

Request for White Papers (RWP)
Directed Energy Test (DET) Prototype Projects
High Energy Laser (HEL) and High-Power Microwave (HPM)
May 16, 2022

1. Purpose and Authority

This Request for White Paper (RWP) is seeking vendors for multiple Other Transaction Authority (OTA) agreements for the Test and Evaluation (T&E) DET Prototype Projects in accordance with the authority of 10 USC §4022. The Government will evaluate the responses with the intent to competitively award one or multiple Other Transaction (OT) agreements for prototype projects through the Training and Readiness Accelerator (TReX) Consortium.

2. Summary and Background

The Director of the Department of Defense (DoD) Test Resources Management Center (TRMC) actively supports the 2018 National Defense Strategy (NDS) with special emphasis on the Office of the Secretary of Defense (OSD) Undersecretary of Defense Research and Engineering (USD R&E) modernization priorities. The TRMC serves as the DoD's steward for both test capabilities and test infrastructure required across the DoD's test ranges and for facilities operated by the DoD components.

In performing its stewardship and governance roles, the TRMC assists the components in fully resourcing the test throughput and associated instrumentation to meet the needs of the acquisition and laboratory community in support of all DoD weapons systems testing. The TRMC also acquires new and innovative test infrastructure to support evolutionary acquisitions supporting Programs of Record, experimentation and prototyping, and responses to Urgent Operational Needs. Within its annually funded and enduring acquisition program elements, the TRMC both invests in innovative technologies that revolutionize or accelerate testing capabilities and development of prototype T&E capabilities. It may also facilitate the follow-on production and purchase of prototype capabilities created under this Request for White Papers (RWP). However, entry into any follow-on activity will be determined by component need, in addition to the successful accomplishment of statutory and technical preconditions.

The TRMC Central Test and Evaluation Investment Program (CTEIP) is the primary DoD agent funding and executing capability development efforts to meet DoD component and full system T&E capability shortfalls. The goal for the program is to address T&E capability and infrastructure gaps which improve the ability to perform DoD T&E activities, thus mitigating the timeframes of associated military capability obsolescence.

Program Executive Office for Simulation, Training, & Instrumentation (PEO STRI)
Program Manager Cyber, Test, and Training (PM CT2) Instrumentation Management

Office's (IMO) will conduct prototyping to address the critical gaps in T&E capabilities as identified by the DoD TRMC. Specifically, PM CT2 IMO will conduct the DET prototype projects to advance and accelerate testing HEL and HPM Directed Energy (DE) systems. This includes technologies or capabilities to address T&E shortfalls for weapon beam assessment and characterization, and for threat emulation to include blue system effectiveness, vulnerability, and survivability in varying environments. The DET prototype projects will also develop and accelerate technologies required to test future warfighting capabilities designed to support DoD advances in warfighting technology. The ultimate goal of the DET prototype projects will be to conduct prototyping efforts that demonstrate and advance HEL and HPM solutions that:

- Focus on emerging warfighting capabilities that are not represented by current T&E approaches or on a broader infrastructure challenge.
- Support advanced technology development, demonstration, and transition to new DoD T&E capabilities.
- Address test technology or capability needs (also referred to as gaps or shortfalls within the community) spanning DoD-wide.
- Consist of a portfolio of technology development projects.

As reflected in Figure 1 (below), each prototype requirement is referred to as a topic within the attachments discussed in Section 10. Each topic has a set of performance goals in specified test case scenario(s). Listed topics amplify the above and include specific capability development requirements for which white paper responses are requested. Multiple topics are not component requirements of a single prototype. Each topic represents a request for a stand-alone prototype development and award.

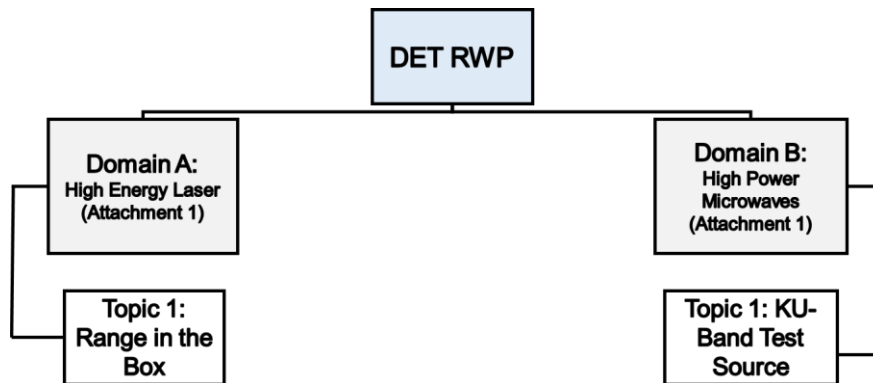


Figure 1. Overview of DET Domains and Topic Areas

Due to the high risk/high reward nature of the development requirements, expectations of the awarded prototyping efforts are as follows (in the expected sequential order):

