

**MINUTES OF PROJECT ARROW: AIRSPACE CHANGE DISCUSSION ASSESSMENT  
MEETING HELD VIA TEAMS MEETING ON 26/05/2021**

31/05/2021

<b>Present</b>	<b>Appointment</b>	<b>Representing</b>
XXXXXXXXXX	Airspace Regulator	CAA
XXXXXXXXXX	Airspace Regulator (Engagement and Consultation)	CAA
XXXXXXXXXX	Airspace Regulator (Engagement and Consultation)	CAA
XXXXXXXXXX	Principal Airspace Regulator	CAA
XXXXXXXXXX	Flight Operations Training Inspector	CAA
XXXXXXXXXX	UAS Sector Inspector	CAA
XXXXXXXXXX	UAS Sector Inspector	CAA
XXXXXXXXXX	Chief Executive Officer	Altitude Angel Ltd (AA)
XXXXXXXXXX	Chief Operating Officer	Altitude Angel Ltd (AA)
XXXXXXXXXX	Head of Strategic Programmes	Altitude Angel Ltd (AA)
XXXXXXXXXX	Programme Manager	Altitude Angel Ltd (AA)
XXXXXXXXXX	Head of Communications & PR	Altitude Angel Ltd (AA)

CAA Assessment Meeting Opening Statement

The CAA has received the Statement of Need and Altitude Angel Airspace presentation in advance of this Assessment Meeting and can confirm that the documents will be published together with the minutes of this meeting on the CAA's Airspace Change Portal. It must be noted that this is an Assessment Meeting and not a Gateway. The Change Sponsor will be required to provide a broad description of their proposed approach to meeting the CAA's CAP1616 requirements however the CAA will not at this stage decide whether the proposed approach met the detailed requirements of the CAA's process. The purpose of the Assessment Meeting, as set out in detail in CAP 1616, is broadly for the Sponsor to:

- present and discuss their Statement of Need,
- to enable the CAA to consider whether the proposal concerned falls within the scope of the formal airspace change process and
- to enable the CAA to consider the appropriate provisional Level to assign to the change proposal.

Additionally, the sponsor is required to provide information on how it intended to proceed to fulfil the requirements of the airspace change process and to provide information on timescales. Lastly, the sponsor is required to provide information on how it intends to meet the engagement requirements of the various stages of the airspace change process.

	<b>ACTION</b>
<p><b>Item 1 – Introduction</b></p> <p>CAA outlined the above Opening Statement.</p> <p>The attendees introduced themselves and outlined their respective roles.</p>	

<p><b>Item 2 – Statement of Need (discussion and review)</b></p> <p>AA presented the Statement of Need (SoN) to discuss the aim of the project and the requirement for Airspace.</p> <p>A draft SoN was issued in January 2021, supporting the Airspace Change application. CAA advised this will need to be published.</p> <p>CAA advised the introduction of TDA (Temporary Danger area) as a temporary structure for 90 days for testing purposes.</p>	
<p><b>Item 3 – Issues or opportunities arising from proposed change</b></p> <p>CAA noted AA intent for the Arrow technology to receive certification as a DAA solution to enable BVLOS automated flights by drones that are connected to it. Furthermore, the primary purpose of AA’s Arrow technology is to enable the deployment of automated UAS into non-segregated airspace, i.e. to permit integrated operations involving manned and unmanned aircraft in the same volume of airspace safely.</p> <p>AA discussed the use cases for Arrow in detail and noted that Project Xcelerate, funded by Future Flight, depends on Arrow as well. Under Xcelerate, EVLOS flights are expected by the end of June 2021. Data recorded will be used as evidence toward the future AA OSC for full automated BVLOS flights within Arrow corridors/zones.</p> <p>AA advised EVLOS/BVLOS operations can be conducted safely using its GuardianUTM system and Arrow towers in combination, which are monitored remotely. AA confirmed they neither request nor require segregated airspace on the grounds that the evidence necessary to be collected to prove the efficacy of the DAA capability is best gathered in non-segregated airspace and that the overall deployment scenarios for Arrow technology include non-segregated airspace.</p>	
<p><b>Item 4 – Options to exploit opportunities or address issues identified</b></p> <p>CAA commented that, when considering the design of AA’s Arrow, to ensure other operators’ systems are included. AA confirmed a mechanism has been created for trusted and verified parties, which includes the operation of their systems, to access and use the Arrow zones.</p> <p>CAA asked why AA are not able to use an existing BVLOS TDA. AA advised this was not possible as, principally, we seek the use of unsegregated airspace. It is also necessary to permit a plurality of drone operators, operating a plurality of vehicles, to complete the testing. .</p> <p>CAA asked how many drones would be active in the corridor. AA advised that this has been previously declared in its safety case to the Policy team and confirmed this is still for the purposes of testing limited to three concurrently initially.</p>	

