DEFENSE LOGISTICS AGENCY

20.2 Small Business Innovation Research (SBIR) Program Direct to Phase II Proposal Submission Instructions

The Defense Logistics Agency (DLA) Small Business Innovation Program (SBIP) seeks small businesses with strong research and development capabilities to pursue and commercialize specific technologies to meet DLA objectives.

The intent of the 20.2 DLA SBIR Direct to Phase II proposal submission instructions is to clarify the Department of Defense (DoD) instructions as they apply to DLA requirements. This Announcement is for Direct to Phase II proposals only. All Phase II proposals must be prepared and submitted through the DoD SBIR/STTR electronic submission site: https://www.dodsbirsttr.mil/submissions/login. The offeror is responsible for ensuring that their proposal complies with the requirements in the most current version of instructions. Prior to submitting your proposal, please review the latest version of these instructions as they are subject to change before the submission deadline.

Submit specific questions pertaining to the DLA SBIP Program to the DLA SBIP Program Management Office (PMO) at E-mail – DLASBIR2@dla.mil

1. DIRECT TO PHASE II

15 U.S.C. §638 (cc), as amended by NDAA FY2012, Sec. 5106, and further amended by NDAA FY2019, Sec. 854, PILOT TO ALLOW PHASE FLEXIBILITY.

This allows the Department of Defense to make an award to a small business concern under Phase II of the SBIR Program with respect to a project, without regard to whether the small business concern received an award under Phase I of an SBIR Program with respect to such project.

DLA is conducting a "Direct to Phase II" implementation of this authority for this SBIR Announcement. This pilot does not guarantee DLA will offer any future Direct to Phase II opportunities.

DLA Direct to Phase II Proposals are different from traditional DLA SBIR Phase I proposals. The chart below explains some of these differences.

STANDARD DLA SBIR PROCESS DLA D2P2 PROCESS

PHASE I TYPICAL FUNDING	\$100,000***	None
LEVEL		
PHASE I TECHNICAL POP*	6 months	None
DURATION		
PHASE II TYPICAL FUNDING	\$1,000,000**	\$1,000,000**
LEVEL		
PHASE II TECHNICAL POP	24 months	24 months
DURATION		

^{*}POP= Period of Performance

^{**} May Exceed \$1,000,000 (up to \$1,600,000) with Program Manager Approval

^{***} May Exceed \$100,000 (up to \$252,000) with Program Manager Approval

2. INTRODUCTION

Direct to Phase II proposals must follow the steps outlined in the following statements.

- 1. Offerors must create a Cover Sheet using the DoD Proposal submission system.
- 2. Offerors must provide documentation that satisfies the Phase I feasibility requirement*. that will be included in the Technical Volume of the Phase II proposal
 - 3. Offerors must demonstrate that they have completed research and development through means other than the SBIR/STTR Program to establish the feasibility of the proposed Phase
 - 4. Offerors must submit a complete Phase II proposal using the DLA Phase II proposal instructions below.
- * NOTE: Offerors are required to provide information demonstrating that the scientific and technical merit and feasibility. DLA will not evaluate any Phase II proposal if it determines that the offeror has failed to demonstrate the establishment of technical merit and feasibility.

3. PROPOSAL SUBMISSION

Submit the complete proposal, i.e., DoD Proposal Cover Sheet, technical volume, cost volume, and Company Commercialization Report electronically at https://www.dodsbirsttr.mil/submissions/login Ensure your complete technical volume and additional cost volume information is included in this sole submission.

Complete proposals must include all of the following:

- a. DoD Proposal Cover Sheet (Volume 1)
- b. Technical Volume (Volume 2):
 - Part 1: Phase I Justification (20 Pages Maximum)
 - Part 2: Phase II Technical Proposal (40 Pages Maximum)
- c. Cost Volume (Volume 3)
- d. Company Commercialization Report (Volume 4)

The DLA SBIR Program is accepting Volume 5 (Supporting Documents).

