

## SOCOM244-004: Handheld Kinetic Defeat of UAS

### **ADDITIONAL INFORMATION**

N/A

### **TECHNOLOGY AREAS:**

Electronics | Information Systems | Sensors

### **MODERNIZATION PRIORITIES:**

Advanced Materials | Human-Machine Interfaces

### **KEYWORDS:**

counter unmanned aerial system; counter unmanned aircraft system; counter uncrewed aerial system; counter uncrewed aircraft system; unmanned aerial system; unmanned aircraft system; uncrewed aerial system; uncrewed aircraft system; unmanned air vehicles; uncrewed air vehicle; drone; drones; defeat; kinetic; aerial systems; aerial vehicles; autonomous vehicles; UAS; UAV; CUAS; CUxS; handheld

### **OBJECTIVE:**

The objective of this topic is to develop a handheld defeat capability to defeat Unmanned/Uncrewed Aircraft Systems (UAS). Low size, weight, power, and cost (SWaP-C) solutions that can kinetically defeat Group 1-3 UAS (DoD defined) are desired. Defeat range is important, but reliability and a high probability of kill (Pk) are higher priority.

IMPORTANT: For SOCOM instructions: please visit: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/>. Go to the bottom of the page and click "DoD SBIR 24.4 Annual". Once there, go to the SOCOM SBIR 24.4 - Release 3.

### **DESCRIPTION:**

As a part of this feasibility study, the proposers shall recommend defeat methodologies to kinetically defeat UAS. Minimal requirements will be provided to proposers for the Phase I feasibility study; this is to enable design flexibility and to solicit diverse and novel ideas. However, the following characteristics are considered priorities (listed from highest to lowest priority): Pk; SWaP-C; reliability; ease of use; versatility (i.e., defeat multiple group sizes, fixed wing rotary wing, and defeat range. These characteristics will not be explicitly quantified for Phase I.

### **PHASE I:**

Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled "Objective" and "Description."

The objective of this USSOCOM Phase I Small Business Innovation Research (SBIR) effort is to conduct and document the results of a thorough feasibility study ("Technology Readiness Level 3") to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

### **PHASE II:**

Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study for a handheld system to kinetically defeat UAS.

### **PHASE III DUAL USE APPLICATIONS:**

This system could be used in a broad range of military applications where defense against UAS is required.

**REFERENCES:**

1. “New Generation of Counter UAS Systems to Defeat of Low Slow and Small (LSS) Air Threats”, DTIC, <https://apps.dtic.mil/sti/pdfs/AD1152139.pdf>
2. “Counter-Unmanned Aircraft System(s) (C-UAS): State of the Art, Challenges, and Future Trends”, IEEE Xplore – Mar 2021, <https://ieeexplore.ieee.org/abstract/document/9374654>
3. “DSIAC TECHNICAL INQUIRY (TI) RESPONSE REPORT Kinetic Counter-Unmanned Aircraft Systems”, DSIAC – Mar 2020, [https://dsiac.org/wp-content/uploads/2020/05/TI-Response\\_Kinetic-Counter-UAS\\_Kneen.pdf](https://dsiac.org/wp-content/uploads/2020/05/TI-Response_Kinetic-Counter-UAS_Kneen.pdf)

**TOPIC POINT OF CONTACT (TPOC):**

None