

Request for Solutions:
Low Power Internet of Things (LPIoT) Long Term Evolution (LTE)
Category M1 Instrumentation Prototype

6 January 2020

1. Purpose and Authority

This Request for Solutions (RFS) is seeking vendors for an Other Transaction Authority (OTA) agreement, for the Low Power Internet of Things (LPIoT) Long Term Evolution (LTE) Category M1 Instrumentation, in accordance with the authority of 10 USC §2371b. The Government will evaluate the solutions with the intent to competitively award one or multiple Other Transaction (OT) Agreements for prototype projects through the Training and Readiness Accelerator (TReX) Consortium.

2. Summary and Background

This OTA is being sought on behalf of the United States Army Program Executive Office for Simulation, Training & Instrumentation (PEO STRI). PEO STRI is tasked with designing, developing and delivering LPIoT LTE Category M1 Instrumentation to the Army. In that role, PEO STRI is also the office responsible for the design and implementation of effective training systems to allow soldiers to most effectively and safely use the LPIoT LTE Category M1 Instrumentation developed by the Army.

The Army requires the development of a Low Power Internet of Things (LPIoT) Long Term Evolution (LTE) Category M1 Instrumentation Prototype capable of supporting Platoon-level Live Force on Force training that will transport data between the Combat Training Center Instrumentation System (CTC IS) to the Training Engagement Simulation System (TESS). The LTE Category M1 is a low-power wide-area (LPWA) air interface that lets you connect Internet of Things (IoT) and Modem to Modem (M2M) devices with medium data rate requirements. It enables longer battery lifecycles and greater in-building range, as compared to standard cellular technologies such as 2G, 3G or LTE Category 1. The solutions should modify the Category M1 commercial off the shelf (COTS) devices to meet Live Collective Training (LCT) needs and still provide the benefits of Low Power Internet of Things (LPIoT). The objective of the LPIoT Instrumentation Prototype project is to determine if COTS LPIoT devices can be modified and tested to determine capability to support latency requirements, enhance throughput, and meet cyber security restrictions for certain use cases (See Section 5.1.7.1). This prototype project is unclassified.

The Category M1 COTS devices currently in use do not meet the conditions required in order to support LCT. The commercial standard has evolved to the point that LPIoT is now supported by all Long Term Evolution (LTE) cellular providers and is accessible across most of the continental United States. PM CTIS deployed an LTE network at the National Training Center (NTC) and Joint Readiness Training Center (JRTC) to transport data between exercise participants and the CTC IS, between 2014 and 2019. At the time of this effort, the LPIoT was not a standard. The current Instrumentation Units use the higher bandwidth LTE standard and the current Instrumentation Unit is scheduled for a life cycle refresh starting in FY 22.

The focus of this OTA is to determine if a Low Power Internet of Things modem can support the dismounted soldier in a Live Training Event. The Army has expressed that the initial task is to reduce the weight of the instrumentation that we place on a soldier's back, versus placed on a vehicle. The overall goal is to have a common instrumentation radio for both dismounted soldier and vehicle use case. This OTA will determine if industry can modify Category M1 commercial off the shelf (COTS) devices to meet Live Collective Training needs to develop the LTE Category M1 modem standard (hereafter the radio is called the LPIoT Instrumentation Prototype) and still provide the benefits of the LPIoT standard.

3. General Information

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

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

3.3. An individual vendor may not submit more than one comprehensive response to this RFS as a Prime. A vendor may participate as a subcontractor to multiple responses.

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

3.5. All Government participants and advisors in the evaluation process will file NDAs.

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

4.1. The Government will make available Attachment 1, IS – TESS Standard, for use during Solution preparation. In order to obtain the documentation, the vendor shall submit a request in writing to INITIATIVES@NSTXL.ORG, with “LPIoT Instrumentation Prototype” used in the subject line.

