# Request for Solutions (RFS)
# AMENDMENT 01
# Product Architecture Domain Modeling (PADM) Prototype Project
# 08 October 2021

## 1. Purpose and Authority

This Request for Solutions (RFS) is seeking vendors for an Other Transaction Authority (OTA) agreement, for the Product Architecture Domain Modeling (PADM) Prototype Project. The Government will evaluate the solutions with the intent to competitively award one or multiple Other Transaction (OT) Agreements for prototype projects through the Training and Readiness Accelerator (TReX) vehicle, in accordance with 10 U.S. Code § 2371b.

## 2. Summary and Background

The United States Navy (USN) detects and responds to cyber threats based on a traditional, labor intensive, seven (7) step process that starts with preparation and information security (INFOSEC) classification and ends with system and common control authorizations and continuous monitoring. To improve how it detects and responds to cyber threats, the Navy seeks solutions that are both proactive (cyber hunt) and reactive (cyber disconnect). The Navy also seeks solutions that will address multiple domains (Platform Architecture, Cyber Attack, Cyber Vulnerability, Mitigations, and Mission Area).

To address the needs of the Navy, the United States Navy's Naval Sea Systems Command (NAVSEA) Cyber Engineering and Digital Transformation Directorate (03) seeks prototype solutions that will expand the Navy's capacities to develop, evaluate, and test Operational Technology and Information Technology (IT) high-priority and high-value systems and assets and improve configuration management (CM) on its ships as well as across multiple domains (Product Architecture, Cyber Attack, Cyber Vulnerability, Mitigations, and Mission Area) in order to rapidly address potential vulnerabilities across USN platforms and systems capable of mitigating the impact of adversarial attacks on its high-priority and high-value assets and corresponding missions. Ultimately, prototype solutions sought by NAVSEA 03 will support new acquisition programs, modernization programs, and in-service platforms, systems, and equipment that are critical to the Navy's mission.

For this prototype effort, NAVSEA 03 will focus on the Platform Architecture domain, however the other domains are critical for integration and need to be considered. The PADM prototype project will research, develop, prototype, demonstrate, and validate digital prototype modeling capabilities for nine (9) platforms and up to 21 classes, listed

in Table 1, not to exceed the number of prototype models necessary to successfully demonstrate and validate the PADM prototype modeling capabilities and shall address Obsolescence; Reliability, Maintainability, and Availability (RM&A); Survivability; and Maintenance. The PADM prototype project will develop solutions that will support the development, test, verification, and validation of specific Navy platforms analysis for Risk Vulnerability Assessments (RVAs) and Security Architecture Reviews (SARs) as well as support Model-Based Systems Engineering (MBSE) efforts within Security Operations Centers (SOCs) utilizing models to support Incident Response (IR) preparation and discovery. PADM prototype capabilities will support both proactive (Cyber Hunt, Defensive, Situational Awareness, etc.) and reactive (Disconnect Strategies, Out-of-Band Network Maneuver, etc.) strategies leading to a reduction in research, development, implementation time, and costs associated with the Navy's current seven-step Risk Management Framework (RMF) process.

Upon prototype development, NAVSEA 03 will demonstrate and assess the new capabilities on multiple Navy platforms to verify and validate prototype capabilities and determine their utility. If utility is declared, those new cybersecurity solutions, as envisioned by NAVSEA 03, will expand the Navy's capacity to proactively test and assess the cybersecurity posture of high-priority and high-value platforms, systems, and subsystems, and protect both the Operational Technology and IT components of those mission critical assets.

Table 1.0 below lists current Navy platforms and applicable classes the PADM prototype will address. These are the known classes for the immediate PADM work. Additional funding may be received from other DoD customers where a platform is not listed in this table. It is the Navy's intent to set up the OT in a way that allows for development for additional DoD customers.

| Platform | Class |
|---|---|
| **Aircraft Carriers** | Nimitz Class |
| | Ford Class |
| **Amphibious Warfare Ships** | Wasp Class |
| | American Class |
| | Blue Ridge Class |
| | San Antonio Class |
| | Whidbey Island Class |
| | Harpers Ferry Class |
| | Lewis B Puller Class |
| **Cruisers** | Ticonderoga Class |
| **Destroyers** | Arleigh Burke Class |
| | Zumwalt Class |
| **Frigates** | FFG(X) |
| **Littoral Combat Ships** | Freedom Class |
| | Independence Class |

| | |
|---|---|
| **Mine Countermeasure Ships** | Avenger Class |
| **Patrol Ships** | Cyclone Class |
| **Submarines** | Los Angeles Class |
| | Seawolf Class |
| | Virginia Class |
| | Ohio Class |
| | Columbia Class |

Table 1.0

NAVSEA 03 anticipates executing the PADM prototype project in phases: (1) Concept Research, Development, and Refinement, (2) Prototyping, and (3) Demonstration and Validation. NAVSEA 03 anticipates the prototyping effort along with the capabilities it researches, develops, prototypes, demonstrates, and validates will be UNCLASSIFIED and CLASSIFIED based on SCG 10-040.