Phase II proposals require a comprehensive, detailed submission of the proposed effort. DLA SBIR Direct to Phase II periods of performance are 24 months. DLA will accept SBIR Direct to Phase II proposals up to a maximum value of \$1,000,000 (\$1,600,000 with prior authorization from the SBIP PM. Commercial and military potential of the technology under development is extremely important. Successful proposals will emphasize applicability to specific DoD programs of record as well as dual-use applications and commercial exploitation of resulting technologies,

4. Direct to Phase II PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS

PROPOSAL FORMAT (60 pages maximum)

A. **Cover Sheet**. As instructed on the DoD SBIR proposal submission website, prepare a Proposal Cover Sheet (often two pages), include a brief description of the problem or opportunity, objectives, effort, and anticipated results. Summarize the expected benefits, as well as any government or private sector applications of the proposed research. OSD and SBA will post the Project Summary of selected

proposals with unlimited distribution. Therefore, the summary should not contain classified or proprietary information.

B. Technical Volume

- <u>Phase I Justification (20 Pages Maximum).</u> Offerors are required to provide information demonstrating the establishment of the scientific and technical merit and feasibility.
- <u>Phase II Technical Objectives and Approach (40 Pages Maximum).</u> List the specific technical objectives of the Phase II research and describe the planned technical approaches used to meet these objectives.
- Phase II Work Plan. Provide an explicit, detailed description of the Phase II approach. The plan should indicate how and where the firm will conduct the work, a schedule of major events, and the final product to be developed. The Phase II effort should attempt to accomplish the technical feasibility demonstrated in the justification, including potential commercialization results. Phase II is the principal research and development effort and is expected to produce a well-defined deliverable product or process.
- <u>Related Work.</u> Describe significant activities directly related to the proposed effort, including
 those conducted by the Principal Investigator, the proposing firm, consultants, or others.
 Report how the activities interface with the proposed project and discuss any planned
 coordination with outside sources. The proposers must demonstrate an awareness of the stateof-the-art in the technology and associated science.
- Relationship with Future Research or Research and Development. State the anticipated results of the proposed approach if the project is successful. Discuss the significance of the Phase II effort in providing a foundation for a Phase III research or research and development effort.
- Technology Transition and Commercialization Strategy. Describe your company's strategy for converting the proposed SBIR research, resulting from your proposed Phase II contract, into a product or non-R&D service with widespread commercial use -- including private sector and/or military markets. Note that the commercialization strategy is separate from the Commercialization Report described in Section 4.L below. The strategy addresses how you propose to commercialize this research, while the Company Commercialization Report covers what you have done to commercialize the results of past Phase II awards. Historically, a well-conceived commercialization strategy is an excellent indicator of ultimate Phase III success. The commercialization strategy must address the following questions:
 - What DoD Program and/or private sector requirement does the technology propose to support?
 - What customer base will the technology support, and what is the estimated market size?
 - What is the estimated cost and timeline to bring the technology to market to include projected funding amount and associated sources?
 - What marketing strategy, activities, timeline, and resources will be used to enhance commercialization efforts??
 - Who are your competitors, and describe the value proposition and competitive advantage over the competition?

