

**Request for Solutions:
Synthetic Training Environment (STE) Live Training System (LTS)
Force-on-Force (FoF)
February 5, 2021**

1 Purpose

This Request for Solutions (RFS) is seeking to award up to \$10M in Other Transaction (OT) Agreement(s) to vendor(s) for the Synthetic Training Environment (STE) – Live Training System (LTS), in accordance with the authority of 10 USC §2371b. The Army seeks a STE-LTS that provides realistic Force-on-Force (FoF) training at unit Home Stations, maneuver Combat Training Centers, and deployed training sites (or Point of Need). To this end, the Government is pursuing OT agreements with industry to evaluate available, capable, and mature direct fire solutions (Focus Area 1) to replace current direct fire engagement training systems. The Army is also seeking a mature indirect fire training solution (Focus Area 2) and counter defilade fire solutions (Focus Area 3) into the Live Training Environment (LTE). This prototyping effort focuses specifically on filling the live training gaps of simulated FoF engagements at force-on-force sites with the primary focus on mature direct fire and indirect fire engagements, and counter defilade fire systems. As a future effort, the STE-LTS expects to have a series of additional prototyping efforts to fully address the scope and breadth of the full STE-LTS requirements, to include Force on Target training. The Government will evaluate the solutions submitted to this announcement with the intent of negotiating Other Transactions (OTs) under the Training and Readiness Accelerator (TReX) agreement.

2 Summary and Background

The Army's future training environment will consist of the STE converged with the LTS. The STE-LTS will replace current live training capabilities to include instrumentation systems, engagement simulation capabilities, and range systems at Home Stations, maneuver Combat Training Centers, and the Point-of-Need. Elements of the STE-LTS architecture, such as direct fire engagement, counter defilade and indirect fire systems will interface with the current fielded live, virtual, and constructive systems as well as evolve to enable seamless interoperability with STE enabled systems such as STE-Information System (IS). The live training engagement simulation will replicate/represent weapons lethality and accurately portray simulated battlefield effects. The desired LTS end-state archives embedded training with dual use of tactical capabilities for training through integration with actual weapon systems, Mission Command Information Systems, and virtual and constructive training environments and systems. This specific OT effort seeks to develop, test, and field mature direct, indirect fire systems and counter defilade fire to enable the next generation live training environment. Below are the key aspects of this OT:

1. Simulation of direct fire engagements with a mature more capable solution that can address I-MILES impending End of Useful Life (EUL) issues and evolve to eliminate the training realism gaps.
2. Simulation of counter defilade and indirect fire engagements to include M320/MK-19 grenade launcher and 60/81mm mortar), and surrogate weapons. The Government seeks to add these weapons into the live training environment.

3. Demonstrate the system complies with the Assistant Secretary of the Army (ASA) Acquisition, Logistics and Technology (ALT) Modular Open System Approach (MOSA). The Government seeks a modular system that leverages open commercial and Government standards to the maximum possible and consists of well-defined modules that perform functions with minimum dependency on other modules. This architecture approach provides the agility to address lifecycle issues, maintain operational relevancy and support evolution to enable STE live and synthetic convergence.
4. Demonstrate the solution can interface with fielded live training capabilities to include the range communication network, Live Training Transformation (LT2) systems and virtual, and constructive systems (see STE-LTS interface diagram).
5. Propose a technology development roadmap that will enable STE-LTS to interface with STE enabled systems and embedded training systems.
6. Simulated battle damage assessments must accurately represent munition lethality and target survivability, while remaining unclassified and adaptable to changes in lethality.

Figure 1 illustrates the interface between the STE-LTS FoF solutions and the current live training infrastructure.

