

Announcement Type: Open Competition Cooperative Agreement
Funding Opportunity Title: Kenya Persistent Aerial Surveillance Project
Funding Opportunity Number: DFOP0009161
NOFO Qs & As

Q1. Where will the Uncrewed Air System (UAS) routinely be operated; from established operating bases with supporting infrastructure, or from mobile platforms in austere locations? Information needed to determine additional support requirements in the first instance and for the duration of the contract.

A1. These Tethered UAS will be deployed by varied agencies in a variety of environments and locations. One of the purposes of this solicitation is an assessment of operational feasibility and development of a technical paper on the results. They could be deployed in remote fixed base locations which could present arid desert or tropical locations, in a mobile application to include in high altitude cold temperatures (Mt. Kenya region), from the deck of a marine vessel, or other places as needed.

Q2. Will the three UAS platforms be operated from a single location (i.e., three platforms providing resilience to one task area), or from three locations (i.e., one platform per location with no resilience)? Information needed to determine additional support requirements in the first instance and for the duration of the contract.

A2. These Tethered UAS will be deployed by varied agencies in a variety of environments and locations. One of the purposes of this solicitation is an assessment of operational feasibility and development of a technical paper on the results. They could be deployed in remote fixed base locations which could present arid desert or tropical locations, in a mobile application to include in high altitude cold temperatures (Mt. Kenya region), from the deck of a marine vessel, or other places as needed.

Q3. Given the stated operational area (Kenyan Lakes Region), is there a requirement for the UAS to be optimized for the maritime environment (i.e.,

will it be launched/operated from patrol boats, needing higher water ingress protection)? Information needed to determine suitable platform and sensors, and safety aspects of the system.

A3. These Tethered UAS will be deployed by varied agencies in a variety of environments and locations. One of the purposes of this solicitation is an assessment of operational feasibility and development of a technical paper on the results. They could be deployed in remote fixed base locations which could present arid desert or tropical locations, in a mobile application to include in high altitude cold temperatures (Mt. Kenya region), from the deck of a marine vessel, or other places as needed.

Q4. Is there a cap on how many operators will be trained in the first instance? Information needed to forecast instructor to student ratio and to determine the scale of real life support requirements for costing.

A4. The intent is to initially train a cadre of approximately eight to ten operators representing several agencies such as the National Police Service (NPS), Kenyan Border Patrol Unit (BPU), Kenya Wildlife Service (KWS), and Kenyan Customs. Ideally there would be a train the trainer component so those instructors could then return to their home agencies and train additional operators as needed and identified by operational necessity.

Q5. Will any Kenyan Ministry of Interior or Ministry of Defence facilities (i.e., classrooms, training areas etc) be made available to support the training phase of contract delivery? Information needed to determine limitations on training site availability and coordination requirements with GoK and Kenyan Civil Aviation Authority.

A5. It is likely EXBS could arrange usage of Government of Kenya (GOK facilities such as the Kenya School of Government with whom EXBS has a strong relationship). The Kenya School of Government offers a full range of capabilities to include housing and board however there is a charge. EXBS has found their costs to be less than that of using local hotels.

Q6. Given the significant increase in equipment cost and additional training burden, what has driven the requirement for a "heavy lift" UAS platform with a MTOW >25kg? Information needed to determine suitable platform and sensors within budget and to steer operator training course design and duration.

A6. The Tethered UAS needs to be mobile, robust, and durable with the capability of lifting advanced optics and sensor packages which is what drove the initial weight capability determinations. The primary driving factor is that the units are mobile, durable and have a comprehensive optics / sensor package. The technical limits of what each unit can lift is of secondary concern and really a supporting calculation.

Q7. Are there any additional sensor performance threshold/objective standards that can be shared at this stage (i.e., detect vehicles at X miles, identify persons at Y miles, track multiple objects simultaneously etc)? Information needed to determine suitable platform and sensors within budget.