- <u>Key Personnel.</u> Identify key personnel, including the Principal Investigator, who will be involved in the Phase II effort. List directly related education and experience and relevant publications (if any) of key personnel. Include a concise resume of the Principal Investigator(s).
- Facilities/Equipment. Describe available instrumentation and physical facilities necessary to carry out the Phase II effort. Justify the purchase of any items or equipment (as detailed in the cost proposal) including Government Furnished Equipment (GFE). All requirements for government furnished equipment or other assets, as well as associated costs, must be determined and agreed to during Phase II contract negotiations. State whether or not the proposed work facilities will be performed meet environmental laws and regulations of federal, state (name) and local governments. This includes, but is not limited to, the following groupings: airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid and bulk waste disposal, and handling and storage of toxic and hazardous materials.
- <u>Consultants</u>. Involvement of university, academic institution, or other consultants in the project may be appropriate. If the firm intends to involve these type of consultants, describe these costs in detail in the Cost Volume.
- C. Cost Volume (\$1,600,000 Maximum). A detailed, Phase II Cost Volume must be submitted online and in the proper format shown in the Cost Breakdown Guidance in Section 5.4 d of the DoD SBIR Broad Agency Announcement (BAA). Some items in the cost volume template may not apply to the proposed project. Provide enough information to allow the DLA evaluators to assess the proposer's plans to use the requested funds if DLA were to award the contract.
 - List all key personnel by name as well as number of hours dedicated to the project as direct labor.
 - Special Tooling, Test Equipment, and Materials Costs:
 - Special tooling, test equipment, and materials costs may be included under Phase II. The
 inclusion of equipment and material will be carefully reviewed relative to need and
 appropriateness for the work proposed; and
 - The purchase of special tooling and test equipment must, in the opinion of the Contracting Officer, be advantageous to the Government and relate it directly to the specific effort.
 - Cost for travel funds must be justified and related to the needs of the project.
- D. Commercialization Report. All Phase II proposals must include a Company Commercialization Report (CCR). This required proposal information does not count against the 60-page limit. The submission system will generate CCR is generated by the submission website based on information provided by the firm through the CCR tool. This report will list the name of the awarding agency, date of award, contract number, topic or subtopic, title, and award amount for each SBIR Phase II project performed by the company. The CCR, separate from the commercialization strategy described in Section 4.G, covers what you have done with past Phase II awards. Complete and accurate reporting of Phase III performance data by all participating companies is critical to the future success of the SBIR Program.

5. METHOD OF SELECTION AND EVALUATION CRITERIA

A. **Evaluation Criteria**. DLA will review all proposals for overall merit based on the evaluation criteria published in the DoD SBIR Program BAA:

6. CONTRACTUAL CONSIDERATIONS

- A. <u>Awards</u>. The number of Direct to Phase II awards will depend upon the quality the Phase II proposals and the availability of funds. Each Phase II proposal selected for award under a negotiated contract requires a signature by both parties before work begins. DLA awards Phase II contracts to Small Businesses based on results of the agency priorities, scientific, technical, and commercial merit of the Phase II proposal.
- B. <u>Reports</u>. For incrementally funded Phase II projects an interim, midterm written report may be required (at the discretion of the awarding agency).
- C. <u>Payment Schedule</u>. DLA Phase II Awards are Firm Fixed Price / Level of Effort contracts. Base monthly invoices on the labor hours recorded and the monthly costs associated with the project.
- D. <u>Markings of Proprietary Information</u> In accordance with DoD SBIR Program BAA, section 5.3. DLA does not accept classified proposals. All Final Reports are marked with Distribution Statement B.
- E. <u>Copyrights</u>, <u>Patents and Technical Data Rights</u>. DLA handles all Copyrights, Patents, and Technical Data Rights in accordance with the guidelines in the DoD SBIR Program BAA.

7. TECHNICAL AND BUSINESS ASSISTANCE (TABA)

The DLA SBIR Program does not participate in the Technical and Business Assistance (formally the Discretionary Technical Assistance Program). Contractors should not submit proposals that include Technical and Business Assistance.

8. REPORTING OF PHASE III OR ANY OTHER COMMERCIALIZATION EFFORTS

A. Each small business receiving a Phase II award is required to report all Phase III activities on their Company Commercialization Report https://www.dodsbirsttr.mil/submissions/login. In addition please send any corresponding Phase III documents in PDF format to: DLASBIR2@dla.mil

Reportable activities include:

- Sales revenue from new products and non-R&D services resulting from the Phase II project
- Additional investment from sources other than the Federal SBIR program in activities that further the development and/or the commercialization of the Phase II technology;
- The portion of additional investment representing clear and verifiable investment in the future commercialization of the technology (i.e. "hard investment");
- Whether the Phase II technology has been used in a fielded DoD system or acquisition program and, if so, which system or program;
- The number of patents resulting from the contractor's participation in the SBIR/STTR program;
- Growth in number of firm employees, and; Whether the firm completed an initial public offering (IPO) of stock resulting in part from the Phase II project