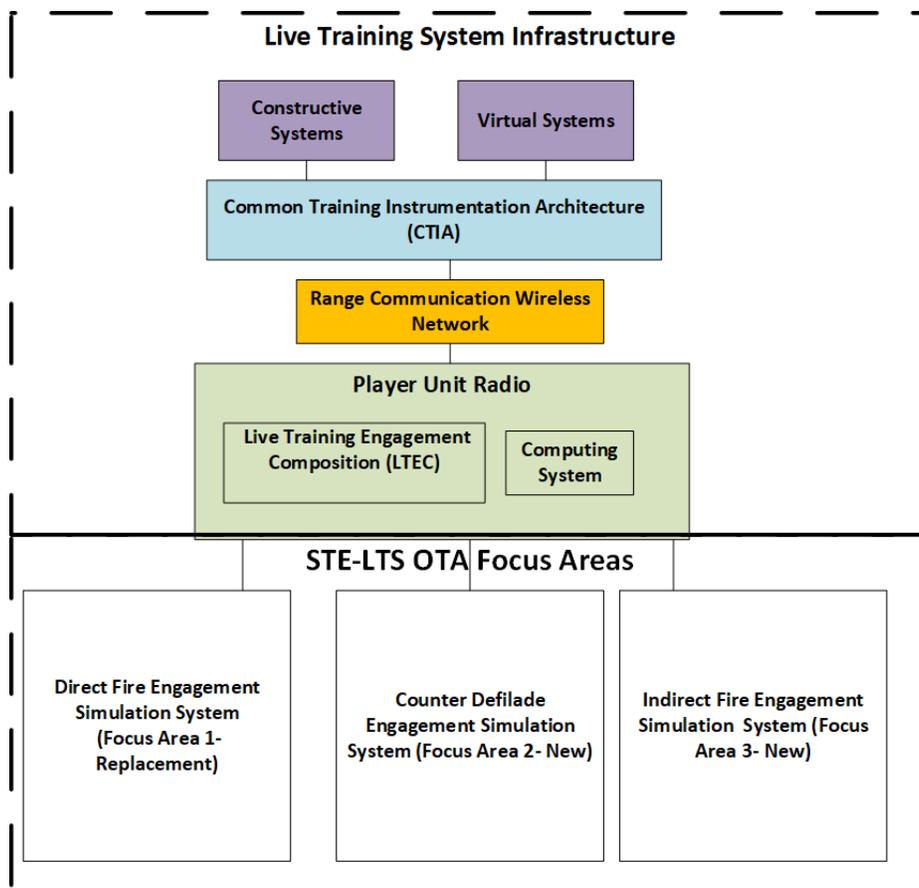


Figure 1. STE-LTS Interface Diagram

This OT's prototyping efforts will include accelerated development of the STE-LTS capabilities through an agile development approach with periodic technical and user (Soldier) based assessments to ensure development efforts are meeting user needs. The technical assessments are expected to begin as early as 1QFY22 and user assessments expected to occur in approximately 4QFY22.

3 General Information

The STE-LTS FoF Statement of Need, Attachment 1, contains a description of the technical objectives for this effort. Vendors are encouraged to challenge any assumptions or restrictive requirements in their individual solutions and should articulate any major discrepancies between the Statement of Need and their technical solution. A full list of attachments and appendices is located at the end of this document.

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/>

The cost of preparing and submitting an RFS response and, if selected, participation in the demonstration is not allowable direct charges to any Government contract or agreement awarded pursuant to this RFS.

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

4 Acquisition Approach

Vendors for the STE-LTS will be selected through a multi-phased competitive process as shown in Figure 2.

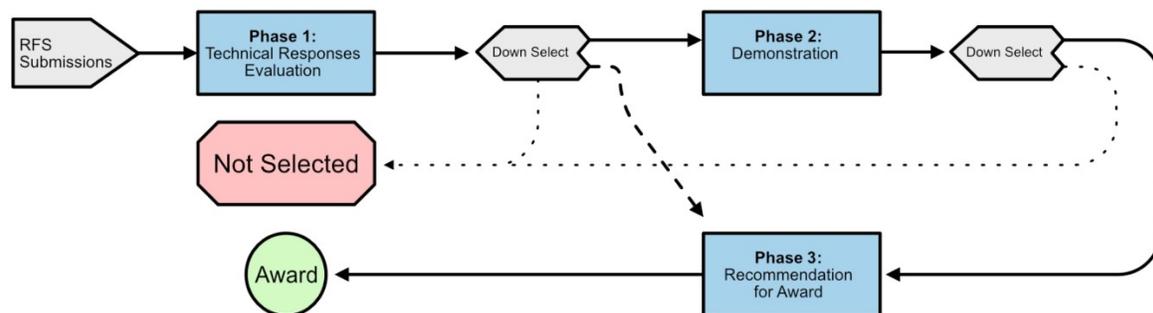


Figure 2. STE-LTS Selection Process

Vendors are required to begin the process through submission of an RFS response and, if selected, participate in the demonstration to be considered for award.

The Government reserves the right during the evaluation process to enter into negotiations and award to one or more desired vendor(s) following any Phase without entering into the next Phase.

4.1 Phase 1: Down Select #1 - Request for Solution (RFS) Evaluations

For the first phase of the acquisition approach, prospective vendors are asked to submit a description of their solutions that can replace the current direct fire training engagement system and/or introduce indirect fire and counter defilade weapons in the LTE.

Prospective vendors are asked to submit a description of the demonstration they plan to conduct with background information on their software and hardware as well as a Rough Order of Magnitude (ROM) pricing. The Government intends to select the most desired solutions to proceed to the next phase.

