**SMALL BUSINESS INNOVATION RESEARCH**

**PHASE II STATEMENT OF OBJECTIVES**

**FOR**

**Multi-Domain Virtual Innovation**

**SOCOM213 - D009**

**21 July 2021**

**I.  INTERNATIONAL TRAFFIC AND ARMS REGULATION:**  The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), which controls the export and import of defense-related material and services. Offerors must disclose any proposed use of foreign nationals, their country of origin, and what tasks each would accomplish in the statement of work in accordance with section 5.4.c.(8) of the solicitation. Additionally, Offerors will describe compliance mechanisms offerors have in place or will put in place to address any ITAR issues that arise during the course of agreement administration.

II.**BACKGROUND:**  The objective of this topic is to develop a platform to support experimentation in the context of SOF Multi-Domain Operations (MDO) in urban environments. Strategic competition will require SOF to conduct and/or support Tactics, Techniques, and Procedures (TTPs) that affect – or can be negatively affected by – highly interlinked cyber-physical systems and their dependencies, many of them in urban contexts. Developing SOF-unique capabilities for successfully operating in these environments requires the experimental integration of emerging technology, novel TTPs, and enhanced training. The ideal solution will be a “platform as a service” that provides both a fixed (non-mobile) Lab for experiment preparation as well as a deployable set of infrastructure that allow experiments to be brought to and executed within any representative urban environment.

III**.  OVERALL OBJECTIVE:**

The objective of this Statement of Objectives is to develop a COTS-based “platform as a service” prototype that provides for the full lifecycle of SOF urban MDO experimentation.

IV.**Requirements**:

A.  General:  The Contractor shall deliver a prototype platform that includes a portable, self-contained/operated “Smart City” infrastructure (Infrastructure), to include a mix of sensors, actuators, connectivity (physical and wireless), and software-based infrastructure management (e.g., Operations Center). The prototype platform will also include a portable, self-contained/operated Range Control (Control), to include sensors, connectivity, and software-based range infrastructure management. The platform should also provide physical and remote access to a lab environment (Lab) that supports experiment preparation and post-experiment assessment via systems-oriented technology integration and emerging capability validation. The platform will also provide a set of courses (Training) that provide both familiarization and hands-on technical experience for SOF operators.

1**.  Detailed Requirements:**

1. The Contractor shall design, develop, integrate, test, demonstrate, and deliver one (1) portable Infrastructure package. All hardware components should be COTS, and all management software should use (to the degree feasible) Open Source software and standard protocols, data formats, APIs, and interfaces. The Infrastructure should include no less than a total of 10 sensors and 10 actuators (of various types) representative of current Smart City technology. The Infrastructure should include a mix of wired (copper, fiber optic) and wireless (Wifi, IoT, industrial) connectivity options and protocols. The Infrastructure should include hardware and software typically utilized in urban operations center to monitor and manage Smart City infrastructure.
2. The Contractor shall design, develop, integrate, test, demonstrate and deliver one (1) portable Control package. All hardware components should be COTS, and all management software should use (to the degree feasible) Open Source software and standard protocols, data formats, APIs, and interfaces. The Control should include a total of 20 sensors operating across a range of physics phenomenon (e.g., Electro-Optical, Electromagnetic, etc.). The Control should rely primarily on fiber optic and secure RF protocols and frequencies. The Control should include software (and any hardware to run the software) that can support Range Control functions to include safety, exercise communications, and “ground truth” evaluation.
3. The Contractor shall design, develop, integrate, test, demonstrate and provide in-person and remote access to one (1) fixed Lab. All hardware components should be COTS, and all software should use (to the degree feasible) Open Source software and standard protocols, data formats, APIs, and interfaces. The Lab should include at least one of each sensor, actuator, infrastructure, and management technology included in the Infrastructure package. The Lab should provide a time share mechanism to allow operators to schedule and reserve in-person and/or remote access to Lab technology. In-person and/or remote access sessions should provide an automated way for the operator to preserve the configuration state of any hardware, firmware, software, operating systems, and associated data of their session to be able to rapidly provision Lab equipment to a previous state. The Lab should also support rapid integration of new technology into the time-sharing/state-saving management framework.
4. The Contractor shall design, develop, integrate, test, demonstrate and provide a set of operator-oriented training curricula. These curricula should include familiarization with “Smart City” technology and operations, as well as specific strategies and techniques for offensive technical operations to disrupt, deny, and/or degrade “Smart City” technology and operations. The Contractor shall design, develop, integrate, test, demonstrate and provide a set of operator-oriented training curricula. These curricula should include familiarization with “Smart City” technology and operations, as well as specific strategies and techniques for offensive technical operations to disrupt, deny, and/or degrade “Smart City” technology and operations. The Contractor's training documents shall authorize by contract or agreement, further distribution of information without restrictions. The Contractor shall not mark the documents with any proprietary markings. The Contractor shall mark the documents for public release using the following distribution statement, "DISTRIBUTION STATEMENT A: Distribution approved for public release".