1. To document the processes and methods used in the high risk/high reward attempts to create new technologies via a comprehensive technical report communicating the success and/or failure, including test data, of the various efforts taken to advance proposed technologies sequentially during the development process;

2. To investigate and report the ‘trade space’ across multiple parametric elements of proposed measurement requirements based on the sensitivity of each to change with its impact on each of the other parametric elements;
3. To ascertain the breadth and depth of the prototype’s utility in support of test needs relative to other potential technology approaches;
4. To produce, as indicated by specific topic requirements, viable Technology Readiness Level (TRL) 6 demonstration or higher TRL operational prototype(s), process(es), and/or methodology(ies), optimizing factors discussed above for delivery to Major Test Range Facility Base (MRTFB) transition partners; and,
5. To support a potential follow-on production award (contingent upon successful completion of prototyping milestones and Statement of Work (SOW) exit criteria as determined by the Government), ‘*Technology demonstration prototype fabrication design review*’ is a threshold milestone analogous to a critical design review for a capability prototype. This should also resolve the trade-space determinations among the transition partner(s) and deliver rapidly fielded test capabilities with confidence of adequate risk reduction. (Note: additional information related to follow-on activities is located in RWP Section 9).

The iterated development is expected to be performed with Government Integrated Product Team (IPT) participation throughout each of the developmental activities. The goal of the DET prototype projects will be to conduct prototyping efforts that demonstrate and advance HEL and HPM T&E, as well as to achieve a relevant demonstration or operational prototype, which is usually validated at a MRTFB test range by executing approved test plans and witnessed by transition partner(s) associated with test range operations.

OT agreements will be structured to include a base period of performance inclusive of specifically awarded tasks under an individual topic. In support of the anticipated phasing strategy, optional technical objectives will also be included within the agreement for potential future activation at the Government’s direction (based on funding availability and mission need). Milestone activities within each phase may also serve as decision points for the Government to assess the benefits and risks of continuing, altering, or ending development.

3. General Information

3.1. Vendors interested in responding to this RWP must be members of the TReX consortium. Information about membership can be found at the following webpage: <https://nstxl.org/membership/>. This project will be managed through PEO STRI’s IMO with prototype-specific programmatic and technical decisions driven by the respective DET Project Director and TRMC CTEIP Program Manager.

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. Vendors may only submit one response per topic. If vendors elect to propose against multiple Topic Areas as the primary performer, **then each proposed solution must be submitted as a separate response**. No limitations are imposed regarding participation at the subcontractor level. For Domain and Topic Area requirements, see Attachment 1: DET Domain and Topic Area Technology Development Prototype Requirements.

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

3.5. All participants and advisors in the evaluation process will be Government personnel and are required to sign non-disclosure agreements (NDAs), as well as ensuring the procedures are in accordance with 41 U.S.C. 423, Procurement Integrity Act.

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

PM CT2 IMO anticipates that most of the information and materials related to the DET effort will be Distro A, approved for public release, distribution unlimited. However, as the prototype project is executed higher levels of Controlled Unclassified Information (CUI) or classified information at the Distro C or D levels, and materials up to SECRET may be required. As such, all vendors providing responses to those topic areas marked with, "May require access to SECRET level information," the respondent will need to be vetted at the SECRET classification level. A Facility Clearance Level (FCL) will not be required. However, personnel assigned to the project will need to be able to have discussions and access SECRET information at Government facilities. If it is determined that a project requires dissemination of information classified as SECRET, a DD Form 254 will be executed.

Attachment 1, Amendment 1, DET Domains and Topic Areas, is a CUI document. In order to obtain this document, the vendor shall complete Attachment 12, GFI Tech Data Distribution Agreement and Attachment 10, Vendor Self-Vetting Form and submit with a request in writing to INITIATIVES@NSTXL.ORG, with "DET Prototype" used in the subject line.