4.2 Phase 2: Down Select #2 - Demonstration

For the second phase of the acquisition approach, selected vendors will provide a demonstration of their capabilities. The Government will observe the solution while the vendor performs all actions. The Government will not provide any GFE or GFP to support this demonstration. The purpose of the demonstration is to provide the Government team with insight into the breadth and depth of capability that currently exists in industry with respect to STE-LTS requirements. The demonstration will take place in Orlando, FL (e.g., Big Oaks Ranch). The Government reserves the right to request additional information for purposes of clarification at any point during this process. The Government anticipates selecting the most desired vendor(s) to proceed to phase 3 based on evaluation of vendor demonstrations.

Vendors must demonstrate hardware and software solutions, at a Government selected Orlando, FL location, that will result in a mature prototype delivery in two to five years. If there is a challenge that inhibits an effective demonstration, the Government may choose by exception to allow the vendor to provide a virtual demonstration.

4.3 Phase 3: Recommendation for Award

Following the second phase, the Government will evaluate the price/cost for reasonableness and will enter pricing negotiations and collaboration on the development of Statement(s) of Work (SOW) to award this project, via TReX, to the vendor(s) whose technical solution(s) are assessed to be the most advantageous to the Government.

The Government reserves the right to request further substantiating documentation about existing capabilities in the proposed solution. Unsupported assertions will be discounted by the evaluators. The approach outlined in this section may evolve, as appropriate, to ensure the Government can most effectively determine the best solution.

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

the Government may reject the submission.

Respondents whose solutions are not selected at a down-select phase to include the final 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.

Each of the technical focus area (see STE Interface Diagram) will be evaluated separately. The vendor responses will be assessed based upon the following guidelines:

System Maturity: The Government's definition of a mature system is a system that consists of capabilities/technologies with a level of maturity to allow for realization of a rapid prototype that can start replacing I-MILES within approximately two to five years. Below are the system attributes that Government will utilize to assess a solutions maturity.

Stable: system must:

- Consistently meet performance requirements. (Note: system performance must be greater than I-MILES as stated in System Capability criteria category).
- Consists of developed ready or commonly used technologies and interface standards (Government will consider the solution overall Technical Readiness Level (TRL) assessment).

Deployable: system must include product support package to enable successful fielding (e.g., tech data delivery, packaging, handling, storage transportation and spares).

Sustainable: system must be able to operate and sustain in the field in all mission typical environments.

System Architecture: The Government is seeking solution that can integrate with fielding training systems but has ability to evolve to integrate with future training systems such as STE-IS. Below are two attributes that will be evaluated part of the criteria category

Interoperability: The solution can interface with fielded live training capabilities to include the range communication network, Live Training Transformation (LT2) systems and virtual, and constructive systems.

Modularity: The Government seeks open architecture solution that: Adhere to Modular Open System Approach (MOSA) principles (e.g., loosely couple modules, leverages open standards)

Provide maximum flexibility at both the system and subsystem levels to address I-MILES replacement/divestment due to EUL

Foster agility needed to incorporate emerging technologies to address lifecycle issues, maintain operational relevancy and support evolution to enable STE live and synthetic convergence

System Capability: The Government seeks a solution as capable or more than I-MILES system. The Government will evaluate direct fire and indirect fire proposed capabilities separately. Below are the attributes for each of the engagement type.

1. Direct Fire

- a. Accuracy & precision: system must enable realistic, accurate and precise engagement that closely replicates the weapon systems
- b. Realism: System must
 - i. Penetrate concealment and overcome obscurants
 - ii. Models effective range of the weapon
 - iii. Capable to lead a moving target
 - iv. Conducts realistic causality assessment based on the location of the hit and provide feedback to relevant participants

2. Indirect Fire

- a. Realism: System must
 - i. Conduct realistic mortar crew drill
 - ii. Conduct counter defilade gunner drill
 - iii. Provide impact data to the Government's Live Training environment which will produce casualty assessments
 - iv. Alert participants firing weapon (e.g., muzzle flash/Visual, sound/audio, concussive/tactile)
 - v. If available, alert participants on near impacts (e.g., muzzle flash/Visual, sound/audio, concussive/tactile)
 - vi. If available, enable observers to adjust the mortar or grenade point of impact
 - vii. If available, conducts realistic causality assessment based on the location of the hit and provide feedback to relevant participants
 - viii. If available, conducts battle damage assessment based on the location of the hit and provide feedback to relevant vehicles and systems