## 3. General Information

3.1. Vendors interested in responding to this RFS must be members of the Training and Readiness Accelerator (TReX). Information about membership can be found at the following webpage: https://nstxl.org/membership/

3.2. The cost of preparing and submitting a response is not considered an allowable direct charge to any Government contract or agreement.

3.3. An individual vendor may not submit more than one solution in response to this RFS as a Prime. A vendor may participate as a subcontractor to multiple responses. Additionally, the Government will consider and accept partial solutions for this requirement.

3.4. Non-compliance with the submission instructions provided herein may preclude the vendor from being considered for award.

3.5. Government participants and advisors in the evaluation process will be required to sign non-disclosure agreements (NDAs), as well as ensuring the procedures are in accordance with 41 U.S.C. Chapter 21, Procurement Integrity Act. Note: only Government personnel will be participating in the evaluation.

## 4. Government Furnished Information (GFI)/ Government Furnished Property (GFP)

4.1. The Government will make available Attachment 1, Security Classification Guide (SCG) 10-040, for use during Solution preparation. In order to obtain the documentation, the vendor shall submit a request in writing to

INITIATIVES@NSTXL.ORG, with “PADM Prototype” used in the subject line along with the required documents detailed in Section 4.2 below.

4.2. The GFI (Attachment 1) contains the Distribution C Statement and requires the vendor to be vetted prior to obtaining the GFI. The vendor is required to complete the Vendor Self Vetting Form (Attachment 8) along with completing and signing the GFI Tech Data Distribution Agreement (Attachment 7) which includes further guidance regarding the handling of the GFI. Upon approval, the vendor will be provided the GFI (Attachment 1).

4.3. All hardware and associated technical information provided to the vendor as GFI/Government Furnished Equipment (GFE) is anticipated to be Controlled Unclassified Information (CUI).

4.4. Security Vetting
All vendors who want to compete, bid, or team with others for this effort must be willing to comply with the PEO STRI Security Process for Vetting. All vendors (Prime and Subs) and/or vendors must be vetted for eligibility, suitability, national status e.g., Foreign or USA Foreign Owned, Controlled and Influenced (FOCI) prior to the receipt of any award instrument.

4.4.1. Upon award of the project, the Government anticipates the distribution of Controlled Unclassified Information (CUI) related to the PADM effort as Distribution D and/or F. The Government anticipates this effort along with the capabilities it researches, develops, prototypes, demonstrates, and validates will be UNCLASSIFIED and CLASSIFIED based on SCG 10-040. All hardware and associated technical information provided to the vendor as GFI/Government Furnished Equipment (GFE) is anticipated to be Controlled Unclassified Information (CUI).

The Government will provide the vendor with Security Classification Guides (SCGs) related to the technology developed under the PADM effort, to ensure that classified information is not inadvertently created by the vendor during execution of the project. Please refer to the following link for more information on SCGs: https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520001m_vol1.pdf?ver=2020-08-04-092500-203

The Government intends to provide additional GFI to the awardee within 15 days after award of agreement.

4.5. Furthermore, vendors must provide a list of all Government Furnished Information (GFI) / Government Furnished Equipment (GFE) that the vendor believes is critical to enable development and demonstration of prototype. The Government cannot guarantee that all GFI / GFE requests can/will be accommodated.

## 5. Solutions Paper Responses

5.1. Solution Paper responses shall consist of one volume to include an Administrative, Technical, and Price section. Responses shall be submitted in an editable/executable (not scanned) Word/Adobe PDF format. The Technical section is limited to no more than 12 standard size (8 ½" X 11") pages for the total volume count using standard 12-point Arial font. No more than 3 foldouts are allowed with a page size of 11"x17" and will be counted towards the 12-page limit. Please note, each one-sided page will count towards the page count limit. Charts or figures are not bound by the 12-point font requirement but shall be clearly legible. If the solution exceeds the page limitation, the Government may choose not to read any information exceeding the 12-page limit and the information may not be included in the solution evaluation.