2.  **UNIQUE ITEM IDENTIFICATION:**  The Performer shall include the DoD unique item identifications, or a DoD recognized unique identification equivalent for the prototypes delivered. This includes a description and cost breakout as applicable. Information on unique item identifier types is at http://www.acq.osd.mil/dpap/UID/uid\_types.html. The guide is at http://www.acq.osd.mil/dpap/UID/guides.htm. This is in accordance with DFARS 252.211-7003.

3.  **SHIP TO ADDRESS:**  The Contractor shall deliver all prototypes systems delivered under this contract to the following address:

USSOCOM (DoDAAC: F2VUG0)

Attn: James McKinlay

7701 Tampa Point Boulevard

MacDill Air Force Base, Florida 33621-5323

Phone: 813.507.1165

4.  **SHIPPING COSTS:**  The Contractor shall pay all costs to ship all product deliverables to and from the validation testing /demonstration sites and to the final delivery location.

B.  **DOCUMENT DELIVERABLES:**  The Contractor shall provide the following documents to the respective specified addresses during the Phase II Period of Performance:

1. Kick-Off/System Requirements Review: See CDRL A001.
2. Monthly Progress Reports:  See CDRL A002.
3. Developmental Test Plan for Performance Validation:  See CDRL A003.
4. Developmental Test Report for Performance Validation:   See CDRL A004.
5. Business Plans:  See CDRL A005.
6. Final Technical Report:  See CDRL A006.
7. Preliminary Design Review: See CDRL A007.
8. Critical Design Review: See CDRL A008.

V.  **TESTS AND DEMONSTRATIONS:**  The Contractor shall conduct tests and demonstrations to validate that all components of the platform meet or exceed all the requirements specified in this Statement of Objectives.  (See CDRL A003 and CDRL A004).

1. The Contractor shall demonstrate that all components of the platform prototypes meet or exceed the threshold performance attributes specified in this Statement of Objectives.   (See CDRL A003 and CDRL A004).

VI.  **ENVIRONMENTAL AND SAFETY:**  The components of the platform prototype developed under this Statement of Objectives shall be of safe design.

VII. **GOVERNMENT FURNISHED PROPERTY (GFP) / GOVERNMENT FURNISHED PROPERTY (GFE) / GOVERNMENT FURNISHED INFORMATION (GFI):** The Government does not intend to provide the Contractor any GFP, GFE or GFI.  However, the Contractor may request by stock number and nomenclature any GFP/GFE/GFI the Contractor believes is needed to successfully complete the requirements specified in this Statement of Objectives and identify risk reduction strategies if Government is unable to the provide requested items.

VIII**. PERIOD OF PERFORMANCE:**  The maximum Period of Performance for this Phase II effort is eighteen (18) months.  The Contractor can propose a lessor Period of Performance if a lessor Period of Performance does not jeopardize the Contractor’s successful completion of the requirements specified in this Statement of Objectives.

VIX. **MEETINGS AND REVIEWS:**  The Contractor shall attend the following meetings and reviews.

A.  Phase II Kick-Off Meeting/System Requirements Review:  This meeting shall be conducted at MacDill AFB, Florida not later than thirty (30) calendar days after contract award.  The Contractor shall provide the Government:

1.  A Phase II Kick-Off Meeting Read-Ahead no less than seven (7) calendar days prior to the Phase II Kick-Off Meeting / System Requirements Review Meeting (See CDRL A001).

2.  An initial Program Management Plan for accomplishing all objectives specified in this Statement of Objectives.  (See CDRLs A002).

3.  Initial Conceptual Design Drawings no less than seven (7) calendar days prior to the Phase II Kick-Off/System Requirements Review Meeting (See CDRL A001).

B.  Preliminary Design Review (PDR):  This meeting shall be conducted at the Contractor’s facility no more than one hundred and eighty (180) calendar days after Phase II contract award.  The Contractor shall provide teleconference capability for those participants unable to travel.  The Contractor shall provide the Government:

1.  A Preliminary Design Review and Materials Read-Ahead Briefing no less than ten (10) calendar days prior to the PDR (See CDRL A007).

