



## **Opposition Advisory Force Platform and Process Prototype Request for White Papers**

**Title:** Opposition Advisory Force (OAF) Prototype

**Request for White Papers (RWP) Number:** HQ0034-19-RWP-0002

**Security Classification:** Unclassified

### **I. Description of Requirement**

The National Security Innovation Network (NSIN) program within the Office of the Undersecretary of Defense for Research and Engineering USD(R&E) has a mission to create new communities of innovators that solve national security problems by generating new ideas, nurturing talent and finding novel applications of technology. NSIN helps the military services and other DoD customers respond to unmet, operational needs from the military and civil servants through their education, collaboration and acceleration programs.

NSIN requires a live threat force prototype platform and process that replicates future adversary aspirations and capabilities for military concept based experimentation. U.S. Military concept-based experimentation is rarely conducted against a free-thinking, adapting threat force that replicates future adversary aspirations and capabilities. When a live threat force is employed, it is frequently “mirror-imaged” to look more like U.S. Forces than potential adversaries. It is often anachronistic and rarely combines elements of the modern battlefield, such as rapid emergence of weaponized commercial off-the-shelf (COTS) technology. Rigorously challenging concepts and emerging technology requires the fidelity of a realistic operating environment and an adaptive threat force that depicts the aspirations of our future adversaries. This can be achieved when service members learn the motives and practices of a likely adversary under the tutelage of a professional adaptive threat force cadre. This method allows them to live “on the other side of the map” and gain empathy for the adversary position, thus better predicting their adaptations and responses to U.S. actions before they happen in actual conflict. Service members need an active sparring partner to reflect the will, adaptive capabilities, and emergence of adversary actions to form a basis for in-stride adaptation and innovation required on the modern battlefield to defeat U.S. adversaries. There is a need to stand up this opposition adversary force (OAF) and capture relevant training/experimentation data to ensure the OAF is providing an actual sparring capability for U.S. Forces.

The prototype for this capability will encompass two key elements: a software platform and a people driven process. The software platform should incorporate battle effects, battle tracking, automated event diary, operator feedback, integrated free-play irregular warfare (IW) domain, in-stride after action report tools, and objective assessment capabilities to create the strongest free play feedback loops to the OAF. The human driven process aspect should be an innovative cross-discipline training of adversary forces to allow free-play action inside of a structured event system. The focus of the process prototype will be on

how subject matter experts utilize the software platform to teach, coach, and mentor an assigned adversary force to behave more like the enemy through a desired enemy culture, value system, aspirational capabilities and emergent abilities.

The final deliverables will be a software platform and a documented people driven process (e.g. manual, etc.). The people driven process should be designed and scaled for a battalion size OAF or smaller, and will advise the organization, employment and tactics of the OAF. This people driven process must be crafted in such a way as to allow it to be reproduced and employed by any DoD trainers. This base capability will include fidelity enhancements such as small arms, individual equipment, uniforms, communications, emerging cross domain capabilities (cyber, IW, Autonomous systems, COTS technology, etc.) and limited tactical mobility.

## **II. Statement of Need**

The OAF software platform should have the capability to or support DoD personnel to be able to:

- Provide a methodology that identifies relevant battlefield (experimentation and training events) data sources to include human, psychological and environment INT information.
- Provide a methodology that associates the data sources and provides a predictive model blueprint for future adversary TTPs.
- Provide a backdrop for innovation where pace of emergence, adaptation and change is established along with measurable adaptation markers through live force engagement
- Enhance a culture of learning with in-stride and after action event reviews, featuring echelon layered feedback loops and direct feedback from adaptive threat force leaders.
- Conduct research, analysis and synthesis of assigned adversary in order to best reflect capabilities and aspirations in training and experimentation.
- Conduct experiment and training program design with the U.S. Forces partner
- Provide alternative perspectives and challenge assumptions of U.S. Forces in order to reflect non-mirror imaged adversary capabilities.
- Integrate into assigned U.S. Forces acting as adversary force and provide multi-domain capabilities to organize similar to and reflect the capabilities of the proscribed adversary.
- Conduct training, education and rehearsals with assigned U.S. Forces acting as adversary.
- Lead, embed within, or advise/assist assigned U.S. Forces acting as adversary.
- Execute functions as the Exercise Control Group as directed.
- Provide in-stride and after action reviews to U.S. Forces
- Provide multi-media learning tools to broader U.S. Forces audience
- Capture innovation, adaptation and emergence as it occurs in experimentation/training.
- Provide minimum viable product and analytical process, which would then be iterated upon to incorporate additional requirements and a more sophisticated capability over time.

