



**Strategic & Spectrum Missions Advanced Resilient Trusted Systems (S²MARTS)
Request for Solutions (RFS)**

in support of

Manufacturing Advanced Composites for Hypersonics (MACH)

Project No. 22-11

A. OPPORTUNITY OVERVIEW

Project Title	Manufacturing Advanced Composites for Hypersonics (MACH)
Project Sponsor	Office of Secretary of Defense (OSD) ManTech; Naval Surface Warfare Center (NSWC), Crane Division
Contracting Activity	Naval Surface Warfare Center, Crane Division
Questions Deadline	July 1, 2022, 12:00PM ET
Response Deadline	July 21, 2022, 12:00PM ET
Anticipated Project Budget	\$38.95M (details below)
Resultant Award Type	Prototype Other Transaction Agreement (10 U.S.C. § 4022)

All respondents must be active NSTXL members.

B. PROTOTYPE PROJECT DETAIL

- 1. Authority:** 10 U.S.C. § 4022, “Authority of the Department of Defense to Carry Out Certain Prototype Projects”
- 2. Project Background & Current Capability:**

The Department of Defense (DoD) has identified advanced manufacturing of specialty high temperature materials as critical to hypersonic weapon systems. Hypersonic vehicles are subjected to extreme environments, necessitating robust materials and processing techniques to ensure successful operation. Specialized materials manufacturing and production processes are being developed to manage temperature requirements while maintaining a lightweight and shock absorbent design. High-temperature materials are currently being developed that can withstand extreme temperatures that hypersonic vehicles must endure. These materials remain difficult to construct by conventional means due to limited ductility or high degrees of porosity.

The design of high temperature composites currently proceeds from the standpoint of legacy systems due to insufficient physics-based understanding of the materials and manufacturing processes. The development of new to the world materials systems supported by digital engineering tools is needed to improve the rate of manufacturing and enable new designs. Verification of numerical simulations is needed throughout the manufacturing process, including during pyrolysis and high

temperature heat treatment, to enable refinement of complex numerical simulations and to enable data driven refinement and optimization of the manufacturing process.

Key technical and manufacturing barriers to success for high-rate manufacturing of high temperature composites for hypersonic applications are:

- Insufficient physics-based understanding of both materials and manufacturing processes limits the manufacturer's ability to predict outcomes for new materials, structures, vehicle designs, or manufacturing processes. This is particularly true during pyrolysis and densification, which account for a significant fraction of the total manufacturing time for hypersonic structures. The inability to accurately predict outcomes results in risk-aversion that slows the transition of manufacturing and design innovations.
- Simulation during manufacturing is currently attempted primarily from a top-down approach, with limited understanding of the complex interactions that occur during pyrolysis at the molecular level.
- Closed loop capability to make real-time adjustments during manufacturing is currently very limited due to a lack of in-situ nondestructive evaluation. This results in high defect rates and impedes the potential to optimize manufacturing throughput.
- Collaborative environments that foster partnerships between industry, government and academia, where new and advantageous approaches to manufacturing may be attempted are very limited.
- Collaborative environments for training of a skilled workforce so that new technologies can be transitioned to the defense industrial base are likewise very limited, which slows the adoption of many promising manufacturing innovations.

The creation of complex geometries poses quality and production challenges for manufacturing of high temperature composites. The joining of components having complex geometry leads to undesirable weight and stress concentrations. In the event secondary bonding is utilized, uncertainty in the quality may exist. Additive manufacturing of components; fastener free assembly of complex geometries; and in-situ nondestructive evaluation throughout the manufacturing process in an integrated environment will allow for the development of new and tailored material/structure systems, thereby expanding the design space and enabling efficient development of hypersonic capabilities. Advances in in-situ nondestructive evaluation, hybridized models, machine learning, simulation, control, and design will be applied.

Proof-of-concept manufacturing for unique material systems and joining into hypersonic sub-assemblies will address key issues with hypersonic DoD production and testing. Improved manufacturing approaches will mitigate risks and address fastener free joining of material sets that are relevant to hypersonic applications. Example approaches may include fusion bonding.

