1. Purpose

This Request for Solutions is issued to identify a unique solution for an Accelerated Vehicle Durability Testing (AVDT) Drivetrain Simulator. The Government will evaluate the solutions with the intent of negotiating an Other Transaction Agreement under the Training and Readiness Accelerator (TReX).

2. Summary and Background

2.1 The Army requires a drivetrain simulator to test heavy vehicles, with four or five axles and weighing from 23,000 to 80,000 lbs, which can be utilized to estimate the reliability of the vehicle system.

The Army desires to develop a Heavy Vehicle Durability Simulator System, as part of the Accelerated Vehicle Durability Testing (AVDT) program, to include both a chassis simulator and a drivetrain simulator, to accelerate wheeled vehicle reliability and durability testing. Testing will be accelerated four to five times, significantly shortening test durations. This capability supports Department of Defense (DoD) directives to integrate modeling and simulation tools into acquisition development and testing. The ultimate goal is to streamline vehicle acquisition by quickening and improving assessments of vehicle system durability and reliability. The project focuses on stressing high risk chassis and powertrain components on heavy, multi-axle wheeled vehicles, but also extends to reliability of all on-board subsystems such as electronics.

This effort will acquire the drivetrain simulator, with the chassis simulator being acquired under a separate effort.

The Drivetrain Simulator will test entire vehicle powertrain, including the powertrain mounting structures. The powertrain components will rotate under power with transient loading. The capabilities being prototyped under this effort do not currently exist.

2.2 Vendors interested in responding to this Request for Solutions must be members of the Training and Readiness Accelerator (TReX).

3. Requirements

3.1 Attachment 1, AVDT Drivetrain Simulator Technical Supplement – dated 1 October 2018: Baseline Government specifications of this prototype based on assumptions of the current state of technology. Vendors are encouraged to challenge these assumptions in their individual solutions and should articulate any major discrepancies between this technical supplement and their technical solution.

The Technical Supplement Section 2.1.1 lists the Key Performance Parameters (KPPs) and Key System Attributes (KSAs). The minimum KPPs and KSAs are the critical requirements to consider for the simulator design. The other technical requirements listed in sections 2.1.2 through 2.1.16 of the Technical Supplement are additional desired attributes of the simulator system. The government would like the proposed solution
to be based primarily on the critical system attributes as described in section 2.1.1 of the Technical Supplement. The other technical requirements, if not required to satisfy the critical system attributes, should be provided as options to the base simulator system. The government understands that the environmental enclosure option specified in section 2.1.16 could cause a large cost difference in the vendors bid. This is not a critical requirement for the Drivetrain Simulator, but the government would like to have this provided as an option to the base simulator system.

3.2 The drivetrain simulator prototype project will be completed in two phases:

Phase I, the prototype design development period, is estimated to take up to 12 months to complete after the Other Transactions (OT) award. The vendor will perform periodic reviews and/or demonstrations to show prototype development progress.

Phase II, the operational evaluation period, will take approximately 12 months to complete. The vendor will demonstrate prototype capabilities in an operational environment, and the vendor will also provide support during Government operational testing.

3.3 The Government may choose follow-on production contract or a transaction may be awarded to the Vendor for this effort without the use of competitive procedures if the participants in this transaction successfully complete the prototype project as outlined within this document. A follow-on effort is anticipated to involve the potential requirement for system upgrades, system refresh and sustainment support.


It is the Government’s desire to receive government purpose rights (GPR) to all development and deliverables of technical data funded under the Other Transaction, for at least a five year period. The five-year period, or such other period as may be negotiated, would commence upon execution of the Other Transaction that required development of the items, components, or processes or creation of the data. 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.

The Government requires rights to the system that will allow the additional design / development, modification and repair. All design data used for interface and integration of hardware/software components shall be provided to the Government, if any. This applies to government funded developmental items only; not Commercial Off the Shelf (COTS) items.
An example of data collection files can be provided through AMERDEC upon request through contracting, Cathy Jordan, mary.c.jordan46.civ@mail.mil or Brian Serra, brian.d.serra.civ@mail.mil

4.0 RFS Responses:

4.1 The Vendor’s proposed solution should describe their approach to delivering both a 4 and 5 axle unique solutions for the AVDT Drivetrain Simulator, as outlined in Paragraphs 2 and 3 above, with specific emphasis on the following focus areas. Focus areas for the RFS will include the performance specifications of the simulator, demonstrated capability, and the vendors past performance on comparable projects. The performance specifications will focus on the contractor’s ability to meet the key performance parameters of simulator weight capacity, number of vehicle axles, overall system power, and simulation frequency bandwidth. While these focus areas are of significant importance, responses will be considered as a whole.