The OAF people driven process should:

- Provide a Cadre to form realistic opposition adversary forces to challenge concept and technological experiments in a live, virtual or constructive environment.
- Provide a mechanism to evaluate emerging COTS technology from the perspective of adversary militarization capabilities.
- Provide a mechanism to evaluate emerging technology from the research and development enterprise where the technology is not fully developed, but benefits from live-force employment to refine the development vector
- Provide exposure of emerging and aspirational adversary technology to U.S. military experiment forces to inform further experimentation.
- Provide emergent multi-domain asymmetries with respect to U.S. Forces and execute them in live force experimentation and training events

### **III. Schedule**

Period of performance is expected to be 12 to 24 months.

### **IV. Evaluation Factors**

The Government will conduct an evaluation of all white paper(s) submitted in response to this RWP. **White papers may not exceed 10 pages.** A selection will be made and a Request for Project Proposal will be made to the selectee(s). In the event that the Government is unable to come to terms with the initial selectee(s), the Government may reevaluate the white paper responses and make another selection.

The white paper evaluation will be based on an assessment of the below criteria.

1. Technical merit of the proposed solution will be assessed with respect to technical advancement, clarity and soundness of the technical approach and the extent to which the statement of need is addressed.
2. Adequacy of proposed key personnel to meet the requirements of the proposed technological solution.
3. Evaluation of the potential impacts of the data rights assertions.
4. Evaluation of significant nontraditional and/or small business participation, or one-third (1/3) cost share.
5. Affordability of proposed solution.

### **V. Basis for Selection**

It is the Government's intention to select the white paper(s) that is/are most advantageous to the Government. The white paper selection decision will be formally communicated to the responding vendors. The successful offeror(s) will receive a Request for Prototype Proposal (RPP).

### **VI. Request for Proposal**

The RPP will request a cover sheet, a Statement of Work, and a total price with supporting cost/price information and a proposed payment schedule. The Statement of Work must include, at a minimum:

1. Background, objectives, and planned results

2. Technical approach
3. Tasks to be performed
4. Deliverables
5. Project schedule
6. Period and Place of performance
7. Any other requirements requested at the RPP stage (e.g. security, property, environmental, data rights, etc.)

If more than one white paper is selected to receive an RPP, the Government will perform an evaluation of the final proposals to determine which solution is most advantageous to the Government based on technical, programmatic, and funding considerations. In all cases, each RPP will be evaluated to ensure the Statement of Work fully addresses the Statement of Need and that the price is fair and reasonable. Negotiations may be conducted with the offeror(s) following receipt of proposals.

## **VII. Contractor Evaluation Support**

It is Washington Headquarters Services's policy to treat all submissions as "source selection information" as defined by 41 U.S.C. § 2101(7), and to disclose the contents only in accordance with 41 U.S.C. § 2102. Restrictive notices notwithstanding, during the evaluation process, submissions may be handled by support contractors for administrative purposes and/or to assist with technical evaluation. All support contractors performing this role are expressly prohibited from performing sponsored technical research and are bound by appropriate nondisclosure agreements. Proposals and other submissions during the selection process will only be utilized for evaluation and negotiation purposes.