PM CT2 IMO may provide additional existing Government furnished equipment, data, and information to vetted vendors as necessary to complete the DET effort. Depending on the project, the PM CT2 IMO may need to provide vetted vendors access to fielded systems and Subject Matter Experts (SMEs) on a non-interference basis to support design, development, and testing efforts. Specific GFE for the HEL or HPM systems will be identified in the agreements, as appropriate.

However, respondents may identify if GFI or GFP would be necessary for the execution of the proposed solution. Responses should provide as much specificity as possible for the Government to determine the availability of the GFI and/or GFP to support a respondent’s approach. During SOW collaboration, the Government team will review all requested GFI/GFE and make an assessment of the request as well as a determination of its availability.

Interested vendors are required to fill out the Vendor Self Vetting form (Attachment 10) to allow NSTXL to vet and verify that each respondent is qualified to work on projects that include the aforementioned distribution restrictions, and/or SECRET levels where and when applicable.

5. Request for White Paper Responses

5.1 DET domains and topics, identified in Attachment 1, are focused on development in support of technology investigation and risk reduction but is primarily focused on developing an operational prototype(s), subsequently fielded at a MRTFB site(s), and assessed at TRL 7 or higher as described in Section 5.3

The domains and topic areas are further defined in Attachment 1.

RWP responses shall consist of an Administrative, Technical, and Price section. Responses shall be submitted in an editable/executable (not scanned) Word/Adobe Portable Document Format (PDF) format. The technical section is limited to twenty (20) pages (sized 8.5 x 11 inches) and may be single-spaced. General text of the white paper shall use Arial font size not smaller than 12-point Arial font. No more than 5 foldouts are allowed with a page size of 11”x17” and will be counted towards the 20-page limit. Any figures, schematics, drawings, diagrams, schedule charts, and tables are not bound by the 12-point font requirement but shall be clearly legible. Each page must be single-sided and numbered. Each page shall have at least 1-inch margins all around. Each page must have the title of the project and its acronym in the one-inch top margin as a header. If applicable, a proprietary data disclosure statement should be included on the first page of the technical approach document with each affected page marked “Proprietary Data” in the one-inch bottom margin as a footer. If the solution exceeds the page limitation, the Government may choose not to read any information exceeding the 20-page limit and the information may not be included in the solution evaluation.

The following documents are subject to page count limitations:

Section	Subsection	Format**	Counted towards page limit		Page Limit*
			Yes	No	

Administrative	Cover Page	Microsoft (MS) Word/PDF		X	(2 Page maximum does not count towards 20-Page Limit per topic)
	Nontraditional Status	MS Word/PDF		X	No Page Limit
	FOCI Status	MS Word/PDF		X	
	OCI & Mitigation Plan	MS Word/PDF		X	
Technical	Executive Summary	MS Word/PDF		X	(2 Page maximum does not count towards 20-Page Limit per topic)
	Teaming Strategy	MS Word/PDF		X	20-Page Limit (per topic)
	Vendor Experience	MS Word/PDF	X		
	Technical Approach	MS Word/PDF	X		
	Govt Rights in Technical Data and Computer Software	MS Word/PDF		X	
	Quad Chart	PowerPoint		X	
	Integrated Master Schedule (IMS)	MS Project		X	
	Price	Pricing Breakout	Excel		

The Administrative and Pricing Sections along with the Executive Summary, Sub-Vendor List, Government Rights in Technical Data and Computer Software, Quad Chart, and IMS, do not count towards the page count limit.

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

5.2 Administrative Section (no page limitation)

The following shall be included in the Administrative Section:

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

5.2.1 Cover Page

The cover page shall first identify the applicable topic domain, followed by the respective topic number and name being addressed by the submission. The cover page shall include the vendor's name, Unique Entity ID, Commercial and Government Entity (CAGE) Code, Business Size, Business Type (Traditional/Non-Traditional), level of facility clearance (if any), address, primary point of contact (phone number and email), and status of United States (U.S.) ownership.

The North American Industry Classification System (NAICS) Code for this effort is 541715, Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology). The cover sheet shall also indicate data disclosure requirements and related precautions as previously specified regarding submitted document markings.

5.2.2 Nontraditional Status

The vendor shall provide its nontraditional business status or its ability to meet the eligibility requirements of 10 U.S.C. §4022(d)(1). The vendor shall clearly identify and support **one** of the following award eligibility requirements – with appropriate justification, as applicable.