| Section | Subsection | Format** | Counted towards page limit | | Page Limit* |
|---|---|---|---|---|---|
| | | | Yes | No | |
| **Administrative** | Cover Page | MS Word/PDF | | X | No Page Limit |
| | Nontraditional Status | MS Word/PDF | | X | |
| | FOCI Status | MS Word/PDF | | X | |
| | OCI & Mitigation Plan | MS Word/PDF | | X | |
| **Technical** | Sub-Vendor List | MS Word/PDF | | X | 12-Page Limit |
| | Vendor Experience | MS Word/PDF | X | | |
| | Project Management | MS Word/PDF | X | | |
| | Solution Approach | MS Word/PDF | X | | |
| | Technical Approach | MS Word/PDF | X | | |
| | Govt Desired Rights in Tech Data & Computer SW | MS Word/PDF | | X | |
| | Anticipated Delivery Schedule | MS Word/PDF | | X | |
| | Integrated Master Schedule (IMS) | MS Project/ PDF | | X | |
| **Price** | Pricing Breakout | Excel | | X | No Page Limit |
| | Rough Order of Magnitude (ROM) | Excel | | X | |

***The Administrative and Pricing Sections along with the cover pages, Sub-Vendor List, Government Desired Rights in Technical Data and Computer Software, List of Figures, Integrated Master Schedule (IMS), Delivery Schedule, GFI List, Section 889-Telecommunications and Representations, and Acronym Definitions do not count towards the page count limit.**

****All PDF's will be editable (not locked).**

5.2. Administrative Section (unlimited page count)

The following shall be included in the Administrative Section:

- Cover Page
- Nontraditional status
- Foreign Owned, Controlled or Influenced (FOCI) status
- Organizational Conflicts of Interest and Mitigation Plans

5.2.1. Cover Page
The cover page shall include the vendor's name, Commercial and Government Entity (CAGE) Code (if available), NAICS Code, Business Size, Traditional or Non-Traditional status, address, primary point of contact, and status of U.S. ownership. NAICS code for this effort is 541330.

5.2.2 Nontraditional Status
The vendor shall provide its nontraditional (see paragraph 5.2.2.1 for definition) business status or its ability to meet the eligibility requirements of 10 U.S.C. §2371b. The vendor shall check **one** of the following boxes – with appropriate justification if needed.

□ There is at least one nontraditional defense contractor or nonprofit research institution participation to a significant extent in the project.

□ All significant participants in the transaction other than the Federal Government are small businesses or nontraditional defense contractors.

□ At least one third of the total cost of the project is to be provided by sources other than the Federal Government.

If the vendor is not a nontraditional defense contractor (NDC) additional information is needed. Vendor shall provide the name and CAGE code information for the NDC participating in the prototype project. Additionally, the vendor shall provide what portion of the work the NDC is performing and an explanation of the significance of the NDC's contribution to the prototype project.

5.2.2.1 Definition of Nontraditional Defense Contractor – an entity that is not currently performing and has not performed, for at least one-year period preceding the solicitation of sources by the Department of Defense (DoD) for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to 41 U.S.C §1502 and the regulations implementing such section.

### 5.2.3 Foreign Ownership, Control, or Interest (FOCI) Status

In accordance with RFS Attachment 2, Security Process for Vetting Contractors, the vendor must include certification that the vendor (and subcontractor(s)) are not Foreign Owned or under USA FOCI status (and are not in merger or purchasing discussions for a Foreign company or USA FOCI Company). Should a prospective vendor be unable to so certify, they will be ineligible for award unless the mitigating circumstances in Attachment 2 Security Process for Vetting Contractors are met. In such a case, these mitigating circumstances shall be detailed in an appendix to the Administrative Section.

### 5.2.4 Organizational Conflicts of Interest and Mitigation Plan

Vendors will submit an Organizational Conflict of Interest (OCI) Mitigation Plan via an appendix to the Administrative Section. In the event there are no real or perceived OCIs, simply state so and annotate what actions would be taken in the event that one is realized.

## 5.3. Technical Section (12-page count)

The following shall be included within the Technical Section:

- Sub-Vendor List
- Vendor Experience
- Project Management
- Solution Approach• Technical Approach
- Government Desired Rights in Technical Data and Computer Software
- Anticipated Delivery Schedule
- Integrated Master Schedule (IMS)

### 5.3.1. Sub-Vendor List

Vendor shall provide a list of all sub-vendors involved and their role within the performance of your submission as an appendix to the Technical Section (which will not count towards the page count). The list shall include FOCI status and OCI, Commercial and Government Entity (CAGE) Code, Business Size and Type (Traditional/ Non-Traditional).

### 5.3.2. Vendor Experience

Vendor shall describe their company or team’s, recent and relevant previous experience designing, developing, prototyping, and producing platform architecture domain solutions that are flexible, interoperable, and capable of both human and machine reading/ingestion. This experience should also include supporting test, evaluation, and assessment that is similar to the required work of this prototype project. Projects worked in the last three years are considered recent.