## **VIII. Nontraditional Defense Contractor Participation or Cost-Share Commitment**

The Prototype Project awarded under an Other Transaction Agreement (OTA) must meet at least one of the following conditions:

1. There is at least one Non-traditional Defense Contractor (NTDC), small business or nonprofit research institution participating to a significant extent in the Prototype Project, or
2. At least one-third of the total cost of the Prototype Project is to be paid out of funds provided by parties to the transaction other than the Federal Government.

An NTDC is an entity that is not currently performing and has not performed, for at least one year preceding the issuance of a prototype project solicitation, any contract or subcontract for the DoD that is subject to full coverage under the FAR-based Cost Accounting Standards ("CAS"). A subsidiary or a division of a traditional defense contractor may still qualify as an NTDC.

Significant participation is determined on a project basis and is based on the importance of the NTDC contribution to the overall execution or outcome of the proposed project. OT Authority statute does not prescribe a monetary threshold or percentage value to justify significance. Examples of "significant" participation are:

- Supplying a new key technology or product, or unique capability;
- Causing a material and quantifiable reduction in the project cost or schedule;
- Causing a measurable increase in the performance of the prototype;
- Accomplishing a significant amount of the effort;
- Value-added analysis not based on percentage of project work or value.

Since contracts and subcontracts with small businesses are exempt from full CAS coverage, small businesses are deemed NTDCs under OT Authority. An entity is considered a small business based upon its applicable North American Industry Classification System (“NAICS”) designation (as described at 13 C.F.R. §121.201) for the specific nature of the work being proposed.

## **IX. Export Control**

Research findings and technology developments arising from the resulting RWP may constitute a significant enhancement to the national defense and to the economic vitality of the United States. As such, in the conduct of all work under the subsequent PPA(s), the recipient will comply strictly with the International Traffic in Arms Regulation (22 CFR 120-130), the National Industrial Security Program Operating Manual (DoD 5220.22-M) and the Department of Commerce Export Regulation (15 CFR 730-774).

## **X. Legally Responsible Entity**

A legally responsible entity shall be identified who may execute the agreement and legally bind the contractor(s)/participant(s). The legally responsible entity will ultimately be responsible for successful contract performance.

## **XI. System for Award Management (SAM)**

The legally responsible entity must register in SAM and maintain an active SAM registration with current information at all times during which they have an active federal award or proposal under consideration by the Government. Information on SAM registration is available at <http://www.sam.gov>.

## **XII. Data Rights and Intellectual Property**

For the purposes of this RFW, the following definitions apply:

1. “Covered Government Support Contractor” means a contractor under a contract, the primary purpose of which is to furnish independent and impartial advice or technical assistance directly to the Government in support of the Government’s management and oversight of a program or effort (rather than to directly furnish an end item or service to accomplish a program or effort), provided that the contractor:

- (i) Is not affiliated with the prime contractor or a first-tier subcontractor on the program or effort, or with any direct competitor of such prime contractor or any such first-tier subcontractor in furnishing end items or services of the type developed or produced on the program or effort; and
- (ii) Receives access to Data for performance of a Government contract.
- (iii) Enters into a non-disclosure agreement with the Performer, if required.

2. “Data” means recorded information, regardless of form or method of recording, which includes but is not limited to, technical data, software (including executable code), mask-works and trade secrets. The term does not include financial, administrative, cost, pricing or management information and does not include subject inventions.

3. “Government purpose rights” means the rights to use, duplicate, or disclose Data, in whole or in part and in any manner, for Government purposes only, and to have or permit others to do so for Government purposes only.