2.  An updated version of Conceptual Design Drawings (See CDRL A007).

3.  An initial version of Trade off Considerations for the Design.  (See CDRL A007).

4.  Results of any testing to date.  (See CDRL A004).

5.  Resolution to any previously identified Contractor/Government issues or concerns.

6.  An initial assessment of other potential benefits / impacts of the platform prototypes and a recommendation of any changes for consideration / incorporation into the subsequent design that will be provided to the Government at the follow-on Critical Design Review.  (See CDRL A008).

C.  Critical Design Review (CDR):  This meeting shall be conducted by the Contractor in MacDill AFB, Florida no later than fourteen (14) calendar days prior to the end of the contract completion date.  The Contractor shall provide the Government:

1.  A Critical Design Review and Materials Read-Ahead Briefing no less than ten (10) calendar days prior to the CDR (See CDRL A009).

2.  A draft of final version of Conceptual Design Drawings (See CDRL A008).

3.  Final version of Trade off Considerations for the Design.  (See CDRL A008).

4.  Results of any testing to date.  (See CDRL A008).

5.  A Prototype System Specification for the platform prototype (See CDRL A009).

6.  Resolution to any previously identified Contractor/Government issues or concerns.

D.  Phase II Close-Out Meeting:  The Phase II Close-Out Meeting shall be conducted via teleconference no earlier than seven (7) calendar days prior to the conclusion of the Phase II Period of Performance.  The Contractor shall provide the Government:

1.  A briefing on the test verification (See CDRL A004).

2.  An update of the progress to date.  (See CDRL A002)

3.  Resolution to any previously identified Contractor/Government issues or concerns.

X.  **NOTIFICATION:**  The Contractor shall notify USSOCOM no less than thirty (30) calendar days prior to tests, demonstrations, and reviews at the Contractor’s facilities to ensure USSOCOM representatives can attend should they desire to do so.

XI.  **TRAVEL REQUIREMENTS:**  The costs associated with the below travel requirements will be included in a separate Contract Line Item Number as a cost reimbursable expense.  The Contractor shall comply with the Federal Acquisition Regulation 31.205-46 (<http://www.gsa.gov/perdiem>) on proposing all travel related costs.  The Contractor shall include the costs associated with the following travel requirements in the proposal:

A.  Phase II Kick-Off Meeting:  MacDill AFB, Florida; one (1) overnight, no more than three (3) Contractor representatives.

B.  Phase II Critical Design Review:  MacDill AFB, Florida; one (1) overnight, no more than three (3) Contractor representatives.

C.  As part of the Phase II proposal the Contractor shall propose when to conduct Form, Fit, and Function Evaluations that will be conducted at MacDill AFB, Florida; four (4) overnights, no more than three (3) Contractor representatives.

D.  As part of the Phase II proposal the Contractor shall propose when to conduct a prototype demonstration that will be conducted at MacDill AFB, Florida; four (4) overnights, no more than three (3) Contractor representatives.

XII**.  DISCLOSURE OF UNCLASSIFIED INFORMATION:**

A.  On September 21, 2001, the Department of Defense designated Headquarters US Special Operations Command (USSOCOM) a sensitive unit, as defined by Title 10 United States Code (USC) Section 552 (10 USC 552).   In keeping with this designation, unclassified information related to USSOCOM military technology acquisitions managed by USSOCOM or any of its component commands, will be designated Controlled Unclassified Information (CUI).  As such, the contractor hereby unequivocally agrees that it shall not release to anyone outside the Contractor’s organization any unclassified information, regardless of medium (e.g., film, tape, document, Contractor’s external website, newspaper, magazine, journal, corporate annual report, etc.), pertaining to any part of this contract or any program related to this contract, unless the Contracting Officer has given prior written approval.   Furthermore, any release of information which associates USSOCOM, Special Operation Forces (SOF), or any component command with an acquisition program, contractor, or this contract is prohibited unless specifically authorized by USSOCOM.

B.  Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release.  The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release for approval.  No release of any restricted information shall be made without specific written authorization by the Contracting Officer.

C.  The Contractor shall include a similar requirement in each subcontract under this contract.  Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

D.  The Contractor further understands that Title 18 USC Section 701 specifically prohibits the use of the USSOCOM emblem or logo in any medium (e.g., corporate website, marketing brochure, newspaper, magazine, etc.) unless authorized in writing by USSOCOM.  Forward any requests to use the USSOCOM emblem or logo through the Contracting Officer.