DEFENSE LOGISTICS AGENCY

DEFENSE LOGISTICS AGENCY SBIR 20.2 Topic Index

DLA202-D013	Novel Approaches for Detection of and Protection from Emerging Viral Pandemics
DLA202-D014	Hydrodynamic, Structural, Vibration, and Production Analysis to Build a Torpedo
	Propeller
DLA202-D015	Secure Computing Autonomous Network (SCAN)

DLA202-D013 TITLE: Novel Approaches for Detection of and Protection from Emerging Viral Pandemics

RT&L FOCUS AREA(S): Biotechnology, & General Warfighting Requirements (GWR) TECHNOLOGY AREA(S): Bio Medical

OBJECTIVE: Develop and promote novel approaches for the detection, identification, and differentiation of viral pathogens, contamination prevention, and protection from viral infections, such as COVID-19.

DESCRIPTION: Defense Logistics Agency (DLA) Research and Development topics of interest are research focused on complex catastrophic pandemic events, such as COVID-19. This requirement consists of providing materials that block transmission of viral pathogens on various surfaces such as clothing, Meals-Ready-To-Eat (MREs), bottled water, parts, and other mediums of transmission of viral pathogens. Solutions need to be easy to use, rapidly deployable, with low logistics burden for military logisticians, clinics, medical treatment facilities, and forward deployed military and civilian personnel.

PHASE I: Not Required. The vendor must demonstrate Proof of Concept via a technical volume not to exceed 20 pages. This volume is included as part of the Phase II Technical volume (Volume 2) FEASIBILITY DOCUMENTATION: Offerors interested in participating in Direct to Phase II must include in their response to this topic Phase I feasibility documentation that substantiates the scientific and technical merit and Phase I feasibility described in Phase I above has been met (i.e. the small business must have performed Phase I-type research and development related to the topic, but from non-SBIR funding sources) and describe the potential commercialization applications. The documentation provided must validate that the proposer has completed development of technology as stated in Phase I above. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results. Work submitted within the feasibility documentation must have been substantially performed by the offeror and/or the principal investigator (PI).

PHASE II: Based on the results of the vendors Proof of Concept, and in coordination with DLA and industry manufacturers the Phase II expectation is to develop a prototype solution. This solution must be easy to use with a minimal burden on logistics, which effectively prevents escalation of the transmission of viral pathogens through contact, particularly from contaminated surfaces. The envisioned platform would cut response time significantly in order to stay within the window of relevance for containing contamination, preventing infection, and mitigating an outbreak.

PHASE III DUAL USE APPLICATIONS: Dual Use Applications: At this point, no specific funding is associated with Phase III. Progress made in Phase I and Phase II should result in the use of U.S. and European Union domestic health care markets for in vitro diagnostics and prophylactic uses. COMMERCIALIZATION: The manufacturer will pursue commercialization of various identification of, protection, and mitigation from viral pathogens, such as COVID-19 and develop potential commercial sales of manufactured chemical materials.

KEYWORDS: Covid-19, infections disease, in vitro diagnostic, point of care, biological warfare agent, biomarkers, anti-viral, MERS, SARS, coronavirus

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DLA202-D014 TITLE: Hydrodynamic, Structural, Vibration, and Production Analysis to Build a Torpedo Propeller

RT&L FOCUS AREA(S): General Warfighting Requirements (GWR) TECHNOLOGY AREA(S): Ground Sea, Weapons

OBJECTIVE: Confirm or refine the existing propeller geometric design. Find alternative methods to produce these propellers at high quality and low cost, while meeting structural, hydrodynamic powering and quiet performance.

COST AND DURATION CLARIFICATION: This topic is a Direct to Phase II proposal requirement. Maximum value for contract effort is \$500,000, in a Base contract at up to \$250,000 and with Option at \$250,000 to be executed at pleasure of the government. Pending execution of this contract's Option, the government may request a follow on proposal for a Sequential Phase II effort.

DESCRIPTION: The Navy has need for a new production stream to deliver high-speed propellers for a long-standing existing weapon. Although functional, the current design has limitations in producible quality and, to an uncertain degree, in the design margins (optimality) of final performance.