4. “Limited rights” means the rights to use, modify, reproduce, release, perform, display, or disclose data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the data outside the Government, use the data for manufacture, or authorize the data to be used by another party, except that the Government may reproduce, release, or disclose such data or authorize the use or reproduction of the data by persons outside the Government if—

(i) The reproduction, release, disclosure, or use is—

(a) Necessary for emergency repair and overhaul; or

(b) A release or disclosure to—

(1) A covered Government support contractor in performance of its covered Government support contract for use, modification, reproduction, performance, display, or release or disclosure to a person authorized to receive limited rights data; or

(2) A foreign government, of data other than detailed manufacturing or process data, when use of such data by the foreign government is in the interest of the Government and is required for evaluation or informational purposes;

(ii) The recipient of the data is subject to a prohibition on the further reproduction, release, disclosure, or use of the data; and

(iii) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

5. “Restricted rights” has the same meaning as defined in DFARS 252.227-7014(a)(15).

6. “Unlimited rights” means rights to use, modify, reproduce, perform, display, release, or disclose data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

The Government requires, at a minimum, Government Purpose Rights (GPR) in Data and other intellectual property developed during work performed for this program to enable the Government to 1) promote future development for Government purposes; 2) flexibly brief Government stakeholders regarding technical progress and accomplishments, 3) allow validation of technical performance, capabilities, and accomplishments by independent technical (potentially non-Government) experts, 4) facilitate discussion of technical challenges and applications with the broader technical community, and 5) support transition opportunities, including design and performance data required to support other acquisition activities. At the same time, the Government recognizes that industry has developed its own advanced technology prior to this solicitation and will want to preserve those rights for potential future commercial applications.

Interested contractors responding to this solicitation shall identify all Data that it plans to furnish to the Government under any negotiated OTA in which the Government will receive less than Unlimited rights, and assert specific restrictions on that Data. Partner Teams shall follow the format described below for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has Unlimited rights to all Data generated, developed, and/or delivered under the OTA,

unless it is substantiated that development of the Data occurred with private or mixed funding. If mixed funding is anticipated in the development of Data generated, developed, and/or delivered under any negotiated OT agreement, then Partner Teams should consider identifying the Data in question as subject to GPR.

Partner Teams shall use the following table to assert restrictions to data.

<b>Technical Data/ Computer Software/ Patent to be Furnished with Restrictions</b>	<b>Basis for Assertion</b>	<b>Asserted Rights Category</b>	<b>Name of Entity Asserting Restrictions</b>
Identify the technical data/software/patent to be furnished with restriction (insert "None" if no restrictions apply)	Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's right should be restricted	Insert asserted rights category (e.g., limited rights (data), restricted rights (software), government purpose rights, SBIR data rights or specifically negotiated license)	Insert corporation or individual

For any items for which a Partner Team asserts data rights less than Unlimited rights, the Partner Team shall describe the impact of the GPR or Limited rights assertion. In other words, the Partner Team should describe what data the Government will get, how the Government will be able to use it, and describe the impact of this data rights assertion on the Government's ability to transition the program. The Government will use this table during the proposal evaluation process to evaluate the impact of any identified restrictions. If no restrictions are intended, then the Partner Team should state "NONE." It is noted, an assertion of "NONE" indicates that the Government has Unlimited rights to all data delivered under this OT.

### **XIII. Submission**

White papers must be submitted directly to the Agreements Officer, Ryan Daniels, at [ryan.t.daniels.civ@mail.mil](mailto:ryan.t.daniels.civ@mail.mil), by August 16, 2019 at 4:00PM local D.C. time. Questions regarding the RWP procedures should be directed to the email address above.

## **XIV. White Paper Format**

### **a. General**

The White Paper (WP) template is provided as an attachment to this RWP. The following formatting requirements apply:

- Times New Roman 10 (or larger), single-spaced, single-sided, 8.5 by 11 inches
- Smaller type may be used in figures and tables, but must be clearly legible
- Margins on all sides (top, bottom, left and right) should be at least 1 inch
- Page limit is ten (10) pages; excluding the cover sheet, data rights assertions, Rough Order of Magnitude (ROM), and affirmation of NTDC status certification(s)
- WPs shall include a cover sheet, not counted toward the page limit, that includes:
  - Prototype Project Title
  - Primary point of contact, Technical point of contact and FSO, if applicable, including name, address, phone, and e-mail contact information
  - Total Solution Rough-Order-of-Magnitude price
  - Bill of Materials ROM for UAVs in Full Rate Production (>1000/year)