- 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 (including small businesses participating in a program described under section 9 of the Small Business Act (15 U.S.C. 638)) or nontraditional defense contractors.
- At least one third of the total cost of the project is to be paid out of funds 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 a one-year period preceding the solicitation of sources by the 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 Owned, Controlled, or Influenced (FOCI) Status

In accordance with Attachment 9: Vendor/Contractor Vetting Process, the vendor must include certification that the vendor is **not** Foreign Owned or under USA FOCI status (and are not in merger or purchasing discussions for a foreign company or USA FOCI Company). This certification must also include and address each subcontractor. Should a prospective vendor be unable to so certify, they will be ineligible for award unless the mitigating circumstances identified in Attachment 9: Vendor/Contractor Vetting Process, are met. In such a case, these mitigating circumstances shall be detailed in an appendix to this volume.

Security Vetting: All vendors who want to participate at any level in support of this effort must be willing to comply with the PEO STRI Vendor Contractor Vetting Process for Release of Protected Information at the Unclassified/For Official Use Only (FOUO), Top Secret (TS)/Sensitive Compartment Information (SCI), or any level in between the two categories. SECRET level for those vendors submitting responses for topics that may require access to SECRET level information as indicated in Section 4 of this RWP and Attachment 1. Per Attachment 9: Vendor/Contractor Vetting Process, all vendors (Prime and Subs) 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.

5.2.4 Organizational Conflicts of Interest and Mitigation Plan

Vendors will submit an OCI Mitigation Plan via an appendix. In the event there are no real or perceived OCIs, simply state that no conflicts exist and annotate what actions would be taken in the event that one is realized.

5.3 Technical Section (20 pages maximum)

The following shall be included within the Technical Section:

- Executive Summary
- Teaming Strategy
- Vendor Experience
- Technical Approach
- Government Rights in Technical Data and Computer Software
- Quad Chart
- IMS

5.3.1 Executive Summary

The respondent shall submit an Executive Summary, which does not exceed a maximum of two (2) pages. The respondent shall concisely present the important goals, aspects, and core issues of their solution. The respondent shall describe the T&E need, the proposed solution, and any technical challenges to develop the proposed solution. The respondent shall summarize the technical approach for the proposal including the

major phases, the successive progression of TRL from start to end, and the benefits of the deliverables to DoD testing. In addition, for responses to Domains and Topics List A, the respondent shall describe any significant work that is required beyond TRL 6 to realize the ultimate benefits of the technology to DoD testing. Also summarize the ultimate benefits of a realized capability. If known, the respondent should cite any potential DoD test ranges/agencies/programs or the military capabilities/systems that will benefit from the proposed project.

5.3.2 Teaming Strategy

The respondent shall include an appendix (which will not count towards the page count) stating any team member name(s), their role within the performance of your submission, FOCI status, OCI, Unique Entity ID, Commercial and Government Entity (CAGE) Code, Business Size for NAICS Code 541715, Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology), and Business Type Traditional or Non-Traditional Defense Contractor.

5.3.3 Vendor Experience

The vendor shall describe their company, or team's, qualifications and recent and relevant previous experience designing, developing, prototyping, and deploying/fielding associated technology as it pertains to the work associated to the Domain and Topic Area. This experience should also include supporting test, evaluation, and assessment that is the same or similar to the required work of the prototype project. Projects worked in the last three (3) years from release of the RWP, are considered recent.

5.3.4 Technical Approach

The technical approach content should provide a clear and concise description of the effort proposed. For Domain Topic information, refer to Attachment 1: Domain and Topic Area Technology Development Prototype Requirements. As described in Attachment 1, respondents shall be responsible for assessing their starting Technology Readiness Level (TRL) for their proposed solution and shall identify the TRL at the beginning of their response. The Government expects a beginning TRL of 6 for each domain and topic response. The respondent shall provide a basis for the TRL assessment and provide a response that clearly describes how they intend to mature the capability(ies) and identify the ending TRL for the delivered capability. The following sections as well as Attachment 1, provide additional information for expected Technical Approach information and associated TRL.

5.3.4.1 T&E Need/Benefit

Vendors must provide a T&E Need/Benefit discussion within their White Paper response as described in this section regardless of the vendor's TRL assessment. Each listed topic of interest describes a specific high priority test technology need. The respondent should provide a description of the proposed test technology development

and summarize how it satisfies the T&E need identified in the topic.