4.2. The GFI will contain the Distribution D statement and will require the vendor to be vetted prior to obtaining the GFI. Once the vendor is vetted, the vendor will then be required to complete and sign a Distribution Agreement (Attachment 7) which includes further guidance regarding the handling of the GFI. The documentation will then be available for pickup in person in Orlando, FL, or at a mutually agreed to location between the vendor and NSTXL. The Government will provide additional GFI to the awardee within 15 days after award of agreement.

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

5. Solutions Paper Responses

5.1. Solution responses shall be a combined volume for both technical and price and shall include the following:

- Cover Page
- Sub-Vendor List
- Solution Paper (Vendor’s Technical Approach)
- Data Rights Proposal and Assertions
- Government Desired Rights in Technical Data and Computer Software
- Anticipated Delivery Schedule
- Cost and Pricing Breakdown for Phase 1 and Phase 2
- Rough Order of Magnitude (ROM)

5.1.1. Cover Page

The cover page shall include the vendor’s name, Commercial and Government Entity (CAGE) Code (if available), NAICS, Business Size, address, primary point of contact, and status of U.S. ownership.

5.1.2. Nontraditional Status

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

- There is at least one nontraditional defense contractor or nonprofit research institution participation to a significant extent in the project.
- All significant participants in the transaction other than the Federal Government are small businesses or nontraditional defense contractors.
- At least one third of the total cost of the project is to be provided by sources other than the Federal Government.

If the vendor is not a nontraditional defense contractor (NDC) additional information is needed. Vendor shall provide the name and CAGE code information for the NDC. Additionally, the vendor shall provide what portion of the work the NDC is performing and an explanation of how the prototype would not succeed based on the portion of work performed by the NDC.

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

5.1.3. FOCI Status

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

5.1.4. Organizational Conflicts of Interest and Mitigation Plan

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

5.1.5. Sub-Vendor List

Vendor shall provide a list of all sub-vendors involved and their role within the performance of your submission as an appendix (which will not count towards the page count). The list shall include FOCI status and OCI.

5.1.6. Technical Solution Paper

Solution Paper responses should clearly address planned documentation deliverables (including format and content) and any planned demonstrations, design reviews, and management reviews. Responses shall be submitted in an executable (not scanned) Adobe PDF format and limited to no more than 12 pages, using standard 12-point Arial font. Any charts or figures are not bound by the 12-point font requirement but shall be clearly legible. A total of five-fold outs are allowed. Vendors are not permitted to use this exception to “fit” a large amount of technical data in a small table or figure to stay under the page count limit. The Cover Page, Table of Contents Sub-Vendor List, Government Desired Rights in Technical Data and Computer Software, FOCI documentation, List of Figures, IMS, CWBS, Cost and Pricing Breakdown, Acronym Definitions, and Traceability Matrices do not count towards the page count limit.

5.1.7. Technical Approach

This prototype project will focus on reducing the size and weight as well as reducing the power consumption of the Instrumentation Unit while meeting the LPIoT Instrumentation Prototype conditions.

5.1.7.1. Use Case: The following defines one use case and highlights the potential benefits of the LTE Category M1 modem standard (hereafter the radio is called the LPIoT Instrumentation Prototype):

The purpose of the LPIoT Instrumentation Prototype is to send position location and event data from the trainee to the Exercise Control (EXCON) and to send battle simulation (examples include minefield and artillery events) to the trainee. The trainee wears (puts on) the LPIoT Instrumentation Prototype which is connected to the Tactical Engagement Simulation Systems (TESS). The current instrumentation radio and battery weigh approximately 5 pounds with dimensions approximately 12 x 12 x 4 inches. Based on market research, the Government has determined that a LPIoT Instrumentation Prototype may decrease the weight by a third as well as reduce the overall size.

The trainee, while conducting training, must be under cellular coverage for the data to flow to and from the EXCON. Market research indicates the LTE has better coverage than the current system. When the trainee is using tactics and terrain to protect them from incoming fire, the LPIoT Instrumentation Prototype is more likely to maintain a data link.