An integrated approach between academic, government, and industry partners will ensure the transition of new developments to hypersonic platforms and DoD acquisition programs. The development of novel high temperature materials, processing techniques, predictive software tools, and manufacturing of new designs to enable advancements in high temperature composites will greatly expedite domestic hypersonic manufacturing abilities.

3. Desired End-State & Success Criteria:

The desired end state is a manufacturing proof-of-concept for high-rate production of composite parts and assemblies with complex geometries for hypersonic vehicle applications that produces trusted quality parts with significant reduction in per unit time. There is a need for substantially increased rates of manufacturing for aerospace parts and assemblies made with high temperature composites. Achieving higher rates requires advanced manufacturing methodologies that capitalize on a digital engineering models and simulation across materials development, advanced joining, process automation, and in-process monitoring for real-time decision-making and process optimization.

This approach will emphasize integration of digital engineering tools, automation, and continuous in-situ evaluation throughout the manufacturing process. The desired end state is a proof of concept for advanced materials development and manufacturing methods applied to high temperature composites having complex geometries. The outcome of this project will be a prototype high-rate manufacturing process and supporting technologies that significantly increases the defense industrial base's capacity for manufacturing hypersonic structures. This project will be performed in a facility designed to foster

partnerships between industry, government, and academia, which is dedicated to advancing U.S.-based manufacturing capabilities for high temperature composites.

Technologies/processes of interest include:

- Advanced nondestructive evaluation to quantify materials and part variability.
- In-situ sensing and evaluation during manufacturing to track the state of the component or system.
- Digital engineering capabilities for advanced manufacturing process prediction and optimization, including: fiber placement; layup for 'green' composite; pyrolysis and other heat treatment; re-infiltration; joining; finishing.
- Calibration and validation of numerical simulations during the manufacturing process.
- Control systems and related process monitoring and data analytics.
- Assessment of the effect of defects to enable real time decision making (e.g., go/no go).
- Domestic integration of processes/manufacturing into manufacturing operations.
- Capability to produce new materials systems that are amenable to high temperature processing.
- Advanced joining methodologies to achieve complex geometries and reduce fastening.
- Automated fiber placement and 3D printing of continuous fiber composites to accommodate large complex geometries and local detailed design features, respectively.

The objective of this effort is for the performer to deliver prototype items using new technical processes, demonstrating increases in manufacturing rate, decreases in defect rate, validated part quality, and cost savings.

Task Area One (\$570,000):

The Objectives/Success Criteria are:

Trade Study: This task will involve a feasibility analysis in support of the manufacturability of high temperature systems with the potential to significantly reduce manufacturing time and final part defects.

- a. Identify candidate tailored materials for hypersonic vehicles.
- b. Identify and analyze nondestructive evaluation and in-situ sensing capabilities.
- c. Identify and evaluate fastener-free joining of complex geometries.
- d. Identify potential Digital Twin modeling and simulation processes.
- e. Identify and evaluate prototype manufacturing processes.
- f. Identify candidate prototype manufacturing equipment.

Task Area Two (\$15.33M):

The Objectives/Success Criteria are:

Preliminary design of prototype processes: This task will produce a written report showing the following:

- a. Preliminary design of prototype processes for the automated design, analysis, manufacturing, and prototyping of high temperature composite structures.
- b. Evaluation of physics-based and data-driven modeling, simulation, and process control approaches.
- c. Analysis of Return on Investment (ROI) for increasing throughput/ reducing defects.
- d. Preliminary design of prototype high temperature component test and evaluation apparatus.

This task will also produce a Bill of Materials (BOM) and procurement of selected prototype manufacturing and evaluation equipment, to include any custom design or development.

Task Area Three (\$12.8M):

The Objectives/Success Criteria are:

- a. Investigation of Tailored Materials: This task will produce a Prototype Material System, resulting from tailored resins research and prototype coupon development.
- b. Evaluation of Prototype Manufacturing Equipment: This task will produce a written report detailing the commissioning and testing of equipment for manufacturing, testing, and evaluation of prototype components.
- c. Algorithms for Process Control: This task will produce software for in-situ sensing and Nondestructive Evaluation (NDE) to develop go/no-go criteria for hypersonic structures throughout the manufacturing process.