The respondent should provide a description or visualization of how this technology would be used in T&E (specific examples, use cases, a concept of operations, etc.) to more clearly convey how the DoD would benefit from this capability in conducting developmental, operational, and/or live-fire T&E. The respondent should identify what will be delivered from the proposed development and articulate any benefits or usefulness those deliverables could provide DoD T&E, as well as discuss how the technology supports DoD T&E and incorporated into a test capability. The respondent should describe the variety of applications for which the technology could be used to improve testing, such as:

- Supporting different aspects of testing

For example: 1) a sensor that could be used in a ground test facility and during flight testing, 2) a simulator that could work inside a chamber and outside on an open-air range, 3) an analysis tool that can equally process data from simulations, hardware-in-the-loop laboratories, and open-air ranges.

- Supporting testing different types of systems

For example: 1) a sensor that could support high powered microwave testing and counter improvised explosive device (IED) testing, 2) an antenna that could be installed on aircraft and on missiles, 3) instrumentation that could track airplanes, helicopters, missiles, and ground vehicles.

- Supporting different DoD test organizations

For example: technology that could support testing for U.S. Army, Navy, Air Force, Marines, etc.

The respondent should describe the potential significance or degree of enhancement the technology could provide the DoD test community. The Government considers more favorably submissions that reflect technology advancement deemed to provide higher impact and/or variety and breadth of applications. The Government uses the aforementioned, among other content, in considering the submission's level of importance to agency programs.

5.3.4.2 Technology Maturity, Advancement, and Development Approach

The vendor shall provide an overall development strategy that demonstrates the project's technical feasibility for maturing and developing technology with a successive progression of TRL from start to end.

The vendor shall clearly delineate the technology advancement(s) this effort is addressing and undertaking. The respondent shall also include an assessment of the current state-of-the-art and briefly describe if and how the proposed work will advance it beyond what can be done today. In addition, the respondent should assess the starting TRL for the proposed work and provide a basis for the assessment, as well as identify the ending TRL for the delivered capability.

The solution described must be innovative, achievable, and complete. Include describing any discernment of requirements, use case analysis, tradeoff assessments, or any early use of models and simulations. The respondent should highlight the advantages of the proposed development strategy over other potential alternatives. Offeror shall identify known risks and describe a plan for risk mitigation. For example, hardware focused or components, may include development of breadboards, brass boards, prototypes, or any other risk reducing demonstration items, and for software focused or components, the vendor may include the development methodology along with any configuration management schema, scrums, code reviews, and software test strategies. Risks and risk mitigations should focus on high-risk areas.

Additionally, software development discussions should consider the alignment with data rights assertions in Section 5, alignment with DoD security or Information Assurance (IA) and Risk Management Framework (RMF) policies, and any dependencies on commercial items. The respondent shall describe their company or team's recent and relevant previous experiences developing and deploying associated technology to the required work of this prototype project.

The respondent should provide details of the major tasks to be performed – organized in phases (with each phase in a separate paragraph) that have defined objectives, deliverables, and a period of performance that is of reasonable duration, as described in Section 5.3.7, IMS.

The vendor shall describe how technical risk will be mitigated, including identifying the major technical risks along with the likelihood and consequence of each progressing from the start to and the end of each phase. The respondent should identify any recent effort or source of information to justify the risk assessment.

This section should also describe a final outcome and/or deliverables that achieve goal(s) aligned with the topic requirements. Discussions should also address considerations of integration, product agility, obsolescence, and reuse.

The respondent should also communicate why it is capable of performing the aforementioned development. The respondent shall describe their project team's (including internal and partnered team member) qualifications and recent, relevant experiences in developing and deploying/fielding associated technology. Include recent experience and qualifications for work requiring ISO 9000, classified DoD environments, and the ability to satisfy current DoD RMF guidelines or related commercial certifications for integration into complex systems requiring Developmental Security and Information Technology Operations (DEVSECOPS).

The Government uses the aforementioned, among other content, in considering whether or not the submission is technically acceptable.

The respondent shall convey the IMS in a separately attached document as described in Section 5.3.7, IMS. The respondent shall represent on the IMS any external dependencies, including pertinent interrelationships as discussed below.

The respondent should identify and explain any external dependencies that could impact the execution of the proposed work resulting in a schedule delay. Examples of external dependencies include: 1) the respondent may propose using a Government facility to demonstrate the technology, which would be dependent on the availability of the facility; 2) the respondent may propose using data from a test event of an acquisition program, which would be dependent on the schedule and availability of that test event; 3) the respondent may need specific GFP as a component element of development or to conduct the development; 4) the respondent may propose leveraging technology from another development which would make that task dependent on the success of that external effort; or 5) the respondent may propose a dependency for project success based upon pending work to be performed under other funding sources.