5 Government Desired Rights in Technical Data

The Army's vision for the STE- LTS is based upon an open system architecture able to incorporate the latest technologies to enable the development and integration of future live training solutions and needs. The Government anticipates the OT to result in mature prototypes

used to replace a subset of the I-MILES family of products used across force-on-force ranges starting with dismount and tactical vehicle weapon systems. Based on this assessment, the Government will make a decision to consider moving to a follow-on production acquisition. The OT awardee(s) should provide general purpose rights (GPR) that allow the Government to use, modify, reproduce, release or disclose the technical data or computer software within the **Government** without restriction and outside the **Government** for a **Government purpose**. Other potential intended uses include unrestricted development and capability insertion to facilitate conversion into STE and support a cost-effective sustainment model that reduces the total ownership costs. To enable this, the Awardee should deliver the following technical data rights for prototypes developed under STE-LTS OTs:

1. Unlimited rights for all architectures and interfaces between the solution and the live training environment.
2. Government purpose rights to all co-developed and deliverables of technical data, computer software, and computer software documentation funded under the transaction agreement, for at least a five-year period starting at contract award. Upon expiration of the five-year period technical data, computer software, and computer software documentation will become unlimited rights.
3. Prime and sub-vendors proprietary software coding or hardware development (to include vendor licensing requirements) should not be included without prior Government approval.

Vendor responses should clearly describe the offered rights for technical data and computer software that will be delivered with your solutions, using Attachment 5, Data Rights Assertion List. The offered rights 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 limited or restricted rights are being asserted within your response, detail the specific rationale for this assertion within the technical volume (and within the price volume include a table that prices Government Purpose Rights, or Unlimited Rights, as applicable, for any such limited or restricted item). Any items previously developed with federal funding should clearly identify all components and the Government entity to whom the items were delivered. If commercial software is proposed as part of the prototype solution, all applicable software licenses required for Government use of the solution must be included with the response. While it is the policy of the Government to acquire commercial software using the licenses customarily provided to the public unless such licenses are inconsistent with Federal procurement law or do not otherwise satisfy Government needs, most commercial licenses are inconsistent with Federal law and do not satisfy the Government's needs. The United States Army has release authority on any publications related to this prototype project.

The following definitions apply to this section.

1. *Government purpose rights* means the right to use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and 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 means, in part, that the technical data could be released to other Government contractors and prospective Government contractors as part of a future competition. The five- year period, or such

other period as may be negotiated, would commence upon execution of the Other Transaction Agreement that required development of the items, components, or processes or creation of the data. The Vendor 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 this five-year period. Upon expiration of the five-year or other negotiated period, the Government would receive unlimited rights in the technical data and computer software.

2. *Unlimited rights* are defined as rights 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.
3. *Limited rights* are defined as 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—
 - a. The reproduction, release, disclosure, or use is—
 - i. Necessary for emergency repair and overhaul; or
 - ii. 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;
 - b. The recipient of the technical data is subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and
 - c. The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.
4. *Restricted rights* apply only to noncommercial computer software and has the meaning included in Defense Federal Acquisition Regulation Supplement 252.227-7014(a) (15).

6 Request for Solutions Response Instructions:

The Government is prepared to make multiple awards as a result of this RFS.

Vendors' OT submissions shall henceforth be referred to as "Solution Responses".

All questions related to this RFS must be submitted utilizing the Vendor Questions Form provided in Attachment 4 via email to initiatives@nstxl.org, with "STE-LTS FoF Vendor Questions" in the subject line or by using SLIDO, code STELTSIND. Questions must be

submitted no later than **12:00 PM Eastern Time on February 12, 2021**. Submitted questions will be posted without identifying vendor names. Questions received after the deadline may not be answered. Questions must 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. Solution Responses must be submitted no later than **12:00 PM Eastern Time on March 5, 2021**. Solution Responses must be submitted electronically to initiatives@nstxl.org, with “STE-LTS FoF” used in the subject line. Any submissions received after this time on this date may be rejected.

Vendor’s final solution response(s) must be valid for at least 365 days after submission.

6.1 Volumes

Solution Responses must contain separate technical and rough order of magnitude (ROM) pricing volumes. No pricing details may be included in the technical volume. Each volume must include the following:

1. Volume 1 – Technical

- a. Administrative Information (excluded from the page count)
 - i. Cover Page
 - ii. Data Rights Proposal and Assertions
 - iii. Foreign Owned, Controlled or Influenced Mitigation (FOCI) Documentation (if applicable))
 - iv. Summary of Subcontractors
- b. Development Schedule (excluded from the page count)
- c. Safety Release Information (excluded from the page count)
- d. Demonstration Plan (excluded from the page count)
- e. Technical Approach
- f. Assumptions

2. Volume 2 – Rough Order of Magnitude (ROM) pricing

- a. Cover Page
- b. ROM overview

6.2 Format

Solution Responses must be submitted as a PDF document, with Vendor name listed as the first part of the file submission, in the following format, “Company X – STE-LTS FoF – Focus Area X or COMP.” ROM submissions must also be submitted in an Excel 2013 compatible document.