This task would include an initial analysis of two existing propellers, which are manufactured in both aluminum and in GRP composite structure, with slight variances in geometry between the fabrication materials. A successful proposal should include descriptions of prior propeller or other equivalent propulsive composite design achievements and capabilities and methods intended to complete analysis, fabricate, and test concept models to achieve equivalent performance of current parts. Drawings are not required for a responsive proposal. Upon award, drawings and part samples will be provided as needed.

FSC NIIN	Part Number	Nomenclature	End Item Application
2010 01-137-2013	5268342	Composite Forward Propeller	Torpedo
2010 01-137-4681	5268343	Composite Aft Propeller	Torpedo
1355 00-977-2776	2526749	Aluminum Forward Propeller	Torpedo
1355 00-977-2773	2526749	Aluminum Aft Propeller	Torpedo

Direct to Phase II Base Contract NTE \$250,000

Base contract scope of work will leverage the as-built design as provided in Government Furnished Information (drawings) and Government Furnished Equipment (propeller components) to:

- 1. Completely define, by analytical methods, the quantitative engineering performance requirements in geometric design and volume, weight, and in thrust, vibration, and structural strength to meet RPM and velocity of platform being propelled.
- 2. Identify their conceptual alternate design(s) for a forward and after propeller and provide analytical results that technically defend said concept will meet or exceed all requirements as developed in 1.
- 3. Estimate production cost for the concept propellers.

Direct to Phase II OPTION NTE \$250,000

Scope of work:

1. Produce and deliver "TBD" propeller Engineering Development Model forward and after prototypes. (Vendor to estimate quantity to be delivered). The government will install and complete operational trials on the target platform and provide system speed, rpm, and other performance results back to the vendor.

- 2. "Vendor may offer" to conduct static and/or hydrodynamic flow in-water tests in a "vendor funded facility" to capture prototype propeller performance in in-water vibration, structural strength, thrust and/or operating blade deformation... or "vendor may defer some or all of this work to a Sequential Phase II effort".
- 3. "Vendor may offer" to refine FEA/CFD analysis and provide analytical results to "2." above or defer to Sequential Phase II effort.
- 4. Vendor shall receive in-water performance tests from "1." above and overlay on analytical results and technically defend variances and methods to resolve insufficient performance in Sequential Phase II.
- 5. Develop and submit a Sequential Phase II proposal

Sequential Phase II proposal: NTE \$1,500,000

- 1. Effort is not to exceed \$1.5 million in value
- 2. Produce and deliver substantial quantity of functional prototype test propellers (20 or more sets)
- 3. Complete tests deferred from initial Phase II effort.
- 4. Complete final adjustments in design thru a series of test, adjust, test adjust... wherein the tests will either be:
- 5. Government operated "systems performance" trials providing RPM, speed and other dynamic data
- 6. Vendor operated static or dynamic in-water trials to capture other attributes of structure, vibration, thrust, deformation ... etc.
- 7. Provide a Phase 3 Production proposal

Based on the results of the vendors Direct to Phase II, and in coordination with DLA and industry manufacturers, the Sequential Phase II expectation is to develop a prototype solution. The proposed work should include engineering, and fabricating development of Prototype propellers and completing water tunnel, in-water, and other testing to prove the performance capability meets the developed specification and/or identify variations where they occur. Expectations include:

- capture as-built designs via 3D imaging and compare 'as-built' component geometry to design drawings to validate 'as-built' accuracy and/or quantify 'design' vs 'as-built' variances;
- affirm the geometry or estimate adjustments, based on fabrication material for one or more propeller variants,
- complete CFD analysis performance estimates in structural strength, structural vibration, powering, and radiated noise of the propeller(s),
- use this analysis to validate design and/or recommend design adjustments

Sequential Phase II would culminate in trial open water runs to prove performance on a navy platform. Complete initial analysis will be manifest in a solid model propeller geometry, which defines the potentially viable replacement propeller(s), along with a comprehensive report of performance estimates, as developed in the above analysis.

Phase 3 Production Proposal – to be funded by Program Office if purchased

- 1. Deliver up to 400 propellers per year for five years in 100 lot stand-alone shipment quantities.
- 2. With each lot provide material pedigree through a body of destructive tests of 1 or more propeller sets to prove the product material pedigree meets the performance specifications developed during prior work.