5.3.4.3 Appendix: Table of Abbreviations, Acronyms, and Initialisms

The respondent should provide an appendix containing a table defining all abbreviations, acronyms, and initialisms used in the technical approach document, with the list in alphabetical order. While the table is appended to the technical approach document content, the table does not count towards the technical approach document page limitation.

5.3.5 Government Desired Rights in Technical Data and Computer Software

The Government requires, at a minimum, Government Purpose Rights (GPR) in all technical data (including computer software documentation) and computer software developed under any OT awarded pursuant to the RWP for, at least, a five-year period. The five-year period, or such other period as may be negotiated, will commence upon execution of the OT that required development of the technical data (including computer software documentation) and computer software. Upon expiration of the five-year (or other negotiated period), the Government desires unlimited rights in the technical data (including computer software documentation) and computer software. Negotiation of data rights may happen at any time to include prior to award and through the OT. 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.

All technical data, intellectual property and non-commercial off the shelf (non-COTS) software are desired to be provided with a minimum of GPR.

Any commercial or Commercial Off the Shelf (COTS) shall be provided with a transferable license that allows distribution of the software and transfer of the license to any Government agency or DoD vendor for any DET prototype project related purpose. All software licensing shall include a minimum term of five years of use. All software shall be provided with any available major upgrades, minor updates, security patches and technical support for the entire period of performance. When the addition of new software or hardware is proposed for the system or developed under this agreement with Government funding or partial Government funding, the vendor shall ensure that sufficient rights in technical data to include software and hardware are procured to enable the Government to maintain and modify the system using Government personnel and/or third-party vendors. Government approval is required for exceptions to GPR.

In the response, the vendor for any OT awarded in accordance with this RWP shall analyze feasible non-proprietary solutions and incorporate such solutions into its proposed response when practicable. This preference for non-proprietary solutions applies to any technical data (including computer software documentation) and computer software developed or delivered under the OT. The vendor shall clearly state all assumptions made during development of its proposal.

The vendor shall provide a data rights assertion table, Attachment 3, 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 segregable 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.

For any technical data (including computer software documentation) or computer software in which the vendor asserts the Government will have less than Government purpose 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 White 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 response page limitation.

All technical data and information developed under this effort should be marked with the appropriate marking in accordance with DoDI 5320.24, Distribution Statements on Technical Documents. This generally should be marked with "DISTRIBUTION

STATEMENT D. Distribution authorized to the Department of Defense and U.S. DoD contractors only (fill in) (14 May 2021). Other requests shall be referred to PEO STRI.”

Using Attachment 4: Data Rights and Computer Software License Terms and Definitions and Attachment 5: Terms and Conditions and EULA for reference, the vendor shall describe the rights being provided to the Government in terms of technical data, both in software and hardware, so that the Government can maintain and modify the system(s) 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.

5.3.6 Quad Chart

The respondent shall provide a project quad chart in the format provided in Attachment 6: Project Quad Chart Template. The respondent shall not submit quad charts as image files that are locked and not editable. The respondent should not use any font smaller than size 7 on the project quad chart.

Project quad chart content should address the following elements:

Project Quad Title: The respondent should include the full project title and the project acronym/initialism in the title section.

Project Description (Upper Left Quadrant): The respondent should provide a description of the project in the upper left quadrant, either in paragraph form or in a list of bullets. In addition, the respondent may include a small picture or a diagram if it helps describe the project. The purpose of this quadrant is to answer the question: “What is this project developing?”

Project T&E Need and Technology Challenge (Upper Right Quadrant): The respondent should provide a list of bullets defining the T&E Need and a list of bullets highlighting the technology Challenge. In addition, the respondent should provide a list of significant deliverables at the completion of the project. The purpose of this quadrant is to answer the questions:

- 1) “Why is this technology needed?”
- 2) “Why is this need technologically difficult to satisfy?” and
- 3) “What specifically will result from this project?”

Project Plan (Lower Left Quadrant): The respondent should provide a list of bullets for each proposed phase that summarizes the major tasks of the phase. The purpose of this quadrant is to answer the question: “How is the technology going to be developed?”

