

Request for information

Without commitment or prejudice.

Thank you for registering your capabilities on the Unmanned Air Systems Capability Development Centre (UAS CDC) Open Supplier Register (OSR). Based on the information submitted onto the OSR you have indicated to us that you have:

- Class 1 (Micro, Mini, Small) UAS capabilities;
- Have a UAS operating capability;

As such, you may be interested in receiving further details of a forthcoming UAS CDC opportunity.

Request for Information: Unmanned Air System

A UAS CDC stakeholder has approached the UAS CDC with a view to identifying UAS that meet the requirements listed in Annex A. The UAS should be able to satisfy the majority of the scenarios detailed at Annex B. The requirements and scenarios have been produced by the stakeholder to meet current and future UAS requirements. The UAS CDC has not been involved in the development of Annex A or Annex B.

Where you have a UAS that meets the criteria in Annex A and B, please provide details of the platform and payloads that you believe would be of interest to the stakeholder.

All information received will be forwarded to the stakeholder who will then review and assess the proposals for compliance against Annex A and B. Following the review, the stakeholder will make contact with any UAS supplier or manufacturer directly and this will not be co-ordinated through the UAS CDC. The UAS CDC will not be reviewing or assessing the information received before forwarding to the stakeholder.

If you wish your UAS capabilities to be considered, you are to provide the UAS CDC with your information by Friday 24th April 2015.

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Annex A: Search and Surveillance – UAS Physical and Technical Requirements

The following requirements have been identified which the Unmanned Air System must be able to achieve:

- a. *Ability to fly safely in close proximity to houses and people.*
- b. *The total weight of the Small Unmanned Air Systems (SUAS) equipment must be less than 20kg and no bigger than 0.5m³. Must fit through standard sized door to access buildings, back gardens or other outdoor areas.*
- c. *Capable of single person deployment and operation, and two person operation, allowing one to fly, one to operate the camera independently from the pilot if required.*
- d. *Return to home position when battery low, RF communications loss or on user command function.*
- e. *UAS should be capable of carrying (as a minimum) a single Electrical Optical /Infra-Red payload.*
- f. *Have the ability or potential to carry and operate other payload sensors, ie, Chemical, Biological, Radiation and Nuclear (CBRN), 3D mapping etc.*
- g. *Camera requires gimbal stabilisation, ideally 8 Mega Pixel Camera or better, (optical zoom an advantage but not essential for initial testing).*
- h. *Camera pitch must be adjustable in flight to view forwards in flight or directly below (+30 to -90 degrees). A forward looking camera embedded in the platform will also be considered to complement the down looking camera.*
- i. *Ability to record video but also take stills while recording video.*
- j. *UAS must have GPS, Accelerometer, Gyro stabilisation and if possible, Barometric pressure.*
- k. *Must be capable of accurate self-hover with no pilot input to correct, to within an accuracy of 1-2m vertically and horizontally.*
- l. *Capable of operation without GPS lock (fall back to barometer, gyro, accelerometer or other stabilisation method) to allow flight indoors or under canopy cover.*
- m. *Variety of flight modes to suit pilot experience, situation and task.*
- n. *Ruggedized storage for transport – backpack or man-portable case.*
- o. *Minimum 3 Flight batteries supplied.*
- p. *As a minimum, the platform must provide real time telemetry data of remaining battery level, current altitude, current heading and current positional data of platform, including a map trace of flown route.*
- q. *Battery life must give a minimum flight time of 10 minutes.*
- r. *Must have the ability to view real time video imagery from the device, either from a built in camera or from a small compact type camera, which can be controlled from the ground.*
- s. *Ability to pre-programme flying routes.*
- t. *Ability to view video and / or control the device from a smart phone or tablet computer.*
- u. *Be able to operate in wind speeds of 10 m/s = 20 knots = 23 mph.*

Annex B: Search and Surveillance –Scenarios

The following scenarios have been identified that the UAS platform may be required to fulfil:

- a. Assist in Major Security Events surveys to determine line-of-sight positions for cameras and communication links.
 1. *When carrying out on site surveys it is not always possible to determine, depending on ground topography and tall obstacles, whether line-of-sight is possible to link communication links over long distances (for example more than 1km).*
- b. Rapidly determine camera views and heights for radio relays at certain locations which require specialist equipment or personnel to access.
- c. Survey and map outdoor and indoor areas? For example, give location of street furniture, obstacles and routes.
- d. Surveillance for rapid deployment alternative to supplement helicopter views in terms of speed and cost. Especially in locations where manned aircraft are constrained by their minimum height limits or weather conditions.
- e. Evaluation to determine remote sensing of CBRNE technologies – thus improving efficiency of targeting of specialised resources.
 1. *The possibility of attaching remote sensors to UAV's for CBRN purposes can be explored*
- f. Possibility of “eyes on ground” for missing person ground searches.
 1. *The ability to make a quick assessment of ground conditions and potential hides.*
 2. *As well as viewing real time video images, may also want to consider Infra-Red and/or Light Detection and Ranging (LIDAR) payloads.*
- g. Potential for geospatial mapping of area using new and emerging technologies (live/current images rather than potentially old out of date maps).