Task Area Four (\$10.245M):

The Objectives/Success Criteria are:

- a. Prototype Sensor and Software Suite: This task will produce software for physics-based and data-driven (in-situ sensing) modeling, simulation, and process control.
- b. Prototype High Temperature Composite Parts: This task will produce physical prototypes of high temperature composite structural components with complex geometries.

Prototype Hypersonic Structure Technology Demonstration: This task will produce physical prototypes of high temperature composite structural assemblies with complex geometries.

4. Potential Follow-On Activity:

- a. Upon successful completion of this prototype effort, the Government anticipates that a follow-on production effort may be awarded via either contract or other transaction, without the use of competitive procedures if the participants in this transaction successfully complete the prototype project as competitively awarded from this document. The prototype effort will be considered successfully complete upon demonstration of the aforementioned technology objectives.
- b. Successful completion for a specific capability may occur prior to the conclusion of the project to allow the Government to transition that aspect of the prototype project into production while other aspects of the prototype project have yet to be completed.
- c. Requirements of other potential follow-on activities could involve, though not limited to, continued development and baseline management, fielding, sustainment, training, further scaling of the solution, integration of future capabilities, or integration of the solution with other capabilities.

5. Project Deliverables:

Task Area One: Identification and Development (\$570K)

No.	Title	Description	Frequency	Delivery Method
1	Execution Plan	Lay out the schedule, milestones and projected hours required for completion. Identify team members/ partners.	One month after award	Electronic delivery of written document
2	Technical Report	Materials. Identify tailored materials for hypersonic vehicles and show feasibility analysis.	Fifteen months after award	Electronic delivery of written document

3	Technical Report	Joining. Identify process for fastener-free joining of complex geometries and show feasibility analysis.	Fifteen months after award	Electronic delivery of written document
4	Technical Report	Nondestructive Evaluation (NDE). Identify tailored NDE and in-situ sensing capabilities, and show feasibility analysis.	Fifteen months after award	Electronic delivery of written document
5	Technical Report	Prototype Manufacturing Processes. Identify preliminary design for prototype manufacturing processes, preliminary test and evaluation plan, and team members/ collaborative environment partners.	Fifteen months after award	Electronic delivery of written document
6	Technical Report	Digital Twin Modeling and Simulation. Identify preliminary design of digital twin modeling and simulation processes/ software, and show feasibility analysis.	Fifteen months after award	Electronic delivery of written document
7	Technical Report	Equipment. Identify prototype manufacturing equipment, and show preliminary cost and schedule.	Fifteen months after award	Electronic delivery of written document
8	Financial Reports	Report of expenditures in relation to spend plan.	Every two months	Electronic delivery of written document (PowerPoint, Excel, or Word)

Task Area Two: Design (\$15.335M)

No.	Title	Description	Frequency	Delivery Method
1	Execution Plan	Identify schedule, milestones and projected hours required. Identify team members/partners.	One month after start of Task Area 2	Electronic delivery of written document
2	Preliminary Design of Prototype Processes	Preliminary design of prototype processes for the automated design, analysis, manufacturing, and prototyping of high temperature composite structures.	Ten months after start of Task Area 2	Electronic delivery of written document
3	Evaluation of M&S Approach	Evaluation of physics-based and data-driven modeling, simulation, and process control approaches, to analyze Return on Investment for increasing throughput/ reducing defects.	Ten months after start of Task Area 2	Electronic delivery of written document
4	Preliminary Design of Prototype T&E Apparatus	Preliminary design of prototype high temperature component test and evaluation apparatus.	Ten months after award	Electronic delivery of written document
5	Prototype Manufacturing Equipment	Procurement of selected manufacturing and evaluation equipment, including custom design or development.	As equipment is developed/ delivered (Progress reports every month) NLT 16 months after start of Task Area 2	Equipment, at contractor site

6	Financial Reports	Report of expenditures in relation to spend plan.	Every two months	Electronic delivery of written document (PowerPoint, Excel, or Word)
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Task Area Three: Baseline Prototype Development (\$12.8M)