COMMERCIALIZATION: The manufacturer will pursue commercialization of the various UAS technologies and processes developed in prior phases as well as potential commercial sales of manufactured mechanical parts or other items.

REFERENCES:

- 1. Ductility and plasticity of nanostructured metals: differences and issues, Y.T. Zhu, X.L. Wu, dhttps://www.sciencedirect.com/science/article/pii/S258884201830124X
- 2. Size effects on material yield strength/deformation/fracturing properties, Ronald W. Armstrong, Journal of Materials Research, Volume 34, Issue 13: 15 July 2019, pp. 2161-2176: DOI: https://doi.org/10.1557/jmr.2018.406, Published online by Cambridge University Press: 30 January 2019
- 3. http://www.aerodynamics4students.com/propulsion/blade-element-propeller-theory.php
- 4. Marine Propeller Design Method based on Lifting Line Theory and Lifting Surface Correction Factors, Ataur Rahmana,*, Md Refayet Ullahb, Md. Mashud Karimb, 10th International Conference on Marine Technology, MARTEC 2016
- 5. http://www.omagdigital.com/article/COMPOSITES_VS._METALS/1986792/254792/article.html
- 6. https://www.materialsforengineering.co.uk/engineering-materials-explore/composite-materials/features/carbon-fibre-replacing-metals-and-polymers-as-material-of-choice-in-medical-applications/160312/

KEYWORDS: Thermoplastic composites, carbon fiber propellers, injection-molded parts, thrust vs propeller blade structural strength, low cost manufacturing structurally equivalent parts

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DLA202-D015 TITLE: Secure Computing Autonomous Network (SCAN)

RT&L FOCUS AREA(S): Cybersecurity TECHNOLOGY AREA(S): Information Systems

OBJECTIVE: Develop, demonstrate, and field a private distributed platform that can continuously identify, assess, report, and mitigate threats, vulnerabilities, and disruptions to DLA's network-connected devices. The platform should be scalable with low bandwidth and compute resource requirements. It should also be capable of running asynchronously within isolated environments outside of network connectivity.

DESCRIPTION: DLA requires a cyber-detection platform that comprehensively addresses supply chain security challenges, evolves as new threats emerge, and endures the test of time to provide uninterrupted support to the warfighter.

The platform should provide distributed command-and-control of cyber threats, including the ability to rapidly stop effects and restore normal operations. The platform must not harm the underlying network infrastructure or host systems. The platform architecture should be system-agnostic and provide distributed aggregation and storage of all relevant cybersecurity data, allowing for real-time analysis of any network.

The platform should passively monitor system data for problem trends and behaviors, and then issue warnings to the operators of more significant systemic faults. The platform should automatically update its risk index to address emerging threats. The platform should classify device-related errors, and have behavior-based or anomaly-based detection of threats that may otherwise go undetected. In all cases, the platform may be required to function under a variety of scenarios within isolated environments that do not support robust learning models. This lack of connectivity to models makes the common approach to cyber detection less effective. An alternative approach is to focus on coupling machine learning (ML) with distributed ledger technologies (DLT) to provide indexed integrity of system interactions.

The ability to interface with simulation environments is also of interest.

PHASE I: Not Required. The vendor must demonstrate Proof of Concept via a technical volume not to exceed 20 pages. This volume is included as part of the Phase II Technical volume (Volume 2) FEASIBILITY DOCUMENTATION: Offerors interested in participating in Direct to Phase II must include in their response to this topic Phase I feasibility documentation that substantiates the scientific and technical merit and Phase I feasibility described in Phase I above has been met (i.e. the small business must have performed Phase I-type research and development related to the topic, but from non-SBIR funding sources) and describe the potential commercialization applications. The documentation provided must validate that the proposer has completed development of technology as stated in Phase I above. Documentation should include all relevant information including, but not limited to: technical reports, test data, prototype designs/models, and performance goals/results. Work submitted within the feasibility documentation must have been substantially performed by the offeror and/or the principal investigator (PI).