### 5.3.3. Project Management

Vendor shall describe their company's methodologies, organizational structure, quality assurance processes, and staffing they intend to use to manage this prototype project.

### 5.3.4. Solution Approach

Solution Approach responses shall include the vendor's proposed technical solution clearly describing the approach, feasibility and technical risks and mitigation solutions identified in fulfilling the Project Technical Objectives and associated deliverables identified below. The approach shall clearly address planned documentation deliverables (including format and content) and any planned demonstrations, design reviews (including product line quality factors such as agility and reuse), feasibility of implementation, total project risk, and management reviews.

### 5.3.5. Technical Approach

The PADM Prototype Project objective is to use cutting-edge techniques to generate Architecture Domain MBSE solutions to proactively protect the Navy's assets from cyber-attacks. As outlined in section 1, the Navy intends for the PADM to model platforms, systems, and equipment across domains.

PADM is focused on the PAD:

- The PAD domain encompasses systems, components, software, and hardware found on these components, component-to-component interfaces, system-to-system interfaces, component functions, and system functions.

However, in order to meet future requirements, PADM must be compatible with the other platform domains for integration purposes. For future requirements and cyber integration, as well as the general usefulness of the PADM tools and processes, this compatibility & integration is necessary. These domains include:

- Cyber Attack Domain (CAD): This domain encompasses attributes about hackers such as skill level, motivation, and resources available and attributes about attacks such as vulnerabilities exploited by attacks, complexity of attacks, and methods used to carry out attacks.

- Cyber Vulnerability Domain: This domain encompasses attributes about vulnerabilities such as severity of vulnerability, impact of vulnerability if exploited, and level of difficulty in exploiting the vulnerability.

- Mitigations Domain: This domain encompasses hardening controls used to harden a system or component and mitigating controls used to

mitigate a specific vulnerability or attack. In addition, this domain includes controls and mitigations that inherit other controls or mitigations.

- Mission Area Domain: This domain includes primary and secondary missions across warfare areas that are assigned to a specific ship class.

While these other domains may be directly tied to the platform architecture, the PAD prototype model outputs need to address the extensions connected to the Architecture Domain. These extension outputs include: Obsolescence, Reliability, Maintainability, and Availability (RM&A), Survivability, and Maintenance. For all domains modeled, it is the Navy's intent to allow attributes to be assigned to entities within each domain such as severity scores for vulnerabilities and relationships can be defined across domains such as attacks that exploit specific vulnerabilities. Therefore, the domains and entities across domains will be able to be linked, following the efficiencies consistent with the DOD's Digital Modernization Strategy, to support change management, configuration management, asset management, and knowledge management. The vendor shall describe how the Architecture Domain MBSE models will be modeled in such a way to lend themselves to efficiently facilitate extensions connected to the Architecture Domain.

PADM will do concept research, development, refinement, prototyping, demonstration, and validation for models that reach across domains. PADM target model categories include but are not limited to:

- Aircraft Carriers
- Amphibious Warfare Ships
- Cruisers
- Destroyers
- Frigates
- Littoral Combat Ships
- Mine Countermeasure Ships
- Patrol Ships
- Submarines

NAVSEA 03 is focused on the prototype process that is repeatable and scalable to meet all platform model categories. As such vendors may propose a solution that includes a single or multiple prototype model(s) that address all platform model categories. It is anticipated that the prototype model(s) will go through each of the phases outlined below. However, the prototype model(s) does/do not have to be complete to start another prototype model (if applicable). The prototype model(s) may not necessarily complete all phases and the Government may determine success of a prototype at any phase and determine the prototype is ready for production or fielding. The phases are outlined below.

The Government estimates the total period of performance will be no more than 60 months from the date of award. Vendors shall include its anticipated delivery schedule to reflect its individual solutions.

**Phase 1: Concept Research, Development, and Refinement:**

- Phase 1 Technical Objective: During this phase, the performer will utilize a spiral development approach to conduct conceptual model design, development, and refinement. During this phase, the performer will also work with the Government to determine the following:
    - Access to the required GFI
    - Government SME support roles
    - Access requirements for each type of Data
    - Classification of models based on data added

- Phase 1 Expected Outcome:
    - Conceptual model design
    - Recommendation(s) for model repository, to include process for system/information owners to access
    - Report outlining the results of the technical objectives
    - Lifecycle maintenance plan strategy recommendation
    - Outline/first draft of MBSE process
    - Detailed selection criteria for systems/platforms to be down-selected for Phase 2
    - Gov't concurrence with plan for down-select
    - Execution of down-select for Phase 2
    - Milestones and deliverables for Phase 2