Submissions will utilize standard 12-point Times New Roman fonts throughout their document, except in charts and figures. 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 Administrative Information section does not count towards the page count limit.

6.3 Multiple Solutions

Offerors are permitted to submit solutions for multiple Focus Areas in one Solution Response. Administrative Information should only be listed once in a Solution Response unless each Focus Area requires specific information.

6.4 Page Count

Each Technical Focus Area solution has a maximum page count of 7 pages, for up to a maximum page count of 14. The Administrative and Developmental Schedule sections do not count towards the page count limit.

6.5 Volume Content

Prospective vendors are advised that a Non-Government support contractor from The MITRE Corporation may participate as advisors in the evaluation process. To avoid any conflicts of interest, all non-Government advisors will have signed Non-Disclosure Agreements (NDAs) with the Government prior to working this effort. Such companies have been restricted from submitting responses to any current or future STE opportunities.

6.5.1 Volume 1 – Technical

6.5.1.1 Administrative Information

1. The cover page must include the name, Commercial and Government Entity (CAGE) Code (if available), address, primary point of contact, Business Size, Facility Clearance Level and status of U.S. ownership for the vendor and all subcontractors. The NAICS code for this effort is 541715,
2. The overarching cover page must identify all Technical Focus Areas being addressed in the proposal.
3. The cover page must explicitly specify one of the following options:
 - a. There is at least one nontraditional defense contractor or nonprofit research institution participating to a significant extent in the project.
 - b. All significant participants in the transaction other than the Federal Government are small businesses or nontraditional defense contractors.
 - c. At least one third of the total cost of the project is to be provided by sources other than the Federal Government.

Vendors must clearly outline how the eligibility requirements of an OT (as specified under [10 U.S. C. § 2371b](#)) are met within their response. The onus for proof that the Solution Response meets the conditions for award lies with the submitting vendor.

6.5.1.2 Foreign Owned, Controlled or Influenced (FOCI)

Any vendor that is a Foreign Owned, Controlled, or Influenced (FOCI) company that does not have their FOCI mitigated by the Defense Counterintelligence and Security Agency (DCSA) and who does not possess an approved SECRET Facility Clearance

Level (FCL) by submission deadline of the solution response cannot serve as a Prime in any Agreement awarded pursuant to this RFS.

6.5.1.3 Subcontractors

Provide a list of all subcontractors involved and their role within the performance of your submission as an appendix to your technical submission. The list must include the same information as requested for FOCI above, excluding nontraditional business status.

6.5.1.4 Technical Approach

The Vendor's focus in this section is to describe its approach to delivering a mature prototype solution for the STE-LTS, as outlined in this RFS. The response should provide specific emphasis on the below Technical Focus Areas. This section must include the proposed development schedule from contract award to final prototype assessment.

6.5.1.4.1 Technical Focus Areas

For all the Technical Focus areas, the vendor must provide/include the information below:

1. Which weapon engagement(s) is being prototyped?
 - a. Direct Fire:**
 - i. M4 (Dismount) and
 - ii. M240 (shoot as dismount but needs to mount on a vehicle for demonstration)
 - iii. Shoulder Launched Munitions (SLM)
 - b. Counter Defilade Fire:**
 - i. M320
 - ii. MK-19
 - c. Indirect Fire:**
 - i. Mortar (81mm and/or 60mm)
2. The vendor's assessment of the technology maturity and readiness of the components in the vendors proposed solution (state if the solution prototype have been fielded in environment similar to U.S. Army live training condition). The vendor must also provide the Technology Readiness Level (TRL) rating of the overall system.
3. A conceptual diagram and reference architecture of the system and describes how the system complies with DoD/ASA-ALT Modular Open System Approach principles. Vendor must describe system modularity, openness (use existing commercial or Government standards) and ability to evolve to integrate with STE enabled systems (e.g., IVAS, OWT, STE-IS).
4. Describe how the system can seamlessly interoperate with the live training

infrastructure to include LTEC, range communication network, CTIA and virtual and constructive (See STE-LTS interface diagram).

