

## **SOCOM25D-004: Down Range Crosswind Sensing**

### **ADDITIONAL INFORMATION**

N/A

### **TECHNOLOGY AREAS:**

Human Systems

### **MODERNIZATION PRIORITIES:**

Advanced Materials

### **KEYWORDS:**

optical; windsense; alignment; calibration;

### **OBJECTIVE:**

The objective of this topic is to develop applied research towards developing the capability to measure down range crosswind for long range precision small-arms engagements.

### **DESCRIPTION:**

As a part of this feasibility study, the proposers shall address all viable overall system design options for a tactical, man-portable, monostatic device for optically sensing down-range crosswind to enable long range precision small-arms engagements. The device shall be able to measure crosswind conditions ranging from 0-25 mph out to a distance of 800m. In addition, the capability/complexity to manufacture & produce the optical wind sense devices shall be included as part of this feasibility study. The feasibility study should consider system accuracy, signature management, power usage, and system size/weight. The feasibility study should consider usage in tactical environments (timeliness and ability of calibration, rough handling, extreme temperatures, dust/haze, etc) across both day & night.

### **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 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 investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also 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 prototype systems determined to be the most feasible solution during the Phase I feasibility study on a Down Range Cross Wind Sensing.

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

The Down Range Cross Wind sensing device developed under this effort has applications both in military engagements and civilian long-range sport shooting & hunting.

**REFERENCES:**

1. R&D 100 Entry: Precision Optical Wind System: [youtube.com/watch?v=5kyjF0ESfjQ](https://www.youtube.com/watch?v=5kyjF0ESfjQ)

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