- Phase 1 Decision Point: Based upon the Expected Outcome results of Phase 1, the Government may or may not determine to enter into Phase 2. The technical details are conditioned upon the selected solution and will be further defined during the SOW collaboration

**Phase 2: Prototyping:**

- Phase 2 Technical Objective: During this phase, the performer will develop prototype architecture domain MBSE (PADM) models for various platforms, classes and/or ships. While there is an extensive list of models, the Government will identify the specific models based upon the Phase 1 design concept. These models will be placed in in a secure repository that is accessible by system owners and stakeholders. Throughout this phase, the PADM process(es) and steps for model configuration control, updates, and validation will be documented and identified as manual and/or automated. The recommended processes have been identified in Phase 1. In phase 2, we are not only verifying the model(s) but also the process for the overarching effort. With each model, it is expected that

process adjustments may need to be made in order to accommodate all variations of models to be developed within the period of performance (PoP).

- Phase 2 Expected Outcome: The phase 2 outcomes include models identified in Phase 1 are complete and stored in secure, accessible repository as well as the proven, documented model Verification, Validation, & Accreditation (VV&A) process.

- Phase 2 Decision Point: Based upon the Expected Outcome results of Phase 2, the Government may or may not determine to enter into Phase 3. The technical details are conditioned upon the selected solution and will be further defined during the SOW collaboration.

**Phase 3: Demonstration and Validation:**

- Phase 3 Technical Objective: During this phase, models will be submitted for analysis to include Risk and Vulnerability Assessments (RVAs) and/or Security Architecture Reviews (SARs). At this time, the Government will require the performer to document lessons learned, incorporate these lessons learned into the MBSE PADM process identified in Phase 2 as well as continuing to coordinate any additional demonstrations as needed or required by the stakeholders.

- Phase 3 Expected Outcome: The Phase 3 outcomes are expected to be model validation shows at least 95% completeness and accuracy as built/installed with model alignment when ingested for analysis of 85% or greater.

- Phase 3 Decision Point: Based upon the Expected Outcome results of Phase 3, the Government will determine if the prototype has achieved successful completion. The technical details and successful completion criteria are conditioned upon the selected solution and will be further defined during the SOW collaboration

Note: It is expected that the vendor may need to conduct multiple iterations of Phases 2 – 3 to develop the PADM prototypes for each platform to achieve the desired outcomes. Subsequent iterations shall be mutually agreed upon by the Government and the Vendor.

5.3.6 Government Desired Rights in Technical Data and Computer Software

The Government requires Unlimited Data Rights in all technical data (including computer software documentation) and computer software developed under any OT awarded pursuant to the RFS. Printed deliverable (e.g., printed hardcopies, .doc, web-based html, etc.) will be labeled accordingly and contain all appropriate markings associated with the distribution classification.

The Government requires that vendors identify, through assertions and pricing, computer software and/or hardware not developed under the OT to be delivered with limited or restricted rights.

NAVSEA 03 intends to stimulate advances in technology and innovation through open-source software. Reusable and open-source software submitted as part of a proposed solution is subject to the applicable open-source license.

NAVSEA 03 intends to maintain and modify system(s) developed or delivered under any OT awarded in accordance with this RFS using Government personnel and third-party contractors. The vendor shall analyze feasible non-proprietary solutions and incorporate them when applicable to the effort. This includes, but is not limited to, software rights, technical data, source code, drawings and other product definition data, manuals, warranties, and integration efforts.

The vendor shall provide a data rights assertion table for all technical data (including computer software documentation) and computer software to be developed or delivered under the OTA. The data rights assertion table shall identify at the lowest segregate level the technical data (including computer software documentation) and computer software to be developed or delivered under the OT, the vendor's assertion as to the Government's rights in each item of technical data (including computer software documentation) and computer software, the basis for such assertion, and the name of the person asserting any restrictions. The vendor shall clearly state all assumptions made during development of its solution.

For any technical data (including computer software documentation) or computer software in which the vendor asserts the Government will have less than unlimited rights, the vendor shall provide the open source, commercial, or other license it asserts is applicable. The vendor's assertions, including any assertions of its sub-vendors or suppliers must be submitted as an attachment to its Solution Paper. The tables must be completed in the format set forth in the attachment, dated and signed by an official authorized to contractually obligate the vendor. If additional space is necessary, additional pages may be included. There is no page limit for the Data Rights Assertions Tables, and they do not count against the proposed technical solution page limitation.

Further, the Government desires that vendors to provide assertions and pricing to acquire Unlimited Rights in any non-commercial technical data (including computer software documentation) and identify, through assertions and pricing, computer software not developed under the OT to be delivered with limited or restricted rights. No license will contain terms which violate federal laws, regulation, or policy and any such terms will be considered void and unenforceable.