A7. The primary limiting factors for these units would be day and night optics with a range of at least 15 miles or 25 kilometers. Additional advanced capabilities such as described with Multi-Object Tracking (MOT), while welcomed, is not a requirement.

Q8. Given the requirement to broadcast the sensor feed to ground units via WiFi, is there an encryption standard which must be met? Information needed to determine technical support requirements and system security.

A8. For Wi-Fi the traditional WPA2/WPA3 encryption will be sufficient. EXBS is open to other solutions for broadcasting the signal from the Tethered UAS to ground units beyond Wi-Fi as well. The intent is to provide ground response units for those not directly at the base station to be able to view the video feeds.

Q9. Can the Authority please provide more information on the inclusion of the Autonomous Surveillance Platforms (ASP) (described as "wildlife cameras") on the tethered system, and their relevance for "proof of concept"? Information

needed to determine the integration of external (and non-optimized) systems which may impact the performance of the aircraft and flight safety implications.

A9. These ASP systems, such as solar powered cellularly enabled game cameras, would provide an augmentation to the ground units deploying the Tethered UAS and create a well-rounded persistent surveillance capability package. The vision is that these systems could be deployed in blind spots created by terrain or other factors to allow surveillance and awareness in the operating area.

Q10. It is noted that smartphones and associated components must be sourced from either North America or Europe. Are there any such restrictions on the sourcing of the UAS platform itself? Information needed to determine availability of suitable systems in Kenya/East Africa for procurement, or to determine the cost of transportation and import taxes into country.

A10. Due to U.S. Government restrictions on the purchase of goods and technologies of Chinese origins, any Tethered UAS or smartphones must be sourced from other areas. Locally sourced smartphones, for instance, would be easy and cost effective for the Government of Kenya to repair or purchase additional units should it desire in the future. Locally sourced smartphones is not a requirement as long as the smartphones are common systems available in Kenya.

Q11. Is it possible to be given details on the preferred endurance and range capabilities for the UAVs?

A11. The Tethered UAS will be connected to a ground-based power source most of the time so should have unlimited endurance in this configuration. The vision was that the unit may have a limited battery powered capability able to power flight for a limited amount of time to allow for brief deployment and/or safe recovery should the ground-based power source be interrupted. The primary limiting factors for these units would be day and night optics with a range of at least 15 miles or 25 kilometers. Additional advanced capabilities such as described with Multi-Object Tracking (MOT), while welcomed, is not a requirement.

Q12. Could the details include the imaging and sensor capabilities so that we ensure that our equipment is in line with the project surveillance needs?

A12. The primary limiting factors for these units would be day and night optics with a range of at least 15 miles or 25 kilometers. Additional advanced capabilities such as described with Multi-Object Tracking (MOT), while welcomed, is not a requirement.

Q13. Regarding the mentioned heavy lifting capabilities, can you provide more specific requirements or examples to ensure feasibility within the operational context of UAV technologies?

A13. The Tethered UAS needs to be mobile, robust, and durable with the capability of lifting advanced optics and sensor packages which is what drove the initial weight capability determinations. The primary driving factor is that the units are mobile, durable and have a comprehensive optics / sensor package. The technical limits of what each unit can lift is of secondary concern and really a supporting calculation.

Q14. In compliance with Kenyan regulations that demand for a Remote Air Operator Certificate (ROC) for drone operations, will you need proof of this certification as part of the proposal submission?

A14. It is presumed that any required certifications will be obtained prior to commencement of the training. As this training will be with members of the Government of Kenya (GOK) enforcement units, some of whom are members of the current drone program, some may already have this certification. The required components for certification could also be incorporated into the instruction so that all students would receive certification upon completion. GOK has not yet decided of how this unit will be regulated as it is tethered so technically does fall within many of its existing regulation.

Q15. For compliance with the local regulatory environment for drone operations with the Kenya Civil Aviation Authority, kindly advise on the extent to which the proposal needs to reflect this adherence, specifically regarding any certifications or permissions unique to Kenya?

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