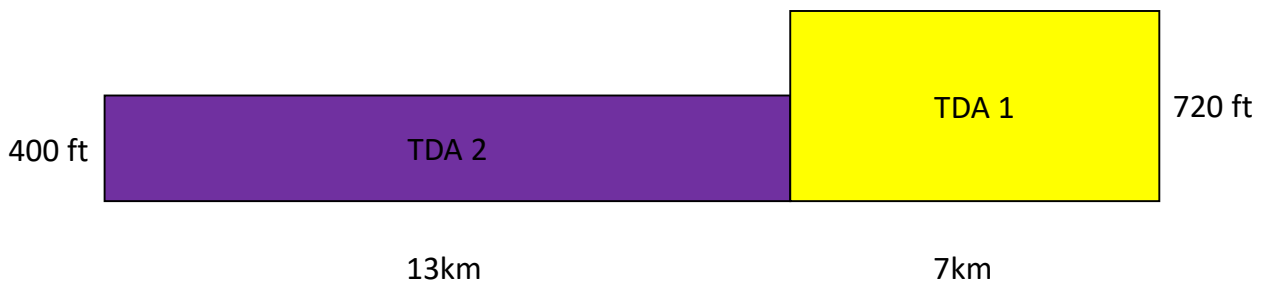
**FIGURE 1: PROPOSED AIRSPACE DESIGN (RIGHT/YELLOW)**

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
1			2	3
	Area bounded by straight lines joining		Lower Limit: SFC  Upper Limit: 400ft AMSL	Activity: UAS BVLOS  Hours: When notified  Sponsor: Skyports
WP	LAT (N)	LONG (W)		
1	56.43287	-5.5232		
2	56.40783	-5.57474		
3	56.47637	-5.75149		
4	56.50421	-5.71412		

**FIGURE 2: PROPOSED AIRSPACE DESIGN (LEFT/PURPLE)**



**FIGURE 3: TOP DOWN VIEW OF PROPOSED AIRSPACE DESIGNS**



**FIGURE 4: TDAS CROSS SECTION OVERVIEW**

**3.3 Notification**

CAA Airspace Regulation will promulgate TDA activations by NOTAM on the days of planned use.

**3.4 TDA Usage Dates**

Date	Time
Monday 25 May 2020 to Friday 5 June 2020	Daylight hours from Monday to Friday, 30mins after sunrise and 30 mins before sunset

## 4 Airspace deconfliction

Skyports is in the process of producing a comprehensive and robust Temporary Operating Instruction (TOI) that secures the approval of aviation stakeholders that may need to enter the TDA once activate, e.g. emergency services, and the CAA. Skyports will engage relevant aviation stakeholders separately on this document and secure their written/signed approval before operating.