All technical data and information developed under this effort should be marked with the appropriate markings in accordance with DoDI 5200.48, Controlled Unclassified Information, USD(R&E) USD(I&S) Memo, Clarifying Guidance for Marking and Handling Controlled Technical Information in accordance with Department of Defense Instruction 5200.48, “Controlled Unclassified Information”, and DoDI 5230.24, Distribution Statements on Technical Documents. This generally should be marked with “DISTRIBUTION STATEMENT D and/or F. Distribution authorized to the Department of Defense and U.S. DoD contractors only (due to critical technology, operations security, vulnerability of information) (30 August 2021). Other requests shall be referred to NAVSEA 03.”

5.3.6.1 For the purposes of this RFS and final award document, the Government will use the data rights and computer software related terms defined in Attachment 05, Data Rights License Terms Definitions.

5.3.6.2 Vendor shall complete the Data Rights Assertions Tables using the format provided in Attachment 04, Data Rights Assertions Tables. The vendor’s assertions, including any assertions of its subcontractors or suppliers must be submitted as an appendix to the Technical Section. The tables must be completed in the format set forth in the attachment, dated and signed by an official authorized to contractually obligate the vendor. If additional space is necessary, additional pages may be included. There is no page limit for the Data Rights Assertions Tables, and they do not count against the proposed technical solution page limitation.

5.3.7 Anticipated Delivery Schedule

The vendor shall include the anticipated delivery dates with their solution that includes all PADM Prototype capabilities and completion dates for all tasks and task phases as described in the RFS.

5.3.8 Integrated Master Schedule (IMS)

An IMS shall be provided, using Microsoft Project. The IMS should be resource loaded with each task including a predecessor (if applicable). The IMS may be attached as an appendix file to the Technical Section. The IMS is not included in the total page count and page count is unlimited.

5.4 Pricing Section (unlimited page count)

The following shall be included within the Pricing Section:

- Pricing Breakout
- Rough Order of Magnitude (ROM)

5.4.1. Pricing Breakout

Vendors shall submit a fixed price amount price for its solution, further divided into severable milestones. The Government is not dictating a specific price mechanism. However, proposed payments should be linked to clearly definable, detailed milestones in each phase. It should be clear, with sufficient detail, what is being delivered at each milestone. The vendor's pricing milestones may vary from the defined decision points, depending on the proposed solution. Each milestone price should reflect the anticipated value the Government will receive toward accomplishment of the OTA goals and objectives at the time the milestone is completed. The price volume has no page number limitation.

The prototype project will be incrementally funded as funding becomes available. The government may not fund the full value of this agreement based on the outcome of the various demonstrations conducted throughout the period of performance.

5.4.2 Rough Order of Magnitude (ROM)

Vendors shall provide a ROM for potential follow-on production activities as described in Section 9: Follow-on Activities to include the following:

Describe your licensing/pricing model(s) and include a high-level ROM for your described solution's recurring and non-recurring costs (e.g., installation/set-up, initial training, sustainment costs, upgrade costs and other associated/ add-on services) for a Production/Maintenance environment. (Must provide an expected quantity to support the ROM)

Vendors shall clearly identify any anticipated sustainment/maintenance costs and risks for its solution. In the Technical Section, Vendors should identify technical approaches and rationale within its proposed solution that will result in sustainment cost savings for the government. Sustainment cost savings from the technical approaches shall be quantified and provided.

For the purpose of this ROM, the vendor shall assume 200 platform models will be required. However, this number is just an estimate and the actual number of models required may be higher. Please note, the Follow-On Production ROM, as well as the follow-on sustainment costs, will assist in future planning efforts for potential follow-on efforts and will **NOT** be part of the evaluation.

## 6. RFS Response Instructions

6.1 The Government intends to make a single OT award as a result of this RFS. However, more than one award may be made if determined to be in the Government's best interest.

6.2 All questions related to this RFS shall be submitted utilizing the Vendor Questions Form provided in Attachment 3. Questions must be submitted via email to initiatives@nstxl.org, with “PADM Prototype Vendor Questions” in the subject line.

6.3 **Questions must be submitted no later than 12:00 PM EDT on 15 October 2021.** Questions received after the deadline may not be answered. Questions shall not include proprietary data as the Government reserves the right to post submitted questions and answers, as necessary (and appropriate) to facilitate vendor solution responses.

6.3.1 The Government reserves the right to post submitted questions and answers, as necessary (and appropriate) to facilitate vendor Solution Paper responses. Submitted questions will be posted without identifying company names.

