



## CHANGE

### 1. Category of Airspace Change

Does your proposal concern Changes to Notified Airspace Design or Planned and Permanent Redistribution of Air Traffic? \*

- Changes to Notified Airspace Design  Planned and Permanent Redistribution of Air Traffic

### 2. Title of proposal

Please enter a title for this intended change, (max 80 characters): \*

Altitude Angel Arrow Drone Zone Supporting the Innovation Sandbox and Future FI

- Have you previously submitted a Statement of Need ?

## SPONSOR

### 3. Change Sponsor Details

Please select the appropriate category and complete. \*

- A Company  
 An Unincorporated Association or other body  
 Individual (including sole traders and partnerships)

#### 3a. A Company

Registered Company name (in full) \*

Altitude Angel Ltd

Registered Company Number

09350032

Country of Company Registration

England

Registered Office Address

[REDACTED]

Postcode

RG1 1AZ

E-mail

[REDACTED]

Trading name (if applicable)

[REDACTED]

Trading Address (primary site)

[REDACTED]

Country

[REDACTED]

Postcode

[REDACTED]

Website address

altitudeangel.com

Primary Point of Contact Name \*

David Walters

Requires Airspace Portal Access ?

Telephone \*

Mobile Number (for Airspace Portal) \*

Email \*

#### Additional Contacts

You can add up to 4 additional contacts

## STATEMENT OF NEED

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#### 4. Independent Aviation/Airspace Consultancy

Is an Independent Aviation/Airspace Consultancy involved in this proposal?

#### 5. Statement of Need

Please provide a brief 'Statement of Need' clearly explaining what issue or opportunity this proposal is seeking to address.

*Further information can be found in CAP1616 \**

The overall objective of Project Arrow is to enable safe, automated BVLOS flights of multiple unmanned aircraft within the coverage area in Reading in Non-Segregated Airspace.

Recognising that the specific functions that need to be tested, and that within this there are specific detect and avoid' capabilities of the solution, we, therefore, propose the following objectives:

- To verify the efficacy of our chosen surveillance/aircraft detection systems and visual systems to deliver a recognised air picture for the full area of coverage;
- To verify the efficiency of our chosen visual system to support and verify the data that the GuardianUTM system is receiving from the various Tower-based sensors and cooperative data transmitted to it from a variety of sources;
- Proving that the GuardianUTM system has the capability to safely act as an offboard, automated deconfliction service using the data available;
- The recognition of the Arrow Drone Zone and Arrow Tower concepts as approved for automated, BVLOS operations for vehicles that are appropriately connected and comply with our operating specifications and procedures.
- To trial the technology under VLOS, EVLOS, BVLOS Segregated and BVLOS Non-Segregated Airspace in that order.

Altitude Angel has been working with the Innovation Sandbox for the last 14months, working on the requirements to prove and certify a new type of Detect and Avoid Technology (DAA) that will be used under Future Flight.

We have submitted a Test Plan which has been approved by the UAS Policy Team and our SafetyCase is being reviewed now also. That safety case will action the Test Plan that will be undertaken within this piece of airspace.

The DAA once certified will enable BVLOS Operations in uncontrolled airspace without the requirement for closed airspace. For us to prove this technology we require airspace that will allow manned and unmanned to be operational at the same time, whilst under bvlos operations and allow the DAA technology to identify and track both types of aircraft.

Typically BVLOS operations have been boxed inside a TDA restricting access to other airspace stakeholders. This approach will not allow us to test the DAA Solution as the ability to detect manned aircraft ( EC Equipped / Non EC Equipped) is needed, and then to notify the unmanned operators accordingly.

We believe a RA(T) that specifies that Manned Aviation should be EC Equipped to enter this piece of airspace and allowing the DAA system to demonstrate its ability to maintain separation between all unmanned and other airspace stakeholders. It will also mean that this piece of airspace will remain accessible to those EC equipped whilst we prove this technology.

Operations will be undertaken at 400ft AGL for flights and we anticipate that the policy team will request our RA(T) to be surface to 1000ft.

Time of operations will be daylight hours only for the moment.

Period of 15 Months

As part of this project, we will also be undertaking public perception engagement, noise impact studies etc

#### 6. Administrative Changes

Does your proposal represent an administrative change to the Aeronautical Information Publication (Proposed Level 0 change)?

#### 7. Instrument Flight Procedures

Does your proposal have the potential to include a change to and/or new IFPs?

#### 8. Five-Letter Name Codes (5LNC)

Does this request solely concern the reservation of new Five-Letter Name Codes (5LNC) in advance of a future proposal?

#### 9. Additional Information

Please use the box below to add any further information which the CAA should be aware of when considering this submission (for example dependencies on other airspace change proposals and/or funding deadlines):

This airspace change request is supporting our Innovation Sandbox and UKRI Future Flight. Due to project deadlines, we would like to seek approval so we can begin testing under this piece of airspace at the beginning of June.

## SUBMISSION INSTRUCTIONS

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### Submission

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

Date and Time: **26 Jan 2021 4:06:59 PM**

Application Submission Number: **DAP1916V2-180**

Please note that the Airspace Regulation team will contact you to acknowledge receipt of your Statement of Need and to confirm the unique ACP reference number (ACP-YYYY-NNN) allocated to this submission. Following receipt of your unique ACP reference number, you will be required to create an associated airspace change proposal on the [CAA's Airspace Change Portal](#). Please refer to CAP 1706: CAA Airspace Change Portal Sponsor Training Manual provides for further information/guidance on how to use the Airspace Change Portal.

Once your submission has been assigned, arrangements will be made for you to attend an Assessment Meeting. One of the key outputs from this meeting will be an indicative timeline for the proposed airspace change. To enable the CAA to consider your proposed timescales, you will be expected to present dates for the following milestones at the Assessment Meeting:

- DEFINE Gateway
- DEVELOP & ASSESS Gateway
- CONSULT Gateway
- Formal Airspace Change Proposal Submission
- Target AIRAC

The CAA holds Gateway Assessment Meetings on a monthly basis and the annual schedule is published on the [CAA website](#).

Finally, you should also note that from September 2018 any amendments submitted by a Data Originator or ANSP for onward promulgation in the UK IAIP will be subject to the Aeronautical Data Quality Requirements. See [Commission Regulation \(EU\) No 73/2010](#) (updated by 1029/2014) and [CAP 1054: Aeronautical Information Management](#) guidance material for further information. These requirements will be discussed in greater detail during the course of your initial meeting with the CAA.

When you have completed this form, click this button to submit the form for processing. Do not click this button more than once. You will then be provided with further instructions.