5. Describe how the system can evolve to seamlessly enable interoperability with STE enabled systems such as STE-Information System (IS).
6. How the system operates; the physical (size, weight, connections) and operational characteristics (run-time, power, and inputs to operate, calibration needs) of the system it integrates with Soldier systems and equipment.
7. Network and enabling system requirements and scalability to include messages, actions, and data flows for all steps in the engagement from target acquisition through trigger pull and ballistic impact to Soldier notification of the effect (catastrophic kill, wounded, mobility kill). This includes how the system operates in degraded or disconnected network state.
8. The vendor must describe how their solution addresses cybersecurity risks and certifications.
9. How the proposed solution is not affected by extreme temperatures, magnetic fields, shock and vibration from weapon blank firing and tracked/wheeled vehicles and Soldier use.
10. Any Government or 3rd party products required for the effects to occur.
11. How the proposed solution poses no hazards or safety risks.
12. Has the proposed solution been satisfactorily supplied to an agency under current or recent contracts for the same or similar requirements?
13. Has the proposed solution received any safety confirmations?

6.5.1.4.1.1 Focus Area 1 – Direct Fire Engagements

In addition to above, for Technical Focus Areas 1, the vendor must:

1. Describe how your solution simulates burst or rapid-fire engagements with small arms weapons commensurate with actual weapon system.
2. Describe how your solution improves accuracy, fidelity, and realism as compared to the current I-MILES solution.
3. Describe how your system architecture at both the system and subsystem levels will provide maximum flexibility to the Government to address I-MILES replacement/divestment due to EUL. Provide high level summary on your perspective on the optimal approach to phase in direct fire engagement assets in manner that mitigates EUL risks.
4. Describe how your system simulates Soldier Launched Munitions (SLM).
5. Describe how your system maintains alignment with weapon boresight between calibrations and how often calibration is required.
6. Describe how your system models a realistic engagement that can:

- a. penetrate concealment
 - b. overcome obscurants
 - c. identify location of impact to enable a realistic casualty assessment based on the hit location
 - d. lead moving targets and models ballistics
 - e. model the effective range of weapon(s) with minimum impact by environmental factors such as darkness, haze, temperature, and solar radiation
 - f. provide a high-fidelity lethality and vulnerability model (catastrophic kills, non-catastrophic kills, cumulative damage, reactive armor, etc.)
7. Describe the simulated shooter and target weapon platforms to include ground combat and tactical vehicles, air platforms, shoulder-launched munitions, and dismount systems modeled by your solution.
 8. Describe the data that your solution will send to the live training network, enabling both target awareness and assessment.
 9. Describe Size Weight and Power (SWaP) requirements within your solutions.
 10. Describe how your solution's components communicate with each other. (RF / IR / cable / etc.)
 11. Describe weapons effects signatures provided by your solution.
 12. Describe any limitations to your solution such as number of players, ammunition types, etc.
 13. Describe previous training uses, number of kits produced, and history of testing if any.

6.5.1.4.1.2 Focus Area 2 and 3 – Indirect Fire and Counter Defilade Fire Engagements

For Technical Focus Areas 2 and 3, the vendor must provide:

1. How the system can affect other entities within the munitions' area of effect;
2. How does/could your system render battlefield effects for each live training participants to include shooter, target, and observer participants?
3. How does/could your system integrate with digital fire control systems (e.g., Advanced Field Artillery Tactical Data System (AFATDS))?
4. For counter defilade, describe your current solutions to include weapon orientation and round type.
5. Describe the data that your solution will send to the live training network, enabling both target awareness and assessment.
6. How the system can affect other entities within the munitions' area of effect.

7. For mortars, describe which weapon system(s) you currently have a solution for.
8. For mortars, describe how your solution obtains: tube orientation, round type, fuse setting, and charge.
9. How the proposed solution can be seen, felt, and /or heard by observers of the engagement in real time.
10. Describe how your solution's components communicate with each other. (RF / IR / Cable / etc.)
11. Describe how your system conducts realistic battle damage and casualty assessment results that accurately represent munition lethality and target survivability and takes counts of occlusion and protective measures.

6.5.1.5 Safety Release Information

Vendors must provide Safety Release supporting documentation and information to include:

1. System Description: Provide system description to include a list of all equipment that may be used by Soldiers. This should include a description of system's purpose as well as the physical characteristics (e.g., weights, measurements, etc.).
2. Use: Describe how your system will be used or operated by the Soldier for execution of the demonstration events.
3. Manuals/Training: Provide the type of instruction the Soldiers will receive prior to operating the equipment.
4. Will Field Service Representatives (FSRs) be on-site for the duration of the event?
5. Will the Soldiers be provided manuals (commercial or military) for the equipment?
6. Past data: Provide any historical test data that's available on your system.
7. Safety Assessment Report (SAR): Provide a Safety Assessment Report (SAR) created by the OEM or LCMC Safety Office. In lieu of a SAR, provide a description of any known or potential hazards to Soldiers.

6.5.1.6 Assumptions

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 must outline within their technical volume, and describe why the change is needed to realize the benefit of the vendor's prototype (and potential production).