The current instrumentation radio uses the LTE high bandwidth protocols. Once a radio connects to a cellular tower, it maintains the connection for 10 to 15 seconds to ensure that a cell phone user will not have a dropped call. For the Live Training environment, it takes less than a second to send data; the

other 9+ seconds are wasted airtime. Market research indicates the LPIoT is designed for small data messages. Through handling more messages during the same time period, more participants will be supported by one cellular transceiver, reducing infrastructure requirements.

5.1.7.2. Technical Objectives: To accomplish this, the LPIoT Instrumentation Prototype project will seek to address four technical objectives:

5.1.7.2.1. Technical Objective #1

Determine if the LPIoT Instrumentation Prototype will support the data rate and latency required by a range instrumentation system. Although market research and initial review of the specification indicates that it will, additional overhead such as cyber security must be tested. At a CTC, density of soldiers under a cellular sector can easily approach 2,000 which may also impact latency.

5.1.7.2.2. Technical Objective #2

Determine how the LPIoT Instrumentation Prototype range compares to normal LTE. Market research indicated the range should be equal or better. However, the live training environment has unusual conditions such as devices on soldiers on the ground and devices on huge metal objects such as tanks.

5.1.7.2.3. Technical Objective #3

Determine if the LPIoT Instrumentation Prototype will reduce the battery size/weight that a soldier must carry. Market research illustrated extended battery life using LPIoT Instrumentation Prototype in a commercial use case.

5.1.7.2.4. Technical Objective #4

Determine the size of the LPIoT Instrumentation Prototype based instrumentation unit. The commercial units identified during market research were 1/3 the size of the current Instrumented Player Unit (IPU). Ruggedization, connection to TESS, and other functions may increase the size of the final unit, however the solution should not increase the weight as the weight should be as light as possible to enable the soldier to carry it.

The Government estimates the total period of performance will be 12 months from date of award. Vendors shall include its anticipated delivery schedule to reflect its individual solutions. The delivery timeframe is estimated to be divided into the following two phases:

Phase 1 (NTE 8 Months): Design, Development, and Testing of the LPIoT Instrumentation Prototype

During Phase 1, conduct three subsystem design reviews [Information Assurance (IA), hardware (HW), and software (SW)] and a final system review with the vendor. Modify the vendor's COTS device to meet the base LPIoT Instrumentation Prototype conditions as follows:

- Provide Global Positioning System (GPS) position location as fast as every 10 seconds
- Send to the Exercise Control (EXCON) system position location updates at least every 60 seconds when in LTE coverage
- Connect to the Combat Vehicle Tactical Engagement Simulation Systems (CV TESS), Tactical Vehicle System (TVS) and Individual Weapon System (IWS) through the RS 232 interface.
- Send to the EXCON TESS events within 60 seconds of receiving them from the TESS when in LTE coverage
- Receive and pass EXCON messages to the TESS
- Provide indicator that the unit is ON; is part of the Network; has accurate GPS.
- Provide soldier safety features such as a help button
- Meet NTC and JRTC environmental conditions
- Provide method for association of the device to a training event
- Support a cloud-based EXCON

Constraints:

- The LPIoT Instrumentation Prototype unit must follow the Category M1 standard; no unique changes to support the use case that may impact usage on different networks or in different areas.
- The LPIoT Instrumentation Prototype unit will require cyber security controls.
- The LPIoT Instrumentation Prototype unit must meet or exceed International Protection Marking (IEC standard 60529) of IP 57.

Phase 1 will have three subsystem design reviews (IA, HW, and SW) and a final system review. Milestone events and Payments are tied to successful Government acceptance of each reviews. Success is determined by receipt of 95% of the messages received within five (5) minutes after the end of the training event. After final review, Phase 1 will deliver 5 Beta Instrumentation Units for testing.

Testing will occur at the Orlando area and a two-day test event at Ft Benning. The LPIoT Instrumentation Prototype unit will connect to the IDE-F EXCON.

Participants wearing TESS will maneuver through a lane in the four (4) terrain types identified in Section 7.5.2. Successful test depends on accuracy and latency of the bi-directional message flow. In addition, battery usage and ruggedness will be tested. Prior to the test, the vendor will provide a draft of the user's documentation.