6.4 **Solution Responses shall be submitted no later than 12:00 PM EDT on 05 November 2021.** Solution Responses shall be submitted electronically to initiatives@nstxl.org, with “PADM Prototype Solution” used in the subject line. Any submissions received after this time on this date may be rejected as late and not considered.

6.4.1 Vendors must clearly state assumptions made within their response. Vendors are encouraged to challenge any Government assumptions or restrictive requirements in its individual solution and should articulate any major discrepancies between the RFS and its technical solution. Should a vendor’s solution require a change in policy and/or statute, the vendor shall outline within their technical section, and describe why the change is needed to realize the benefit of the vendor’s prototype (and potential production).

6.4.2 Vendor’s solutions shall be valid for at least 180 days after submission.

## 7. Evaluation and Selection Process

7.1 Solution papers will be evaluated with consideration given to the vendor’s ability to provide a clear description of the proposed solution, technical merit of the response, feasibility of implementation, vendor’s experience, and total project risk. The proposed project price, delivery schedule, and data rights assertions will be considered as aspects of the entire response when weighing risk.

7.2 The Government will evaluate the degree to which the submission provides a thorough, flexible, and sound approach in response to the ability to fulfill the requirements. The Government will evaluate the following:

- Technical Merit – Evaluation will be based on the vendor's technical analysis and design approach to carry out the project requirements as identified in RFS Section 5.3.5.
- Feasibility of Implementation- Clear, concise, and well-developed solution with streamlined approach of being implemented into the PAD, as well as ease of adapting final design prototype solution and process that is repeatable and scalable to meet all platform model categories.
- The vendor's capability to handle simultaneous development and production efforts for multiple PADM scenarios, involving multiple platforms, missions, and locations.
- The performing vendor's experience designing, developing, prototyping, and producing platform architecture domain solutions that are flexible, interoperable, and capable of both human and machine reading/ingestion.
- The performing vendor's experience supporting the test, evaluation, and assessment of platform architecture domain solutions that are flexible, interoperable, and capable of both human and machine reading/ingestion.
- The performing vendor's experience working with the Government in an agile and adaptable manner through collaboration and iteration.
- Management Capabilities to include: Team composition/personnel and sub-vendor involvement, including a description of subcontractor tasks and experience, as well as manufacturing capabilities and facilities.

7.3. In addition, interested vendors are required to provide the following:

- Fixed price amount further divided into severable milestones (RFS Section 5.4.1)
- An IMS for the entire effort with identified deliveries throughout the development of the prototype. (RFS Section 5.3.8)
- Data Rights Assertions Table, Attachment 4: The technical response is expected to clearly outline the appropriate assertion rights in technical data, computer software and software documentation that will be delivered with the solution.
- The vendor's approach to provide life cycle maintenance to sustain capabilities during the duration of the PADM effort (60 months)
- Follow-on Production Rough Order of Magnitude (ROM) (RFS Section 5.4.2)

7.4 Cost and Pricing Breakdown

It is important to note, the entire 5-year prototype project has a maximum ceiling budget of $86,000,000. The government anticipates up to $5,000,000 of available funding for the first year of this project. The Government will evaluate the vendors pricing solution to determine if the solution price is within budget. This will support determining the level of associated risk.

7.5 Selection Process

7.5.1 The Government will review each vendor's submittal against the criteria as described in Sections 7.2 and 7.3, with major consideration given in no specific order of importance to the technical merit, feasibility of implementation, and total project risk. The proposed project price, delivery schedule, and data rights assertions will also be considered as aspects of the entire response when weighing risk and reward. Further, the Government will evaluate the degree to which the proposed concept provides an innovative, unique – yet realistic and sustainable - approach to meeting the PADM Prototype technical capabilities and objectives.

7.5.2 Assessment of risk is subjective. If the risk is obvious or the schedule seems overly aggressive, the Government will consider that in the total risk assessment. Vendors are responsible for identifying risks within their submissions, as well as providing specific mitigation solutions. If sufficient validation of the proposed information is not provided, the Government may reject the submission.

7.5.3 Unsupported assertions will be discounted by the evaluators. Technology and Manufacturing Readiness Levels will be considered when weighing the benefit of the proposal.

7.5.4 The Government anticipates awarding to the vendor(s) whose response best satisfies the Government's objectives, referenced in Section 5.3.5, and will be most advantageous to the Government with price and other factors considered.

7.5.5 The Government reserves the right to award to a vendor that does not meet all of the requirements but provides attributes or partial solutions of value.

7.5.6 In making the final decision it may become necessary to compare the proposals of each vendor against the other, but the Government anticipates that its decision is more likely to be made based on each vendor's submittal as evaluated against the criteria described above and a determination of which solution(s) is/are determined to be the most advantageous to the Government.