No.	Title	Description	Frequency	Delivery Method
1	Execution Plan	Identify schedule, milestones and projected hours required. Identify team members/partners.	One month after start of Task Area 3	Electronic delivery of written document
2	Investigation of Tailored Materials	Deliver Prototype Material System, resulting from tailored resins research and prototype coupon development.	Six months after start of Task Area 3	Prototype materials, at contractor site
3	Evaluation of Prototype Manufacturing Equipment	Detail the commissioning and testing of equipment for manufacturing, testing and evaluation of prototype components.	Twelve months after start of Task Area 3	Electronic delivery of written document
4	Algorithms for Process Control	Deliver Software for in-situ sensing and Nondestructive Evaluation (NDE) to develop go/no-go criteria for hypersonic structures throughout the manufacturing process.	Eighteen months after start of Task Area 3	Software
5	Financial Reports	Report of expenditures in relation to spend plan.	Every two months	Electronic delivery of Power Point/Excel/or Word document

Task Area Four: Hypersonics Demonstrator (\$10.245M)

No.	Title	Description	Frequency	Delivery Method
1	Execution Plan	Identify schedule, milestones and projected hours required. Identify team members/partners.	One month after start of Task Area 4	Electronic delivery of Written document
2	Prototype Sensor and Software Suite	Deliver Physics-based and data- driven (in-situ sensing) modeling, simulation, and process control software.	Six months after start of Task Area 4	Software
3	Prototype High Temperature Composite Parts	Deliver Physical prototypes of high temperature composite structural components with complex geometries.	Twelve months after start of Task Area 4	Prototype components
4	Prototype Hypersonic Structure Technology Demonstrator	Physical prototypes of high temperature composite structural assemblies with complex geometries.	Eighteen months after start of Task Area 4	Prototype assemblies
5	Financial Reports	Report of expenditures in relation to spend plan.	Every two months	Electronic delivery of Power Point/Excel/or Word document

6. Anticipated Budget

\$ 38.95 Million across all awards

This value represents what is currently available for the subject project at the time of RFS release. This value is subject to change and is being provided for planning purposes only.

Respondents are encouraged to clearly explain how much of their solution can be developed for the advertised amount. Capabilities or project phases that will require additional funding beyond the project budget must be identified as such.

7. Anticipated Number of Awards

The Government intends to award at least one (1) Other Transaction Agreements on a fixed-price basis with payable milestones and supporting cost data as a result of this RFS. Please note, more than one award may be issued if determined to be in the Government's best interest. The Government also reserves the right to execute fewer awards than anticipated, select aspects of a proposal for award, or not select any of the solutions proposed.

Partial responses addressing only a subset of the project's overall objectives are permitted for this effort.

8. Supporting Attachments:

- a. Mandatory Section 889 Representation
- b. DD254
- c. DoD Program Manager Guidebook for Integrating the Cybersecurity Risk Management Framework in the System Acquisition Lifecycle ([https://www.dau.edu/tools/t/DoD-Program-Manager-Guidebook-for-Integrating-the-Cybersecurity-Risk-Management-Framework-\(RMF\)-into-the-System-Acquisition-Lifecycle](https://www.dau.edu/tools/t/DoD-Program-Manager-Guidebook-for-Integrating-the-Cybersecurity-Risk-Management-Framework-(RMF)-into-the-System-Acquisition-Lifecycle))
- d. Cybersecurity Test and Evaluation Guidebook (<https://www.dau.edu/cop/test/DAU%20Sponsored%20Documents/Cybersecurity-Test-and-Evaluation-Guidebook-Version2-change-1.pdf>)

C. SECURITY INFORMATION & RESTRICTIONS

1. This RFS, to include attachments, has been released in accordance with {input correct choice & modify as necessary}

Distribution Statement A: Approved for public release

2. Security classification & other restrictions:

- Awardees/Prototype Level Performers must hold an active **Secret** Facility Clearance, at the time of **Award for Task Area Three**.
- Awardee/Performer personnel must hold an active **Secret** clearance at the time of **Award for Task Area Three**.
- Respondents are restricted to domestic, United States based companies only.
- A DD Form 2345 is required at the time of Task Area Two completion. Instructions related to the DD Form 2345 are included as Attachment B.
- Compliance with International Traffic in Arms Regulation (22 C.F.R. §§ 120-130) is required no later than at award.
- A DD Form 254 will be executed at award and flowed down to the selected performer(s) at the **Secret** level.
- 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 1 includes additional detail regarding the representation which must be signed and returned with any submissions.