At the end of Phase 1, after testing, the Government will decide if the OTA should continue to Phase 2.

Phase 2 (NTE 4 Months): Further Development and Testing of the LPIoT Instrumentation Prototype

The purpose of Phase 2 is: (1) Further development and testing of the LPIoT Instrumentation Prototype AND (2) Provide fifty (50) units to support extended user assessment and operational testing of the LPIoT Instrumentation Prototype.

Further Development and testing of the Phase 1 Beta Instrumentation Units based on the outcomes of the Phase 1 testing. The purpose of further development and testing will be to address any issues discovered with the Phase 1 Beta LPIoT Instrumentation Prototype.

Deliver fifty LPIoT Instrumentation Prototype that will use the AT&T LTE network at the NTC and JRTC. When on the network, the LPIoT Instrumentation Prototype will exchange data with the attached TESS and the CTC Instrumentation System. The instrumentation units will be distributed to Rotational Training Unit and OPFOR participants. During rotations at each NTC and JRTC, government will assess the performance of the LPIoT Instrumentation Prototype. It is expected that the vendor will spend no more than 10 days each at the NTC and JRTC to support the rotational testing.

At the end of Phase 2, the vendor will provide:

- Manufacturing cost estimate of an LPIoT Instrumentation Prototype units at the Quantity of 1,000 units.
- Expected life expectancy of the device [both meantime between failure (MTBF) and Obsolesce drivers].
- Source code for the TESS interface that was developed as part of this OTA.
- The Network / CTC-IS software interface that was developed as part of this OTA.
- List of libraries used to build the executable.
- Description of the build environment used to build the executable.
- List of hardware and or components.

- System design and wiring diagrams.
- All connection points and pin outs.
- Presentation materials.
- Design documents (e.g., trade studies, analyses).
- Test plan/procedures.
- Test report.
- User documentation.

5.1.8. Government Desired Rights in Technical Data and Computer Software

5.1.8.1. For the purposes of this RFS and final award document, the Government will use the data rights and computer software related terms defined in Attachment 5, Data Rights License Terms Definitions.

5.1.8.2. Vendor shall complete the Data Rights Assertions Tables using the format provided in Attachment 4, Data Rights Assertions Tables. The vendor's assertions, including any assertions of its subcontractors or suppliers must be submitted as an attachment to its Solution Paper. The tables must be completed in the format set forth in the attachment, dated and signed by an official authorized to contractually obligate the vendor. If additional space is necessary, additional pages may be included. There is no page limit for the Data Rights Assertions Tables and they do not count against the proposed technical solution page limitation.

5.1.8.3. The vendor shall deliver the technologies developed under this effort with Government Purpose Rights to the Government. This includes the following:

- (a) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;
- (b) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;
- (c) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;
- (d) Form, fit, and function data;
- (e) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(f) Corrections or changes to technical data furnished to the Vendor by the Government;

(g) Otherwise publicly available or have been released or disclosed by the Vendor or Vendor partners without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(h) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(i) Data furnished to the Government, under this or any other Government contract or Vendor partner contract thereunder, with—

1. Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

2. Government purpose rights and the Vendor's exclusive right to use such data for commercial purposes has expired

5.1.8.4. Commercial Computer Software

If the Government has a need for rights not conveyed under the license customarily provided to the public, the Government must negotiate with the third-party software vendor(s) to determine if there are acceptable terms for transferring such rights. The specific rights granted to the Government shall be enumerated in the license agreement or an addendum thereto.

The Government shall only have the rights specified in the license for the commercial computer software and its related commercial computer software documentation for the software listed in the tables below. The terms of any End User License Agreements apply only to the extent they are consistent with law and Attachment 6, Terms and Conditions and EULA

5.1.8.5. Rights in Noncommercial Computer Software and Documentation

The vendor(s) grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in noncommercial computer software or computer software documentation. All rights not granted to the Government are retained by the vendor. All rights in Technical Data and Computer Software are negotiable based on the vendor's proposed solution. The Government seeks Unlimited Rights to all development and

deliverables of technical data and computer software funded under the transaction agreement.