## 8. Additional Information

8.1 Export Controls

Research findings and technology developments arising from the resulting proposed solution 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 related to this effort, the recipient will comply strictly with the International Traffic in Arms Regulation (22 C.F.R. §§ 120-130), the National Industrial Security Program Operating Manual

(DoD 5220.22-M) and the Department of Commerce Export Regulation (15 C.F.R. §§ 730-774).

8.2 Interaction and/or Disclosure with Foreign Country/Foreign National Personnel The Vendor should comply with foreign disclosure processes described in US Army Regulation (AR) 380-10, Foreign Disclosure and Contacts with Foreign Representatives; Department of Defense Directive (DoDD) 5230.11, Disclosure of Classified Military Information to Foreign Governments and International Organizations; and DoDD 5230.20, Visits and Assignments of Foreign Nationals.

8.3 Cyber Incident Reporting: The awardee will properly protect data and comply with specific Government reporting procedures in the event Government data is compromised.

8.4 By submitting a response, respondents shall certify whether covered telecommunications equipment or services **will or will not** be included as a part of its offered products or services to the Government in the performance of this effort.

RFS Attachment 09 includes additional detail regarding the representation which must be signed and returned with any submissions.

8.5 All submissions will be unclassified. Submissions containing data that is not to be disclosed to the public for any purpose or used by the Government except for evaluation purposes will include the following sentences on the cover page:

*"This submission includes data that will not be disclosed outside the Government, except to non-Government personnel for evaluation purposes, and will not be duplicated, used, or disclosed -- in whole or in part -- for any purpose other than to evaluate this submission. If, however, an agreement is awarded to this Company as a result of -- or in connection with – the submission of this data, the Government will have the right to duplicate, use, or disclose the data to the extent agreed upon by both parties in the resulting agreement. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]"*

8.6 Each restricted data sheet should be marked as follows:
*"Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this submission."*

## 9. Follow-On Activities

Pursuant to 10 U.S.C. 2371b(f), if competitive procedures were used for the selection of parties for participation in the transaction for a prototype pilot and the participants in the

transaction successfully completed the prototype project, follow-on activities and production OTs are authorized and offer a streamlined method for transitioning into follow-on production without competition. Potential follow-on activities and production contracts may be either sole source, based on successful completion of the prototype project within the scope of this document, or competed at the discretion of the Government. Any Prototype OT shall contain a provision that sets forth the conditions under which that prototype agreement must be successfully completed.

Upon successful completion of the prototype(s), NAVSEA 03 anticipates deploying this solution across multiple domains which, along with the actual installation, may require some level of life cycle maintenance to sustain prototype capabilities. Follow-on activities could include system and software updates, life cycle maintenance, evolving training requirements and technology insertion. As such, the Government may determine that iterative continuation of prototyping may occur after the initial period of performance. Additionally, it is anticipated that potential follow-on production agreements or contracts may be awarded upon successful completion of the PADM prototype project without use of competitive procedures. Successful completion will occur when the prototype has been validated and is accepted by the Government. Successful completion will be defined in the negotiated Statement of Work (SOW) for this prototype project.

Further, the government reserves the right to determine part or all of the prototype project is successfully completed if the vendor shows a particularly favorable or unexpected result justifying the transition to production. These conditions will be specifically defined in the SOW.

Vendors shall provide a Follow-on Production ROM for their approach for handling the potential follow-on production activities as described in Section 5.4.2. Furthermore, the follow-on production ROM will assist in future planning efforts for potential follow-on production efforts. Please note that the follow–on production ROM(s) are NOT part of the evaluation.

Prior to issuing a sole source Follow-On production agreement or contract, the Government will enter into negotiations with the awarded vendor. The negotiations may include evaluation of all potential cost element categories applicable to the effort and may also use price realism analysis. The Government will utilize the most applicable customary method in determining cost elements and prices are fair and reasonable.

## 10. Attachments

To support the PADM prototype project RFS, the following documents will be provided. Each document will be marked and protected accordingly to support distribution and storage. This may include the vetting of vendors, in accordance with establish Government policy and procedures, prior to distribution.

Attachment 1, Security Classification Guide (SCG) 10-040, Distribution C
Attachment 2, Security Process for Vetting Contractors
Attachment 3, Questions Form
Attachment 4, Data Rights Assertions Tables
Attachment 5, Data Rights License Terms and Definitions
Attachment 6, Terms and Conditions and EULA
Attachment 7, GFI Tech Data Distribution Agreement
Attachment 8, Vendor Self Vetting Form
Attachment 9, Section 889, Telecommunications and Representation