



Special Reconnaissance (SR) Virtual Assessment Event Series 31 May - 03 June 2022

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Purpose

SOFWERX, in collaboration with SOF Acquisition, Technology, and Logistics (SOF AT&L) Special Reconnaissance (PEO-SR), will host a series of Virtual Assessment Events (AEs) to identify technologies and techniques to aid two (2) Program Management (PM) Offices with four (4) Technology Focus Areas (TFAs).

What is an Assessment Event (AE)?

USSOCOM submits specific problems to solve and SOFWERX utilizes its ecosystem and market research to attract best-of-breed submissions to solve the problem. USSOCOM, subsequently, reviews, and selects participants with the highest value to present and/or demonstrate their capability in a one-on-one session with Government Stakeholders.

Why Should You Participate?

USSOCOM seeks to enter into non-FAR or FAR-based agreements with Industry, Academic, and National Lab partners whose solutions are favorably evaluated by USSOCOM PEO-SR Subject Matter Experts. As such, these events are considered competitive in the same manner as a Broad Agency Announcement (BAA) or Commercial Solutions Opening (CSO), and solutions will be evaluated independently of one another primarily for technical merit. This serves dually as notification of the intent to research the feasibility of an agreement under 10 U. S. Code, Section 2371b and/or Section 2371b(f), and as notice of pre-solicitation activities IAW FAR 5.204.



Special Reconnaissance (SR) Virtual Assessment Event Series

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PEO-SR Technology Focus Area

TFA Number: SR-FY22-01

TFA Category: Tactical data exfiltration

PM: ISS

Problem Statement: SOF wishes to enhance their ability to send data out from austere locations.

Operational Use Scenario: SOF Operators will utilize currently available communications to receive information and collect data using sensors they carry with them. At key points in the mission, data will need to be sent back to enterprise networks using signals that are discrete as possible.

General Conditions: The demonstration will take place in an outdoor environment including typical ambient RF signals.

- The demonstrator will be provided a file that needs to be transmitted.
- The file is transmitted to a distant node located no closer than 1 mile away.
- Performance will be measured: Latency, TX Power, current consumption, file integrity.

Unique Conditions: Non-RF based communications methods are allowable.

Standards/Desirements:

- Adhere to the DoD Modular Open Systems Approach (MOSA). Explain how the technology could be incorporated into fielded military systems (such as software defined radios, ISR platforms, or communications networks).
- Describe licensing options that minimize fielding of new hardware.



PEO-SR Technology Focus Area

TFA Number: SR-FY22-02

TFA Category: Articulating small-UAS legs and motors paired with obstacle avoidance capabilities

PM: RC

Problem Statement: SOF desires small UASs with the ability to attach to common items in the environment.

Operational Use Scenario: UAS will maneuver through the environment to a predetermined area where it can attach to a stationary point and perform a variety of activities. Two possible concepts are:

- Legs incorporating bird-like talons allowing stabilized perching on tree branches and building surfaces (rooftops, exhaust vents etc.). Motor articulation allowing stabilized landing/takeoff from tree branches and building surfaces. Obstacle avoidance for tree limb and building surface landing-perch-take-off.
- Legs incorporating insect-like hooks allowing gravity attachment to building walls. Motor articulation allowing stabilized landing/takeoff from vertical building surfaces. Obstacle avoidance for building surface landing-perch-take-off.

General Conditions: Urban and rural environments.

Unique Conditions: Size, weight, and power (SWaP) penalties are major consideration for Groups 1-2 UAS (small-UAS).

Standards/Desirements: Develop proof-of-concept prototype for demonstration/evaluation. Designs should be agnostic to the UAS platform to allow use with as many different small-UAS as possible. Adhere to the DoD Modular Open Systems Approach (MOSA) concept.



PEO-SR Technology Focus Area

TFA Number: SR-FY22-03

PM: RC

Project Title: Rucksack-portable small-UAS charging hive.

Problem Statement: SOF desires a tactical rucksack based small-UAS recharging capability to support extended small-UAS operations.

Operational Use Scenario: The small-UAS charging hive will be used to allow a rotation of small-UAS to provide extended support to a team of operators. The system will have the following characteristics:

- 2-3 rucksack contained charging system easily assembled (snapped together) at destination. Hive battery charging through alternate/renewable energy (solar/wind). Support 4-6 UAS in operation.
- Accommodate/control automated UAS take-off and landing. Accommodate exchange of UAS mission information for consolidated reporting back to friendly force area (possibly tethered UAS directional radio transmission back to friendly force).
- Ability to blend-in with the environment. (visual, acoustic, RF).

General Conditions: Urban and Rural

Unique Conditions: Size, weight, and power (SWaP) penalties are major consideration for Groups 1-2 UAS (small-UAS).

Standards/Desirements: Develop proof-of-concept prototype for demonstration/evaluation. Designs should be agnostic to the UAS platform to allow use with as many different small-UAS as possible. Adhere to the DoD Modular Open Systems Approach (MOSA) concept.



PEO-SR Technology Focus Area

TFA Number: SR-FY22-04

PM: RC

Project Title: UAS Signature Reduction Techniques.

Problem Statement: SOF needs to reduce the signature of small-UAS systems in flight.

Operational Use Scenario: SOF operators would engage specific technologies to allow small-UAS platforms to blend into the environment. Concepts for the prototype should include but not be limited to:

- Visual background blending using variable light color & intensity.
- Acoustic decrease using propellor shape, size, and variable speeds.

General Conditions: Urban and rural environments.

Unique Conditions: Size, weight, and power (SWaP) penalties are major consideration for Groups 1-2 UAS (small-UAS).

Standards/Desirements: Provide a proof-of-principal demonstration in a controlled outdoor environment. Designs should be as platform agnostic as possible to allow application to multiple small-UAS platforms with minimal changes. Adhere to the DoD Modular Open Systems Approach (MOSA) concept.