<p>CAA advised that the area was between volumes of controlled airspace and MATZ boundaries, beneath the LTMA and that it was used by a large number of aircraft transiting north/south and consideration should be given to all airspace users who might utilise the airspace, including non-powered aircraft. Furthermore, the site is located close to RAF Benson where the local HEMS and Police bases are located and they may require quick access. AA advised there are landing areas at both ends of the corridor and that it has the ability to divert drones to land in a pre-designated safe zone if required. The estimated transit time from one end of the corridor to the other is approximately six minutes.</p> <p>The CAA also asked why the DAA could not be demonstrated through EVLOS without the need for segregated airspace. AA advised this was not possible as one of the proposed users of the area utilised a completely autonomous system with no ability to feed back to the pilot from remote observers</p>	
<p><b>Item 5 – Provisional indication of the scale level and process requirements*</b></p> <p>Scope of Stakeholder Engagement: CAA clarified the requirements for engagement with relevant local aviation stakeholders, specifically airspace users, Air Navigation Service Providers, Aerodromes and stakeholders from the NATMAC distribution list. It is AA's responsibility to identify relevant stakeholders and engage with them on the safety and operational viability of the proposal. CAA advised the process is 'targeted engagement' rather than consultation.</p>	
<p><b>Item 6 – Provisional process timescales*</b></p> <p>AA aiming to develop engagement material to present to the CAA by circa 4 June. Stakeholder engagement will be a 4-week engagement period from 28 June.</p> <p>AIS submission date of 26 July would be preferred.</p> <p><i>* The provisional timeline put forward at this assessment meeting will be subject to change by the CAA. This will currently mainly be for two reasons.</i></p> <ol style="list-style-type: none"> <li><i>1. The SoS has directed us to prioritise GNSS applications which may have an impact on your ACP if we need to direct resource accordingly.</i></li> </ol>	
<p><b>Item 7 – Next steps</b></p> <p>AA to revise SoN stating the actual need to utilize the ACP is for three months and not 15 months which is the length of the project.</p> <p>Write a version 2 noting reasons for amending the second statement. Both versions to be uploaded onto the portal.</p> <p>CAA representative to send out standard email about expectation required for minutes.</p> <p>AA to capture the rationale for aiming for July AIS submission rather than August.</p>	

<p><b>Item 8 – Any other business</b></p> <p>No AOB noted.</p> <p>Meeting concluded at 11:23</p>	
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**ACTIONS ARISING FROM PROJECT ARROW: AIRSPACE CHANGE DISCUSSION ASSESSMENT MEETING**

<b>Subject</b>	<b>Name</b>	<b>Action</b>	<b>Deadline</b>
Opening Statement	CAA	Provide Altitude Angel with the opening statement	28/5/21
Attendee list	CAA	Provide Altitude Angel with names and roles of CAA representatives attending this meeting	28/5/21
Minutes	Altitude Angel Ltd	Submit draft minutes to CAA	4/6/21
NATMAC	CAA	Share membership and distribution list with Altitude Angel for Stakeholder Engagement	28/5/21
Operational Safety Case	Altitude Angel	Present latest OSC to CAA. This will be reviewed within 2 weeks	TBC
TDA's post assessment email	CAA	Provide the standard email issued to sponsors of TDA's post assessment meeting detailing expectations of outputs	28/5/21
Documentation	Altitude Angel	Send PDFs of previous SoN presentation and current SoN version to CAA for audit trail	TBC

David Walters  
ACP Sponsor