What is included under "covered telecommunications equipment or services"?

- ✓ Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);



- ✓ For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- ✓ Telecommunications or video surveillance services provided by such entities or using such equipment; or
- ✓ Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

3. All respondents/prospective performers must be compliant with the following:

- DoDI 8582.01, “Security of Unclassified DoD Information on Non-DoD Information Systems” and DoDM 5200.01 Volume 3, “DoD Information Security Program: Controlled Unclassified Information”.
- NIST SP 800-171, “Protecting Controlled Unclassified Information in Non-Federal Information Systems and Organizations”
- 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 selected performer must 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).

D. DESIRED LEVEL OF DATA RIGHTS

Unlimited rights: The right to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

Government Purpose Rights: The right to use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction. This also includes the rights to release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose technical data for United States government purposes. This level of restriction is set at five-years but may be negotiated & tailored to a specific project. The five-year period, or such other period that may be negotiated, would commence upon execution of the agreement that required development of the items, components, or processes or creation of the data. The performer will have the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this agreement for any commercial purpose during the five-year period. Upon expiration of the five-year period (or other negotiated length of time), the Government will receive unlimited rights in the technical data and computer software.

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

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

(A) Necessary for emergency repair and overhaul; or

(B) A release or disclosure to—

(1) A covered Government support contractor in performance of its covered Government support contract for use, modification, reproduction, performance, display, or release or disclosure to a person authorized to receive limited rights technical data; or (2) A foreign government, of technical data other than detailed manufacturing or process data, when use of such data by the foreign government is in the interest of the Government and is required for evaluation or informational purposes;

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

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

Other – Customized Level of Rights:

E. PROCESS OVERVIEW & INSTRUCTIONS

1. Submission Process for Questions & Proposals

a. Questions

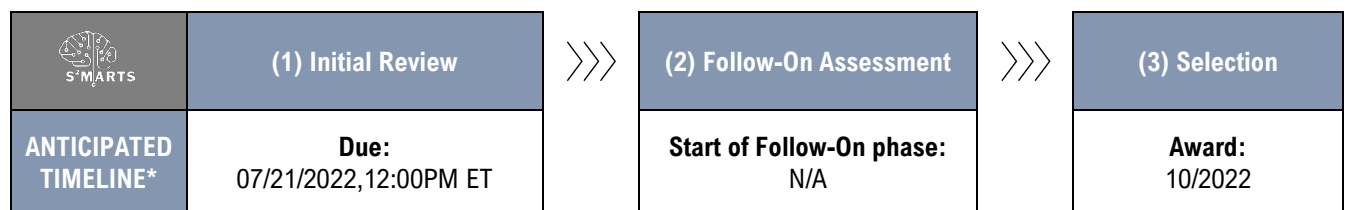
To submit any questions, visit the opportunities page at www.nstxl.org/opportunities, select the “Current” tab, locate the respective project, and select “Submit a Question”. Please refer to Page 1 for associated deadlines.

b. Proposals

To submit your proposal, visit the opportunities page at www.nstxl.org/opportunities, select the “Current” tab, locate the respective project, and select the “Submit Proposal” link. You must have an active account and be logged-in to submit your response.

Respondents are solely responsible for the timeliness of their submission and are cautioned that late submissions will not be accepted for evaluation. It is strongly recommended that interested parties submit their proposal as early as possible to uncover any potential technical or account issues. Please notify NSTXL immediately (membership@nstxl.org) if technical issues occur during the submission process and/or if confirmation related to membership status is required. Please refer to Page 1 for associated deadlines.