Programmatic Information (Lower Right Quadrant): The respondent should identify the prime performer and all key subcontractors, including their location. In addition, the respondent should complete the phase information table including Period of Performance (POP) (in months), TRL advancement, funding proposed from the T&E/Science and Technology (S&T) Program, and funding from a source other than the T&E/S&T Program. Lastly, if any potential transition partners have been identified, the respondent should list them at the bottom of this quadrant. The purpose of this quadrant is to answer the questions:

- 1) “Who is performing the work?”
- 2) “How long is the work estimated to take?”
- 3) “How much is the work estimated to cost?” and
- 4) “Which T&E organizations could benefit from this technology?”

5.3.7 Integrated Master Schedule

The vendor shall include a draft IMS that includes dates with their response that includes all DET Prototype Project capabilities and completion dates for all tasks and task stages as described in the RWP.

A draft IMS shall be provided in MS Project format to include the Gantt chart and should be resource loaded with each task including a predecessor (if applicable),. The IMS may be attached as an appendix file. The IMS is not included in the total page count and page count is unlimited.

The IMS shall provide clear delineations of segments and milestone activities (per technical approach guidance within attachments) associated with IPT reviews and assessments, decisions to proceed, exit criteria, and any other criteria identified during any follow-on evaluation discussions.

The following table is provided as an example template and shall be included in both the Technical and Pricing Volumes for each milestone activity proposed in each phase (in thousands of dollars) along with the PoP (in months) as defined in the technology maturity approach and depicted in the IMS.

	(\$K)	PoP (months)
Milestone 1A	NNN	NN
Milestone 1B	NNN	NN
Milestone 1C	NNN	NN

Phase 1 Subtotal	NNN	NN
Milestone 2A	NNN	NN
Milestone 2B	NNN	NN
Milestone 2C	NNN	NN
Phase 2 Subtotal	NNN	NN
Milestone 3A	NNN	NN
Milestone 3B	NNN	NN
Milestone 3C	NNN	NN
Phase 3 Subtotal	NNN	NN
TOTAL	N,NNN	NN

5.4 Pricing Breakout (unlimited page count)

Vendors shall submit a firm-fixed price for its proposed solution, further divided into severable milestones for all phases. The Government is not dictating a specific pricing structure. 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. Separate milestone schedules should be established and priced, for each of the proposed prototype scenarios, in a manner that enables milestone efforts to be worked concurrently. Each milestone price should reflect the anticipated value the Government will receive towards the expected outcomes of the OTA goals and objectives at the time the milestone is completed.

Vendors shall provide a price for their proposed approach to include any licensing and any 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.

Please note, per 10 USC 4022(c)(1), a Prototype OT that provides for payments in a total amount in excess of \$5 million must provide comptroller general access to records. Additionally, 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.

The respondent shall also submit the table in Section 5.3.7 above in the pricing volume and ensure that all phases are included, as the Government will not consider any unpriced phases. The tabular overarching price data within this document expedites evaluation activities.

6. RWP Response Instructions

6.1. The Government intends to make multiple awards from this RWP, based on the availability of funding. Vendors may not respond as a prime more than once to each topic area as identified in Attachment 1. The Government may award to more than one vendor per topic and may downselect if the Government determines the responses are most advantageous.

The Government also reserves the right to award to respondents that provide attributes or partial solutions of value to the Government if vendors communicate that the defined topic goals are not deemed technologically feasible. Vendors do not have to submit on the entire solution to be awarded an agreement.

6.2 All questions related to this RWP shall be submitted utilizing the Vendor Questions Form provided in Attachment 8. Questions must be submitted via email to initiatives@nstxl.org, with “DET RWP Vendor Questions” in the subject line.

6.3 Questions must be submitted no later than May 23, 2022, at 1:00 PM ET. 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 responses.

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

6.5 Electronic written responses shall be submitted no later than June 14, 2022, at 1:00 PM ET, via the “Submit a Solution” button on the Training and Readiness Accelerator (TReX) website, www.trainingaccelerator.org/. Any submissions received after the deadline may be rejected as late and not considered. Responses shall clearly state which Prototype project the vendor is submitting for.

6.6 Vendors must clearly state assumptions made within their response. Vendors are encouraged to challenge any Government assumptions or restrictive requirements in its individual response and should articulate any major discrepancies (to include any exceptions taken) between the RWP and its technical solution.

6.7 Vendor’s responses shall be valid for at least 180 days after submission.

6.8 The following documents must be submitted with your solution as separate attachments:

- a. Administrative Volume
- b. Technical Volume
- c. Pricing Volume
- d. Data Rights Assertions
- e. Quad Chart (PowerPoint)

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, schedule, and data rights assertions will be considered as aspects of the entire response when weighing risk.