6.5.1.7 GFI/GFE/GFF

Vendors must provide a list of all Government Furnished Information (GFI) / Government Furnished Equipment (GFE) / Government Furnished Facilities that the vendor believes is critical to enable development and demonstration of prototypes.

The response must specify the need, including type, quantity, and amount of time the GFI / GFE / GFF is required. The Government cannot guarantee that all GFI / GFE / GFF requests can/will be accommodated.

6.5.2 Volume 2: Rough order of magnitude (ROM) pricing

For Volume 2 - ROM, the vendor must:

1. The cover page must include the name, Commercial and Government Entity (CAGE) Code (if available), address, primary point of contact, and status of U.S. ownership for the vendor and all subcontractors. The cover page must include the Technical Focus Area being addressed.
2. Vendors must submit a fixed price ROM for its prototype solution. If a vendor chooses to propose a solution for more than one Technical Focus Area, each solution's ROM must be broken out separately.
3. A ROM is required for all efforts which support the proposed delivery schedule and which satisfy the Statement of Need and RFS requirements. The ROM response should provide the appropriate overview to allow the Government the ability to track between the proposed ROM pricing structure and the Technical Volume.
4. Provide a ROM for 1,000 / 10,000 / 100,000 Force on Force integrated, ready to use sets for direct fire training solutions.
5. Provide a ROM for 50 / 500 Force on Force integrated, ready to use sets for mortar training solutions.
6. Provide a ROM for 50 / 500 Force on Force integrated, ready to use sets for counter defilade fire training solutions.

7 Evaluation and Selection Process

The Government reserves the right during the evaluation process to enter into negotiations and award to one or more desired vendor(s) following any Phase without entering into the next Phase.

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

Respondents whose solutions are not selected at a down-select phase to include the final 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 Government will review each vendor's submittal against the criteria outlined in this section, with equal importance to the system maturity, system architecture, system capability, and total project risk.

Phase 1: The Government will evaluate vendor responses against the three criteria categories as described in the guidelines in section 4:

1. System Maturity
2. System Architecture
3. System Capability

The Government will select the most desired solutions to move the demonstration phase.

Phase 2: The Government will evaluate vendor solution based on its ability to meet the demonstration objectives.

The Government will select the most desired solution based on the demonstration performance to move to the award decision phase.

Phase 3: The Government will finalize the evaluation of the vendor solutions. The Government will consider vendor solution performance during demonstration events and all other material provided.

The proposed project ROM, delivery schedule, and data right 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 STE-LTS requirements. Unsupported assertions will be discounted by the evaluators. Technology Readiness Levels will be considered when weighing the benefit of the solution.

The Government reserves the right to hold in-depth exchange(s) with individual vendors throughout the evaluation process to ascertain capability and potential of submissions.

Each of the technical focus areas outlined in this document will be evaluated separately. The vendor responses will be assessed based upon the following guidelines:

An evaluation will be performed incorporating information from vendor responses, demonstrations, and Soldier feedback as to the solution maturity, capability, architecture and total project risk. The Government may also evaluate the price/cost for reasonableness to determine whether the estimated proposed price/cost elements are reasonable for the work to be performed. The Government may also evaluate the price/cost for reasonableness to determine whether the estimated proposed price/cost elements are reasonable for the work to

be performed. The Government will enter pricing negotiations and collaboration on the development of Statement(s) of Work (SOW) to award this project, via TReX, to the vendor(s) whose solution are assessed to be the most advantageous to the Government.

The Government reserves the right to request further substantiating documentation about existing capabilities in the proposed solution. Unsupported assertions will be discounted by the evaluators. The approach outlined in this section may evolve, as appropriate, to ensure the Government can most effectively determine the best solution. After Solution Demonstration, the Government reserves the right to request further substantiating documentation about existing capabilities in the proposed solution.

If a vendor has a solution to demonstrate that cannot be effectively accomplished at a Government selected location in the Orlando, FL area, the vendor will be allowed to provide a virtual demonstration. Assessment of risks is subjective. If the risk is obvious or the schedule seems overly aggressive, the Government will consider this in the total risk assessment. Vendors are responsible for identifying risks within their submissions, as well as providing specific mitigating solutions. If sufficient validation of the proposed information is not provided, the Government may reject the submission.

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 Foreign Country/Foreign National Personnel

The Vendor should comply with foreign interaction and 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 Submission Classification

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]”

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 Anticipate Program Schedule

The total length of this project is not to exceed 12 months. The STE-LTS team will make the final assessment of each vendor prototype solution for potential transition to a future production acquisition for final system integration and fielding. The Government anticipates the following reviews will be necessary and should be included, at a minimum, in the proposed development schedule:

9.1 Initial Stakeholder Meeting

The Vendor will host an Initial Stakeholder Meeting within thirty (30) calendar days of agreement award. At the meeting:

1. The Government and Vendor will review the proposed/revised program schedule.
2. The Vendor will provide an overview for the effort.
3. For the Final Prototype Assessment, the Vendor will discuss tentative spectrum, shipping, storage or schedule issues.
4. The Government and Vendor will discuss risks for the project.
5. The Government and Vendor will discuss any GFE/GFF/GFI requirements.