2. Proposal Structure & Assessment Methodology



TECHNICAL	<p>Written Proposal</p> <p>Page Limit: 30 pages</p> <p>Format: MS Word and/or Adobe PDF</p>	<p>N/A</p> <p>Details will be provided to Government-selected respondents identified for additional exchanges with the Government.</p>	Award of Prototype Level Project
PRICE	<p>Standard Price Proposal</p> <p>Page Limit: 10 pages</p> <p>Format: MS Excel for pricing information; MS Word and/or Adobe PDF for supporting narratives</p>	<p>N/A</p> <p>Details will be provided to Government-selected respondents identified for additional exchanges with the Government.</p>	

**Anticipated dates are subject to change and are provided for planning purposes only.*

NSTXL will notify & invite Government-selected respondents to participate in a follow-on assessment/downselect pending the outcome of the Government's review of initial responses. Additional detail regarding the follow-on assessment will be provided at that time. Respondents who are not selected for follow-on assessments will also be notified of their status accordingly.

3. Format Detail

- a. 12-point font (or larger) for all response narratives; smaller type may be used in figures and tables but must be clearly legible.
- b. Page size of 8.5 x 11 inches.
- c. The following items are not included within the page count: Cover page, Table of Contents, supporting Foreign Owned, Controlled, or Influenced (FOCI) documentation, Section 889 Representation, and the Task Description Document/Statement of Work.

4. Contents of Response (Cover Page, Technical Response, Price Response)

- a. Proposal Cover Pages **must** identify the following:
 - Company name
 - Confirmation of active NSTXL Membership (e.g., "Verified NSTXL Member")
 - Reminder: Contact membership@nstxl.org with any questions or requests for confirmation.*
 - Commercial and Government Entity (CAGE) Code (if available)
 - Level of facility clearance (if available)
 - Street Address
 - Primary Point of Contact (with title, email address and phone number)
 - Government Cognizant Security Office (CSO) responsible for monitoring the company's National Industrial Security Program Standards compliance (with address, email address and phone number)
 - Company's security officer point of contact (with title, email address and phone number)
 - All locations where work will be performed

- Business Size
- Business Type (Traditional or Non-Traditional)
- Status of U.S. ownership
- If the proposed approach requires any exceptions to this RFS
- If the proposed approach addressed all RFS objectives or a partial subset of the RFS objectives
- The applicable 10 U.S.C. § 4022 eligibility criteria (select **one** of the following)
 - There is at least one nontraditional defense contractor or nonprofit research institution participating 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; OR
 - At least one third of the total cost of the project is to be provided by sources other than the Federal Government.



What is a nontraditional defense contractor?

An entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by the Department of Defense for the procurement or transaction, any contract or subcontract for the Department of Defense that is subject to full coverage under the cost accounting standards (CAS).

Review 48 CFR § 9903.201-1 for a list of CAS exemptions.

b. Technical responses must address the following topics:

TOPIC	INSTRUCTIONS
<p>Solution Narrative & Project Schedule</p>	<ul style="list-style-type: none"> • Respondents must identify significant assumptions that influenced technical aspects the proposed solution and/or any assumptions that may affect technical performance in the future • Describe the approach used to design/deliver a unique prototype solution for the prototype technology objectives. • Include a discussion on schedule and the timing of all project deliverable(s) and other critical milestones • Responses that only address a critical element of the total solution being sought, often referred to as a “partial solution”, must be clearly identified as such. • If the proposed approach will require exception to any aspect of this solicitation, to include attachments, respondents must clearly identify those exceptions within the Technical Volume of their response. All respondents are encouraged to review the baseline S²MARTS Performer’s Agreement available within the NSTXL Members Portal (nstxl.org).
<p>Team Overview</p>	<ul style="list-style-type: none"> • Identify each subcontractor and include the following:

	<ul style="list-style-type: none"> - Summary of their role in support of the proposed concept - Commercial and Government Entity (CAGE) Code (if available) - Level of Facility Clearance (if available) - Address - Point of contact (with title, email address and phone number) - Business size - Business Type (Traditional or Nontraditional) - Status of U.S. ownership <p><i>Reminder: The responsibility to provide ample proof regarding nontraditional participation to a significant extent lies with the respondent and has a direct correlation to award eligibility.</i></p>
<p>Level of Data Rights Proposed</p>	<ul style="list-style-type: none"> • The rights offered should be displayed in a manner that allows for ease of discussion in determining trade-offs and potential options for long-term sustainability of the deliverables of this effort. • If rights are being asserted at a level less than the Government’s desired level, respondents must provide detail explaining the specific rationale for the assertion. • Any items previously developed with federal funding (and utilized in support of the proposed solution) should clearly identify all individual components funded by the Government and the recipient of the deliverables. • If commercial software is proposed as part of the prototype solution, all applicable software licenses must be identified and included with the response. Note that any software license term or condition inconsistent with federal law will be negotiated out of the license.
<p>Explanation Supporting Eligibility for Award of a Prototype OTA</p>	<ul style="list-style-type: none"> • Provide rationale to support the specific eligibility condition that permits award of an Other Transaction to the proposed performer/team. • The responsibility to provide ample proof regarding <i>nontraditional defense contractor participation to a significant extent; small business or nontraditional defense contractor status; or any cost sharing arrangement</i> lies with the respondent and has a direct correlation to award eligibility. <p style="text-align: center;"><u>Questions regarding eligibility?</u></p> <p>Contact NSTXL and/or review 10 USC 4022 and the DoD Other Transaction Guide for additional information.</p>
<p>Foreign Owned, Controlled, or Influenced (FOCI) Information (if applicable)</p>	<ul style="list-style-type: none"> • Identify if the primary performer and/or any sub-performers (to include vendors, suppliers, subcontractors, and teaming partners) are considered under FOCI. <p style="text-align: center;"><u>Supporting documentation may include but is not limited to:</u></p> <p style="text-align: center;">Standard Form 328 (Certificate Pertaining to Foreign Interest); Listing of Key Management Personnel; an Organizational Chart; Security Control Agreements: Special Security Agreements; and Proxy Agreements or Voting Trust Agreements.</p>
<p>Government Furnished Support</p>	<ul style="list-style-type: none"> • Identify if the proposed solution will be dependent on Government Furnished Property (GFP) or other forms of Government support (i.e. information, schematics, laboratory, or facility access).

	<ul style="list-style-type: none"> If the solution is dependent on the Government furnishing specific information or items, describe the impact to the solution if the request cannot be met. All GFP proposed and/or required for the respondent to perform this effort shall provide documentation that the proposed Government property usage has been approved by the cognizant Contracting Officer or Agreements Officer.
Compliance	<ul style="list-style-type: none"> Respondents must address each mandatory restriction/requirement identified within this RFS and explain how each regulation or standard is currently or will be met. <ul style="list-style-type: none"> ✓ Note: If exceptions to any of the restrictions/compliance requirements exist, respondents must fully explain the basis for the exception and how any correlating risk will be mitigated. In addition to the mandatory representation included as Attachment 1, respondents must include the following statement within the Compliance section (with the applicable answer checked): <p>“[Company Name] represents that it <input type="checkbox"/> will, <input type="checkbox"/> will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation.”</p> <ul style="list-style-type: none"> ✓ Note: If your company will provide covered telecommunications equipment or services, please contact S2MARTS@nstxl.org for additional mandatory disclosures that must be completed & submitted with your response (at least 72 hours in advance of the response deadline).
Organizational Conflicts of Interest (OCI)	<ul style="list-style-type: none"> All responses must disclose and address potential conflicts of interest and any proposed mitigation If OCIs are not present, respondents must include a statement within the Technical Volume that no OCIs are present.
Task Description Document/ Statement of Work	<ul style="list-style-type: none"> Provide a Task Description Document (TDD) outlining the project tasks to be performed along with schedule milestones and delivery dates required for successful completion. It is anticipated that, if selected, the proposed TDD will be incorporated into the resultant prototype-level Project Order, similar to a Statement of Work (SOW). Respondents are encouraged to be concise but thorough when outlining their TDD/SOW. The TDD/SOW may be submitted as an appendix or a separate file as part of the proposal.