Responses must meet the following eligibility requirements for program funding consideration and are first assessed to meet these "gatekeeper" thresholds before moving into the evaluation phase:

- T&E Need

The candidate project must address limitations in the current T&E infrastructure to measure or assess performance of a DoD military capability, system, prototype, or concept.

- S&T Proposed (for assessed TRL 3 through 6 only)

The candidate project should integrate one or more specific innovations distinct from engineering efforts to improve an existing capability, involving technology >TRL 6. DoD TRL definitions: <https://api.army.mil/e2/c/downloads/404585.pdf>

Upon confirming eligibility, submissions will be evaluated against the following:

- Vendor Teaming Strategy and Experience

Vendor and/or vendor team experience designing, developing, prototyping, and producing associated capabilities as they relate to their technical response and as described in Section 5 Request for White Paper Responses. Projects worked within the last 3-years from the release date of the RWP are considered recent.

- Technical Approach

The proposed technical approach is innovative, feasible, achievable, and complete as described in Section 5.3.4.3. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final outcome that achieves the goal can be expected as a result of award. The proposal identifies major technical risks, and planned mitigation efforts are clearly defined and feasible. The proposed schedule aggressively pursues performance metrics in an efficient time frame that accurately accounts for the anticipated workload.

- Potential Benefit and Relevance to TRMC Mission and DoD T&E needs

The potential benefits and degree of impact of the proposed effort facilitates the further enhancement of existing or development of new DoD test and evaluation capabilities that resolve critical needs in DoD weapons and sensor systems. The proposed intellectual property restrictions (if any) will not significantly impact the Government's ability to transition the technology.

7.2. Selection Process:

7.2.1. The Government may make down selects where vendors may be invited to hold technical discussions to further understand the vendor's white paper response as well as to potentially further define the requirement and or approach.

7.2.2. Upon completion of the technical discussions, selected vendors may be invited to provide an updated solution and pricing information. From this information, the Government may award to one (1) or more vendors.

7.2.3. If it is determined a vendor response has met appropriate gatekeeper thresholds, the Government reserves the right during the evaluation process to enter into SOW and milestone collaboration and award to one or more desired vendor(s) without entering into a down select technical discussion.

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 shall 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. RWP Attachment 11: Section 889 Telecommunications and Representation, 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.”

8.7. In making the final award 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 and a determination of which solution(s) is/are determined to be the most advantageous to the Government in terms of technical merit, feasibility of implementation, price, schedule, and data rights assertions.

8.8. Upon award and during the prototype project execution, vendors will be required to participate in IPT sessions during development and during demonstration events with designated test range operations personnel at specified times to optimize operational benefit from trade-space determinations and ensure interoperability with affected T&E systems. Government analysis and acceptance of the demonstrations and deliverables will be accomplished in specified testing environments and will include inputs from acquisition, T&E and requirements community experts, and operational end user(s). These representatives will provide the critical product analysis that will ensure the final solutions meet test range requirements.

9. Follow-On Production

Pursuant to 10 U.S.C. 4022(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, potential follow-on activities and production contracts may be issued as 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.

It is anticipated that upon successful completion of the prototype, a follow-on production OT agreement(s) or FAR based contract(s) may be issued to the vendor(s) without the 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 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.

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 method in determining cost elements and prices are fair and reasonable.

10. Attachments:

These documents include the topics lists, submission requirements, and other instructions and agreements related to this effort.

Attachment 1: DET Domain and Topic Area Technology Development Prototype Requirements

Attachment 2: Common Software Terminology Conventions for RWP Submissions and Project Execution

Attachment 3: Data Rights Assertions Table

Attachment 4: Data Rights and Computer Software License Terms and Definitions

Attachment 5: Terms and Conditions and EULA

Attachment 6: Project Quad Chart Template

Attachment 7: Pub Review Requirements

Attachment 8: Vendor Questions Form

Attachment 9: Vendor/Contractor Vetting Process

Attachment 10: Vendor Self Vetting Form

Attachment 11: Section 889, Telecommunications and Representation

Attachment 12: GFI Tech Data Distribution Agreement

Test Readiness Levels (TRL) <https://api.army.mil/e2/c/downloads/404585.pdf>

Attachment 13: CTEIP Planning and Execution Guide