9.2 Design Review

The Vendor must provide the selection of hardware, general design, network demand attributes, realistic simulation engagement, and definition of the system functional architecture, to include the ability to scale and provide key event data to an information system (for situational awareness, real-time exercise control, and After-Action Review). At the Design Review, the Government and vendor will review risks, issues and discuss final prototype assessment test objectives and scenarios. Additional topics will include Cybersecurity, Production, Logistics, Sustainment, as well as HW and SW architecture. This event is anticipated to occur no later than (NLT) 90 calendar days after award, though vendors can propose alternative review dates as appropriate for their unique solutions. Review interval and quantity will be based upon the period of performance and agreed upon at the Initial Stakeholder Meeting. This event will be a payment milestone.

9.3 Safety Release

In accordance with Army Regulation 73-1, Test and Evaluation Policy, 8 June 2018, the Army Test and Evaluation Command (ATEC) must issue a Safety Release before the start of training, testing, maintenance, or demonstrations that use Soldiers as participants. The

vendor may be requested to furnish technical documentation about the system and how it will be used during the demonstration. This information will support an ATEC safety hazard assessment and establishment of control measures that will minimize risk to the Soldier and equipment during the demonstration.

9.4 User Assessments

The Vendor must conduct User Assessments with the Government to provide feedback on the prototype as it is developed. The Government will perform training effectiveness assessments during the User Assessments to inform Vendor design and performance trade-offs. The Government will provide additional information regarding the content and methodology of the training effectiveness assessments in the build up to the User Assessments. The Vendor will conduct User Assessments at the Vendor's facility on a quarterly basis, as established in the schedule. This event will be a payment milestone.

9.5 Test Readiness Review

Used to assess a vendor's readiness for testing configuration items, including hardware and software. They typically involve a review of lower-level test products and test results from completed tests as well as look forward to verify the test resources, test cases, test scenarios, test scripts, environment and test data have been prepared for the next test activity. This event is anticipated to occur no later than four weeks before Final Prototype Assessment.

9.6 Final Prototype Assessment

At the end of the OT development process, products will be subject to a Final Prototype Assessment (FPA), where they will be evaluated operating in a field environment with Soldiers performing live training tasks during daytime operations. The FPA is anticipated to take place between June – July 2022, though vendors can propose alternative FPA dates as appropriate for their unique solutions. This event will be a payment milestone.

9.6.1 Lanes

The FPA will be split into multiple separate events, or "lanes", that evaluate systems against the Technical Focus Areas. Each lane will have a separate set of evaluation criteria, which will be jointly developed by the Government and vendor in support of the Design Review. For each weapon system, the vendor must demonstrate end-to-end engagements between shooters, targets, and – if the solution supports – observers. Observers are exercise participants capable of detecting the engagement; such as Soldiers outside a mortar burst area that can see the burst.

9.6.2 Location

The FPA location will be at a CONUS Army installation. The FPA scenarios will occur in appropriate terrain at installations TBD with live training ranges. Government initial planning/expectations are that the vendor will have 5 days (one day for setup and three days to conduct the FPA and one day to tear-down). If more time is required, that may be requested.

9.6.3 Network

The FPA may take place in a location with an unknown commercial cellular coverage

availability. The Government will not provide any system support equipment other than what may be available at potential CONUS Army installation locations with existing HITS or CTC. It is the vendor's responsibility to coordinate for approval to use any non-commercial spectrum. This prototyping project does not require the use of any tactical networks.

10 Follow-On Production

This project is being conducted to identify advanced, mature and low risk FoF solutions that can transition to production and deployment phase. Future integration work awarded through this OT is possible, depending on the vendor's proposal and certain milestone/gates being met throughout the period of performance. The Government reserves the right to move to a one-time production run contract if the vendor successfully completes the objectives within the project, successful validation of the user assessment for the technical objectives as outlined in the individual vendor's statement of work. Multiple user-centric assessments, combined with continuous refinement of the selected solutions are expected during the period of performance as the Government learns more about the available technology.

11 Attachments

1. STE LTS OT Statement of Need
2. Demonstration Objectives
3. Technical Readiness Level (TRL)
4. STE-LTS Vendor Question Form
5. Data Rights Assertion Tables
6. Data Rights License Terms Definitions
7. Terms and Conditions