5.1.8.6. The vendor shall describe the intellectual property rights being provided to the Government in terms of technical data, both in software and hardware, clearly outlining any rights restrictions. If the proposed solution includes commercial software, copies of any applicable End User License Agreements (EULAs) must be submitted with the response. It is the Government's intent to plan for the concurrency, maintenance, and modification of the hardware and/or software using Government personnel and third-party contractors. The EULA submissions have no page limit and do not count against the proposed technical solution page limitation.

5.1.8.7. The vendor shall make a willful attempt to analyze feasible non-proprietary solutions and incorporate them when applicable to the effort. This includes, but is not limited to, software rights, data, source code, drawings, manuals, warranties, and integration efforts. The vendor shall clearly state all assumptions made during development of responses.

5.1.9. Anticipated Delivery Schedule

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

5.1.10. Cost and Pricing Breakdown

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

5.1.11. Rough Order of Magnitude (ROM)

Vendors shall provide a ROM pricing for potential follow-on production activities. Please note, the Follow-On ROM will assist in future planning efforts for potential follow-on efforts. The Follow-On ROM is not part of the evaluation.

6. RFS Response Instructions

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

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

6.3. Questions must be submitted no later than 12:00 PM EDT on 20 January 2020. Questions received after the deadline may not be answered. Questions shall not include proprietary data as the Government reserves the right to post submitted questions and answers, as necessary (and appropriate) to facilitate vendor solution responses.

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

6.4. Solution Responses shall be submitted no later than 12:00 PM EDT on 5 February 2020. Solution Responses shall be submitted electronically to initiatives@nstxl.org, with "LPIoT Instrumentation Prototype" used in the subject line. Any submissions received after this time on this date may be rejected as late and not considered.

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

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

7. Evaluation and Selection Process

7.1. Vendors are encouraged to submit a written Solution Paper. After evaluation of the Solution Paper(s) (Stage I), vendor(s) may be selected for participation in Stage II, Presentation and Demonstration, or award will be made to the most highly

qualified vendor from Stage I. The evaluators will consider both the Solution Papers and the Presentation and Demonstration (if applicable) when selecting the preferred approach(es) to achieving the Government's objectives.

7.2. 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 and total project risk. The proposed project price, schedule, and intellectual property rights assertions will be considered as aspects of the entire response when weighing risk and reward.

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

7.4. Stage I, Solution Paper

Individual responses will be evaluated with consideration given to the overall technical merit of the response and the total project risk with consideration aimed at the Technical Focus Areas referenced in 7.4.1 and the ability to satisfy the Live Collective Training conditions and fulfill all the RFS requirements. The proposed project price, schedule, and intellectual property rights proposal/assertions will be considered as aspects of the entire response when weighing risk and reward. The Vendor's focus is to describe its approach to delivering a unique prototype solution for the LPloT Instrumentation Prototype, as outlined in this RFS.

7.4.1. The Solution Paper will be evaluated, and should provide specific emphasis, based upon the following focus areas, in no order of importance. While these focus areas are of significant importance, responses will be considered as a whole.

Focus Area 1: Describe your companies experience using the LPloT standard and COTS Category M1 modems to communicate with a web-based service.

Focus Area 2: Provide your companies expected end state of the LPloT Instrumentation Prototype unit by defining anticipated size, weight, and power consumption goals, message structure and protocols and how the Exercise Control System will exchange data with the Instrumentation Unit. Provide details and evidence supporting your end state expectations.

Focus Area 3: Provide a list of LPloT Instrumentation Prototype unit functions that you expect to accomplish by the end of Phase 2. Consider how the LPloT Instrumentation Prototype will handle the tactical environment, out of LTE cellular communication situations and software updates. Provide details and evidence supporting your expectations.

