Approved for Public Release

HDTRA1-22-S-0003
Research and Development Innovations Broad Agency Announcement
As of Amendment 1
Addendum 2— Monitoring, Verification, and Arms Control

1. ADDENDUM INTRODUCTION
1.1. This addendum serves to supplement the Defense Threat Reduction Agency's (DTRA) Research and Development Innovations Broad Agency Announcement (BAA), HDTRA1-22-S-0003. This research opportunity expands on the Research & Development thrust area of "understand current and emerging WMD situations, threats, and capabilities". This addendum is open and in effect from 7 January 2025 (starting with date of posting) through 4 February 2025 (the final date for Phase I submissions).

2. BACKGROUND
2.1. In this addendum, DTRA's Research and Development Directorate seeks to identify performers that can provide research, development, testing, and evaluation (RDTE) activities to support monitoring and verification activities, emerging technologies for arms control, and crowd-sourced artificial intelligence (AI) for detection. The desired RDTE will be those relevant to future monitoring and verification capabilities and to the nuclear explosion monitoring community.

3. OBJECTIVES
3.1 This effort is focused on assessing available capabilities for research, development, test, and evaluation (RDTE) activities to support current requirements for use in specialized Department of Defense (DoD) applications. Responding performers are encouraged to provide specific details on their capabilities and expertise.

3.2. As BAA responses are assessed based on specific capabilities, DTRA may conduct follow-on engagements and in some cases on-site visits with performers to discuss specific R&D objectives.

4. TECHNICAL AREAS OF INTEREST
4.1. DTRA is interested in RDTE at Technology Readiness Levels between two (2) and five (5) in the below technical areas of interest. Performers who demonstrate capabilities in the following will be considered:

4.1.1. Application of AI, ML, and computer-vision techniques to support detection activities specifically related to future arms control and nuclear explosion monitoring for use in specialized defense applications. Proposed RDTE may have dual-use applications.

4.1.2. Monitoring, Verification, Certification, and Authentication Emerging Technologies. Capabilities may include: requirements development and analysis for future arms control; design analysis of relevant equipment and systems; equipment and component testing of relevant items; implementation analysis; system testing, integration, verification, and validation; analysis of inspection processes and procedures relevant to arms control; functional analysis; and performance analysis. Previous experience and expertise in this area is required; offerors should describe past experience.

4.1.3. Distributed-sensing data collection capabilities to include: Leveraging of relevant data collection from existing crowd-sourced methods and distributed sensor systems, to include distributed acoustic sensing, fiber-optic capabilities, and multiple inputs to RDTE equipment used in or under consideration for existing or future arms control activities, treaties, and agreements. Leveraging of existing systems is preferred. The development of new software is not anticipated.

4.1.4. Application of InSAR to explosive yield and depth of burial determinations. This topic will develop fast-running codes to rapidly calculate explosive characteristics. Developed computational models will be calibrated and verified using historical field-collected elevation profiles and 2-D surface data. The investigation will also require archival data searches. Preference will be given to performers who have a demonstrated history of experience and work in this topic area.

4.2. This topic requires at least one of the key personnel to hold a current TS//SCI clearance. All performers must be U.S. citizens.

4.3. Describe prior work in support of the United States Government, to include contracting experience and type of contract, to include Indefinite Delivery/Indefinite Quantity, Federal Acquisition Regulation contracts, and Economy Act actions.

4.4. Describe any prior experience with the Other Transaction Agreement process to include membership in any consortia.

5. MAJOR MILESTONES

DATE	EVENT
January 7, 2025	BAA addendum posted in SAM
January 7, 2025	Begin registration at the DTRA proposal Web site https://www.dtrasubmission.net
January 14, 2025	Deadline to submit questions to dtra.belvoir.rd.mbx.rd-baa-inbox@mail.mil (Unclass) or dtra.belvoir.rd.mbx.rd-baa-inbox@mail.smil.mil (up to SECRET/NOFORN)
January 21, 2025	Questions and answers posted to SAM
February 4, 2025	Final day to propose to BAA addendum with Phase I
NLT February 25, 2025	DTRA provides feedback to all offerors prior to any Phase II invitations

6. FORMAL PROPOSAL SUBMISSION INSTRUCTIONS

6.1 See BAA HDTRA1-22-S-0003 Amendment 1 (current version) for submission instructions. Note page limitations for Phase I white paper and quad chart. Adhere to BAA instructions, which will entail limiting information to stay within the total page restriction.