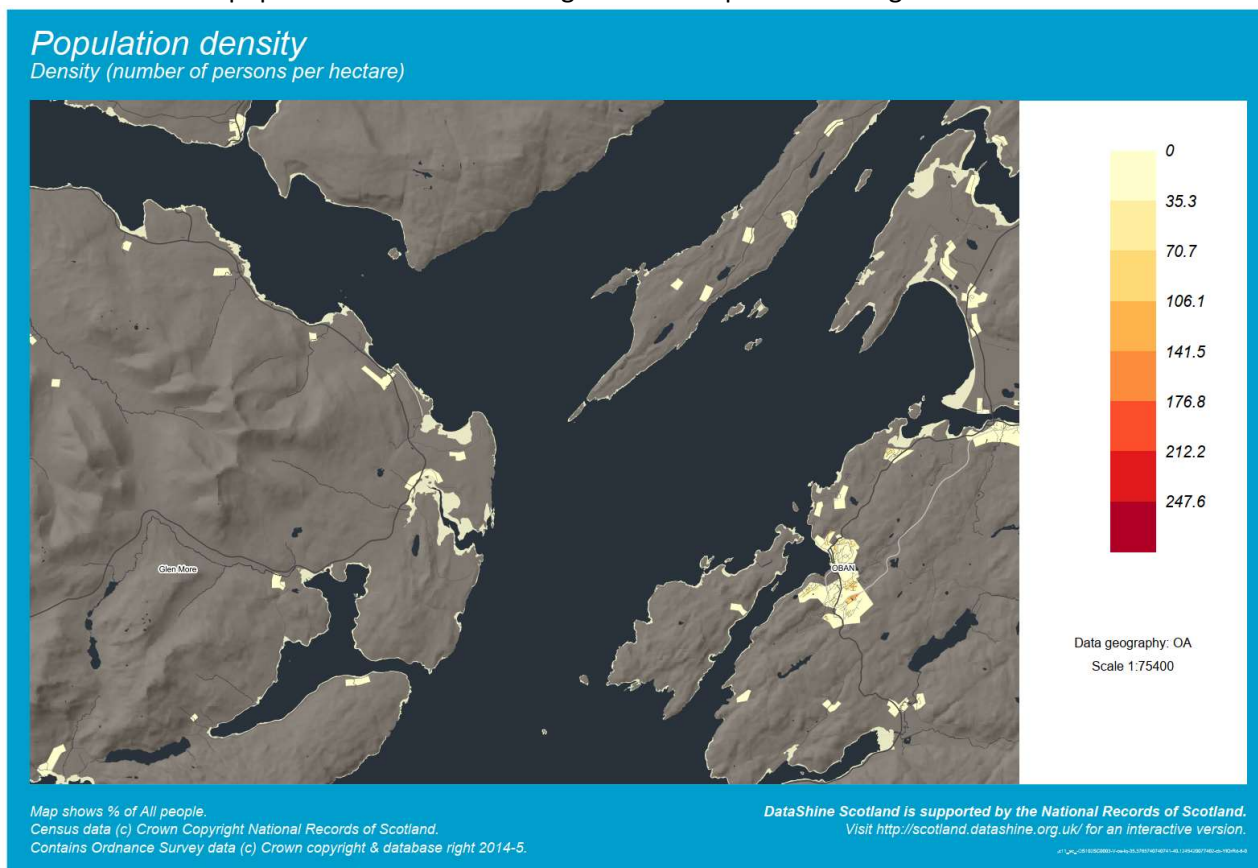
## 5 Community impact minimisation

### 5.1 Overview

Skyports has assessed the impacts of its airspace change proposal on the local community. Our airspace change proposal involves flying a route that minimises overflight of people wherever possible to minimise the surface risk of our operations but to also lessen any potential noise impacts of our aircraft during flight. The route we are operating is located entirely over unpopulated areas of land and water. The inaccessible nature of the terrain also makes it highly unlikely that people will be temporarily present along the route.

### 5.2 Population analysis

An overview of the population around and along the route is provided at Figures 5:



**FIGURE 5: POPULATION DENSITY WITHIN THE TDA**

### 5.3 Community information

Skyports intends to carry out a public information exercise so that the local population are aware of what is taking place, why and when. Owing to COVID-19 lockdown and social distancing, Skyports is regrettably unable to host any face-to-face information sessions; therefore, working with the likes of Police Scotland, we intend to provide public information through local media channels.

The purpose of the public information campaign is to also dissuade any member of the public, who would not be aware of an active TDA or NOTAMS, from operating their drones – potentially illegally – in the vicinity of Skyports operations.

## 6 Continued monitoring and stakeholder engagement

While the TDA is in operation Skyports will undertake regular engagement with aviation stakeholders via email (or phone) at the end of each day of active operations. Skyports will monitor any feedback received on the CAA Airspace Portal or received directly by email or phone and collate the feedback and provide regulator updates to the CAA when the TDA is activated and after it has been deactivated.

Alternatively, feedback can be provided directly to CAA Airspace Regulation who will share it with Skyports.

## 7 Stakeholders

### 7.1 Civil Aviation Authority

The CAA is being engaged at every stage of the airspace change process.

### 7.2 Target aviation stakeholders

<b>Stakeholder</b>	<b>Type of Organisation</b>
Babcock International	Aviation service provider
Experience Day Pros	Aviation experience provider
Gama Aviation	Aviation service provider
Glenforsa Airfield	Airfield
Glensanda Airstrip	Airfield
Hebredian Air Service (via Air Task)	Air transport operator
Maritime and Coastguard Agency	Emergency service provider
Oban Air Sports	Aviation training provider
Oban and the Isles Airport	Airport operator
Police Scotland	Emergency service provider
Royal Air Force	Military
Scottish Air Ambulance	Emergency service provider
Scottish Association for Marine Science	Research institute
Sky Jumping	Aviation experience provider