7.5. Stage II, Solution Presentations and Product Demonstrations

In the event that the Government finds two or more highly qualified solutions, a down-select will occur with the most qualified vendors to provide Solutions Presentations and to conduct Product Demonstrations. The Government reserves the right to request further substantiating documentation about existing capabilities in the proposed solution. The approach outlined in this section may evolve, as appropriate, to ensure the Government can most effectively determine the best solution.

7.5.1. Solution Presentations and Product Demonstrations are anticipated to be held the week of 17 February 2020 in Orlando, FL. The specific location will be provided upon notification. Vendors selected to present and demonstrate their solution will be notified weeks prior and provided initial feedback to incorporate into their demonstrations. The Product Demonstrations will allow the vendor to further articulate its proposed solution, respond to discussion items provided prior to their Product Demonstrations, and answer further questions from the evaluation team. The demonstration phase should provide the Government the ability to see the capability proposed within your solution, as available in its current state, with the same opportunity to further articulate the solution and answer questions from the evaluation team.

7.5.2. Demonstration

Demonstrate a Category M1 modem COTS device in four terrain types: Open; Wooded; Residential; and Mobility at 50 MPH. The location of the terrain must be within 60 miles of PEO STRI. Vendors may propose the demonstration sites, but the Government reserves the right to provide an alternate site if the proposed site(s) are not suitable for the demonstration.

The demonstration requirements:

- a) Vendor provides 5 COTS devices
- b) Devices report at a 30 second update rate to the vendors website
- c) Vendor provides, for each site, a file containing all reports from the devices including device id, GPS location, time stamp that the message was created and time stamp that the message was received at the vendor's web site.

The Government will review the file for coverage and timing. The demonstration will last no more than 6 hours.

7.6. Selection Process

7.6.1. The Government will review each vendor's submittal against the criteria, with major consideration given in no specific order of importance to the technical merit (including product line quality factors such as agility and reuse), feasibility of implementation, and total project risk. The proposed project price, delivery schedule, and data rights assertions will also be considered as aspects of the entire response when weighing risk and reward. Further, the Government will evaluate the degree to which the proposed concept provides an innovative, unique – yet realistic and sustainable - approach to meeting the LPIoT Instrumentation Prototype technical capabilities and objectives.

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

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

7.6.2. The Government anticipates awarding one or more OT prototype project(s), through TReX, to the vendor or vendors that propose(s) a solution that best satisfies the Government's objectives.

7.6.3. The Government reserves the right to award to a vendor that does not meet all of the requirements but provides attributes or partial solutions of value. The Government also reserves the right to make award to the most qualified vendor following Phase I, without entering into Phase II.

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

8. Additional Information

8.1. Export Controls

Research findings and technology developments arising from the resulting proposed solution may constitute a significant enhancement to the national defense and to the economic vitality of the United States. As such, in the conduct of all work related to

this effort, the recipient will comply strictly with the International Traffic in Arms Regulation (22 C.F.R. §§ 120-130), the National Industrial Security Program Operating Manual (DoD 5220.22-M) and the Department of Commerce Export Regulation (15 C.F.R. §§ 730-774).

8.2. Interaction and/or Disclosure with Foreign Country/Foreign National Personnel

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

8.3. 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]”

8.4. Each restricted data sheet should be marked as follows:

“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this submission.”

9. Follow On Production

Upon successful completion of the prototype, the Government anticipates a follow-on production contract or transaction may be awarded to the vendor without the use of competitive procedures. Successful completion will be defined in the negotiated Statement of Work (SOW) for this prototype project. Successful completion will occur when the prototype has been validated and is accepted by the Government.

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.

10. Attachments

Attachment 1, IS – TESS Standard

Attachment 2, Security Process for Vetting Contractors

Attachment 3, Questions Form

Attachment 4, Data Rights Assertions Tables

Attachment 5, Data Rights License Terms and Definitions

Attachment 6, Terms and Conditions and EULA

Attachment 7, LPloT LTE M1_GFI__Tech_Data_Distribution_Agreement-01 Nov 19