4.2 Please provide a red-lined copy of the Attachment 1 Technical Supplement as an appendix to your technical submission.

4.3 Please ensure any assumptions made are clearly stated in your response.

4.4 Your response should clearly outline the appropriate rights in the technical data that will be delivered with your solutions, as well as understanding that the US Army has release authority on any publications related to this prototype project.

4.5 Sustainment and Follow-On Activities:

Sustainment will be managed throughout the verification process of the simulator system by the vendor. After successful completion of the prototype project, the system will be maintained by the Army Test and Evaluation Command (ATEC).

a) The Vendor needs to provide all necessary support documentation for the operation and maintenance of the system at the conclusion of the prototype project evaluation period. Drafts of the documents need to be delivered before the evaluation period begins. In addition, the Vendor needs to provide an initial spares package upon delivery and acceptance of the prototype.

b) The Vendor needs to provide familiarization and training on system operation and maintenance, prior to delivery of the prototype system. The Government envisions that training needs to be conducted at the simulator site with provisions for class sizes of 6 to 10 participants and not to exceed two classes.

4.6 Anticipated Delivery Schedule: Vendor shall include the anticipated delivery and demonstration schedule to reflect a phased approach. The vendor’s schedule should also include the following events:
4.7 Proposed Pricing and Milestone Payments: Vendors will submit a fixed amount price for their solution, further divided into severable milestone payments. Your pricing submission shall be submitted in a separate document with no pricing detail provided in the technical response. There is no limit to the page length for the pricing submission.

4.7.1 Pricing and Milestone Payments should also include training on the use of the system at the conclusion of the prototype project as well as the delivery of an initial spares package at the conclusion of the operational prototype evaluation period.

4.8 Provide your nontraditional* business status or your ability to meet the eligibility requirements of 10 U.S. Code § 2371b on the cover page of your response. Within your response, please check the following box which applies – with appropriate justification if applicable.

- There is at least one nontraditional* defense contractor or nonprofit research institution participating to a significant extent in the project.
- All significant participants in the transaction other than the Federal Government are small businesses 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.

*Nontraditional – an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by the Department of Defense (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. Code § 1502 and the regulations implementing such section.

4.9 In addition to your nontraditional business status, the cover page of the response will also include the company name, Commercial and Government Entity (CAGE) Code (if available), address, and primary point of contact including phone number and email address.

4.10 All questions related to this RFS should be submitted in writing to initiatives@nstxl.org, with “AVDT Drivetrain Simulator” used in the subject line. Questions must be submitted no later than 12:00 PM EST on October 10th, 2018. 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.

4.11 Responses will be submitted no later than 12:00 PM EST on November 16th, 2018. Your response should be submitted electronically to initiatives@nstxl.org, with “AVDT Drivetrain Simulator” used in the subject line. Any submissions received after this time on this date may be rejected as late and not considered.

4.12 Technical responses shall not exceed 30 pages in length, utilizing standard 12-point font. Charts or figures directly relevant to the solution may be referenced and
submitted as appendices and are not bound by the 12-point font requirement or page count. Any pages submitted outside of this page length requirement, outside of standard charts and figures, will not be reviewed. Cover page does not count towards page count.

4.13 Your submissions shall be submitted as a PDF document, with your company name listed as the first part of the file submission. (e.g. “Company X – AVDT Drivetrain – Technical or Pricing”)

5.0 Selection Process

5.1 Individual responses will be evaluated with consideration given to the 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. The Government will evaluate the degree to which the submission provides a thorough, flexible, and sound approach in response to the identified focus areas in Paragraph 4.1 as well as the ability to fulfill the requirements in Attachment 1, AVDT Drivetrain Simulator Technical Supplement.

5.2. The Government will award this project, via TReX, to the respondent(s) whose solution substantiates that it is the most advantageous to the Government in terms of, cost, schedule, technical risks and other factors considered. The Government reserves the right to award to a respondent that does not meet all of the requirements, but provides attributes or partial solutions of value, of the Request for Solutions.

5.3. If sufficient validation of the solution is not provided, the Government may reject the submission. Assessment of risks is subjective. If the risk is obvious or the schedule seems overly aggressive, the Government will consider that in their total risk assessment.

6.0 Additional Information

6.1 The costs of preparing and submitting a response is not considered an allowable direct charge to any government contract or agreement.

6.2 Export controls: [This requirement was removed on Amendment 1 to the RFS.]

6.3 Interaction and/or Disclosure with Foreign Country/Foreign National Personnel. The vendor should comply with foreign disclosure processes IAW 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.

6.4 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]"

6.5 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.”