Read and follow all of the DLA SBIR 20.2 Direct to Phase II solicitation Instructions. For a Direct to Phase II topic, the Government expects that the small business would identify the following actions in their Feasibility Documentation:

• At a minimum, a workable concept for a Secure Computing Autonomous Network (SCAN) prototype that addresses the basic requirements of the stated objective above.

- Develop a distributed platform that can conduct automated scans of various data streams to learn, predict, and mitigate future disturbances, abnormal trends, and problems.
- Develop and prove feasibility of a Concept of Operation (CONOP) for the use of the platform. Develop a preliminary design to implement the CONOP.
- Address all viable overall platform design options with respective specifications on software
 modularity, hardware requirements for computational power and capacity, system/sensor
 agnosticism, and dissemination of information products requested by the user community.

PHASE II: Update the CONOP and develop the detailed design and prototype for the cyber-threat mitigation platform. Detail how the platform enables tactical analysts to detect and mitigate threats and restore operations. Demonstrate all major prototype features in a representative environment. The environment should also include hybrid cloud scenarios where the platform must maintain a shared repository across system enclaves for tactical users to pull and share products, as required.

Develop a transition plan that identifies the scope, effort, and resources required to extend the prototype platform to additional analysis methods or data streams; and development of an out-of-network capability for offline threat detection.

Deliver a Data Disclosure Package (DDP) that includes at a minimum: form, fit, function, operation, maintenance, installation and training data, procedures and information plus the data necessary or related to overall physical, functional, interface, and performance characteristics; corrections or changes to Government-furnished data or software; and data or software that the Government has previously received unlimited rights to or that is otherwise lawfully available to the Government.

PHASE III DUAL USE APPLICATIONS: Work with the DLA to implement the platform as described in the Phase II transition plan at a designated DLA lab. Participate in a Preliminary Design Review (PDR) event. Install on a DLA-designated staging environment for system performance testing.

Ensure sufficient cybersecurity and software assurance requirements are met in accordance with DFARS Clause 252.204–7012, NIST Special Publication 800–171, NIST Special Publication 800–53, and NIST Special Publication 800–37. All RMF requirements must be met to enable platform deployment on DLA systems.

Provide an updated DDP that must include at a minimum: any updates to the Phase II DDP, installation, and maintenance procedures; demonstrated compliance with RMF requirements and qualification testing results; and authority to operate certifications for DLA system use.

Prior to fielding, provide onsite training of the platform design, operation, maintenance, and interfaces. Provide documentation and support materials to transfer the platform to DLA SMEs.

PHASE III DUAL USE APPLICATIONS: This platform has dual-use commercial or military applications in any complex system that either uses sensors to detect abnormalities or synthesizes multiple unrelated data streams for failure analysis or fault localization of its underlying sub-systems.

REFERENCES:

- 1. DoD Enterprise DevSecOps Reference Design, August 2019. https://dodcio.defense.gov/Portals/0/Documents/DoD% 20Enterprise% 20DevSecOps% 20Reference% 20Design% 20v1.0_Public% 20Release.pdf?ver=2019-09-26-115824-583
- 2. It Takes an Average 38 Days to Patch a Vulnerability, Kelly Sheridan, Dark Reading, August 2018. https://www.darkreading.com/cloud/it-takes-an-average-38-days-to-patch-a-vulnerability/d/d-id/1332638

- 3. Cyber-security Framework for Multi-Cloud Environment, Taslet Security, September 2018. https://medium.com/taslet-security/cyber-security-framework-for-multi-cloud-environment-e7d35fd32bd6
- 4. Zero Trust: Beyond Access Controls, Rob MacDonald, HelpNetSecurity, January 2020. https://www.helpnetsecurity.com/2020/01/23/zero-trust-approach-cybersecurity/

KEYWORDS: Anomaly Detection, Behavior-Based Detection, Blockchain, Classification, Computer Network Traffic Analysis, Cryptography, Cybersecurity, Data Analysis, Data Provenance, Decentralized Logging, Logistics Platforms, Machine Learning, Networking, Network Intrusion Detection, Pattern Matching, Supply Chain Risk Management, SCRM, System Of Systems, Zero Trust

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