### **b. Technical Requirements**

Each WP shall contain the following information:

- Background and Benefits of Proposed Solution
- Technical Approach, including clearly defined prototype solution
- Schedule and Deliverables
- For purposes of determining proper use of 10 U.S.C. 2371b authority, participants (e.g. subcontractors, etc.) and a description of contributions and significance of each

c. Data Rights Assertions

Identify any intellectual property, patents and inventions involved in the proposed solution and associated restrictions on Government use of that intellectual property, patents, and inventions. The following information shall be presented for all assertions, in the table format included in Section XI “Data Rights and Intellectual Property.”

- Technical data, computer software or patent to be furnished with restriction
- Basis for assertion
- Asserted rights category
- Name of entity asserting restrictions

If no restrictions are applied, insert “None” in each column. Data Rights Assertions do not count toward the 10 page limitation.

d. Rough Order of Magnitude Requirements

The Government will be considering affordability in making its source selection decision; therefore, the White Paper shall contain cost information as requested in the below table (as applicable):

<b>ROM Cost</b>		
<b>Cost Element</b>	<b>Total</b>	<b>Description/Comments</b>
Prime Contractor Labor	\$	Insert generic position titles, estimated rates and labor hours
Subcontractor/Consultant Labor		Insert generic position titles, estimated rates and labor hours
Material/Equipment		Insert list of proposed material/equipment
Other Direct Costs (ODC)		Describe proposed ODC (outside services, conference fees, software licenses, other fees/royalties, etc.)
Travel		Describe estimated travel (e.g., travel to customer site(s) for meetings, etc.)
Proposed Project Total		Sum of cost elements
Less Cost Share		Cost-share amount (if applicable)
Total (Less Cost Share)		Amount after cost share is deducted
Total ROM Cost		

e. Affirmation of Business Status Certification

Each participant proposed in the WP shall complete the Business Status Certification in the format provided below. These certifications shall be included as an attachment to the WP and will not count toward the page limit.

**Affirmation of Business Status Certification**

Each participant shall complete a separate certification. These certifications are not part of the page limit.

Participant Name	
Proposed NAICS Code	
Industry Size Standard (Small/Large)	
DUNS No.	
CAGE Code	
Active SAM Registration	<input type="checkbox"/> Yes <input type="checkbox"/> No Expiration Date:
Address 1	
Address 2	
City/State/Zip	
POC Name/Title	
POC Phone/Email	

Check one of the following boxes:

- Non-traditional Defense Contractor (NTDC) — A Non-traditional Defense Contractor is an entity that is not currently performing and has not performed, for at least the one-year period preceding the issuance of this Request for White Papers by the Department of Defense, any contract or subcontract for the Department of Defense that is subject to full coverage under the cost accounting standards prescribed pursuant to Section 1502 of Title 41 of the U.S. Code and the regulations implementing such section.

All small businesses are considered NTDCs. A small business is a business concern as defined under Section 3 of the Small Business Act (15 U.S.C. 632). To be considered a small business for the purposes of this RWP, a concern must qualify as a small business under the size standard for the proposed North American Industry Classification System (NAICS) code, as described at 13 C.F.R. 121.201.

- Nonprofit Research Institution — means a nonprofit institution, as defined in 15 U.S.C. §3703, and includes federally funded research and development centers, as identified by the National Scientific Foundation in accordance with the Government-wide Federal Acquisition Regulation issued in accordance with 41 U.S.C. §1303(a)(1) (or any successor regulation thereto).

- Traditional Defense Contractor — A traditional defense contractor is an entity that does not meet the definition of a Non-traditional Defense Contractor (NTDC) or a Nonprofit Research Institution.

This is to certify that the above is accurate, complete and current as of insert date for insert RWP number.

Signature (electronic signature is acceptable)	
Date Signed	