

Novel Methods of Passive Unmanned Aerial System Detection and/or Tracking Prize Challenge

Use Case

www.teamwerx.org/detect

Description: As the use of Small Unmanned Aerial Systems (sUAS) become more prevalent, they have been used for benefits (situational awareness), as well as for detrimental use (shutting down airports). SOF is looking for passive systems (re: non-emitting) that detect and/or track sUAS systems in all-weather conditions. The solutions proposed can be 1) man-packable, 2) vehicle borne, or 3) Forward Operating Base (FOB) sized capabilities since SOF is interested in all three levels and/or types of counter sUAS capabilities. Beyond line of sight (BLOS) systems are highly desired. Novel, potentially high-risk and disruptive concepts that bring new ideas and/or capabilities are highly desired. This challenge is being run in three phases:

- Phase 1: White Paper Concept Submission 14 August
- Phase 2: Prototype Demonstrations 26 September
- Phase 3: Deployment of the system 30 September

General Conditions: Inclement Weather, Austere

Unique Conditions: Ability to use GPS or visual cues is not available, Non-permissive RF and Comms environment, High RF Noise floor

Standards / Desires: Device may be any of the following, though description of intended method of use must be included:

- man-portable (< 5 pounds) and run off body worn power such as 2590 batteries or similar
- vehicle-mounted (1-man lift), constrained to volume of ~ 1 medium/large pelican case powered by either 12VDC vehicle plugs or self-contained battery power systems
- FOB based (2-man lift), constrained to ISU90 or smaller and runs off facility power 110 or 220 (single phase preferred)
- Detection and/or tracking beyond line of sight (BLOS) is highly desired

Technology Research Areas: Passive detection, sUAS classification and tracking