5. Contents of Pricing Response

Note: The Government reserves the right to seek additional detail related to pricing if a conclusive fair & reasonable determination cannot be achieved. Respondents are encouraged to provide thorough & detailed responses (to the maximum extent practicable) to reduce likelihood of schedule delays and increase the Government’s understanding of the proposed concept.

TOPIC	INSTRUCTIONS
Price Breakdown	<ul style="list-style-type: none"> Delineate key pricing components and show clear traceability to the phases and/or milestones of the Technical Response. At a minimum, key pricing components include: <ul style="list-style-type: none"> – Labor Total(s), Other Direct Costs/Material Total(s), any license prices/fees, and subcontractor/vendor/sub-performer price(s).

	<ul style="list-style-type: none"> Data should must be organized & clearly identified by technical objective, milestone, and/or phase proposed (if phasing is applicable).
Supporting Narrative	<ul style="list-style-type: none"> Include a brief narrative that explains your pricing structure and maps the proposed prices to the solution's technical approach.
Payable Milestone Schedule	<ul style="list-style-type: none"> The overall total price should be divided among severable increments that align to a proposed milestone payment schedule. Milestones are not required to match actual expenditures but should realistically align to the effort expended or products delivered. <p>If assistance is needed, please contact our team.</p>
Innovation & Scalability <i>(if applicable)</i>	<ul style="list-style-type: none"> Any additional features or beneficial capabilities that extend beyond the currently requested technical objectives shall be separately priced for the Government's consideration.
Price Impacts of Data Assertions <i>(if applicable)</i>	<ul style="list-style-type: none"> If limited or restricted rights are being asserted within the response, provide a table that includes prices if the Government elects to purchase increased level of rights.
Supporting Information	<ul style="list-style-type: none"> Inclusion of supporting information, such as a Basis of Estimate, may substantially expedite evaluation of your response.

F. Solution Review & Assessment

Compliant responses will be evaluated with consideration given to:

Demonstrated understanding and overall technical merit of the response;
Feasibility of implementation; and,
Total project risk (related to technical focus areas, price, schedule and/or compliance)

- The Government will evaluate the degree to which the proposed solution provides a thorough, flexible, and sound approach in response to the prototype technical objectives. While the technology objectives are of significant importance, responses will be considered as a whole.
- The Government will select the prototype-level performer and award this project, via NSTXL, to the respondent(s) whose solution is assessed to be the most advantageous to the Government, when price, schedule, technical potential, level of data rights, and other factors are considered. The Government reserves the right to award to a respondent that does not meet all the requirements of the RFS.
- The Government reserves the right to reject a submission and deem it ineligible for consideration if the response is incomplete and/or does not clearly provide the requested information.
- Debriefings will not be provided.

G. Additional Project Information

- Acceptable responses not selected for the immediate award will be retained by NSTXL & the Government for possible future execution and funding. The non-selected proposals will be considered as viable alternatives for up to 36 months. If a proposal (that was not previously selected) is determined to be a suitable alternative, the company will be contacted to discuss any proposal updates and details of a subsequent project award.

- Respondents whose proposals are not selected for the initial award shall not contact the Government or NSTXL to inquire about the status of any ongoing effort as it relates to the likelihood of their company being selected as a future alternative.
- The United States Navy, specifically Naval Surface Warfare Center, Crane Division, maintains release authority on any and all publications or press releases related to this prototype project.
- Unsuccessful respondents will be notified by NSTXL, however, debriefings for this project will not be provided.
- Certain types of information submitted during the RFS and award process of an OT are exempt from disclosure requirements of 5 U.S.C. §552 (the Freedom of Information Act or FOIA) for a period of five years from the date the Department receives the information. It is recommended that respondents mark business plans and technical information that are to be protected for five years from FOIA disclosure with a legend identifying the documents as being submitted on a business confidential basis.
- No classified data shall be submitted within the proposal. To the extent that the project involves DoD controlled unclassified information, respondents must comply with DoDI 8582.01 and DoDM 5200.01 Volume 3. Respondents must implement the security requirements in NIST SP 800-171 for safeguarding the unclassified internal information system; and must report any cyber incidents that affect the controlled unclassified information directly to DoD at <https://dibnet.dod.mil>.