

UPDATE 2: Administrative Changes to Submission Requirements

Submission Deadline Date: 4 January 2023



One Nation Innovation Inc.

Labyrinth Project

www.onenationinnovation.org

This is a Request for Proposal (RFP) to identify your company's ability to support the One Nation Innovation Labyrinth Project task "H2F Human Performance Data Warehouse Project" for the Army Applications Laboratory.

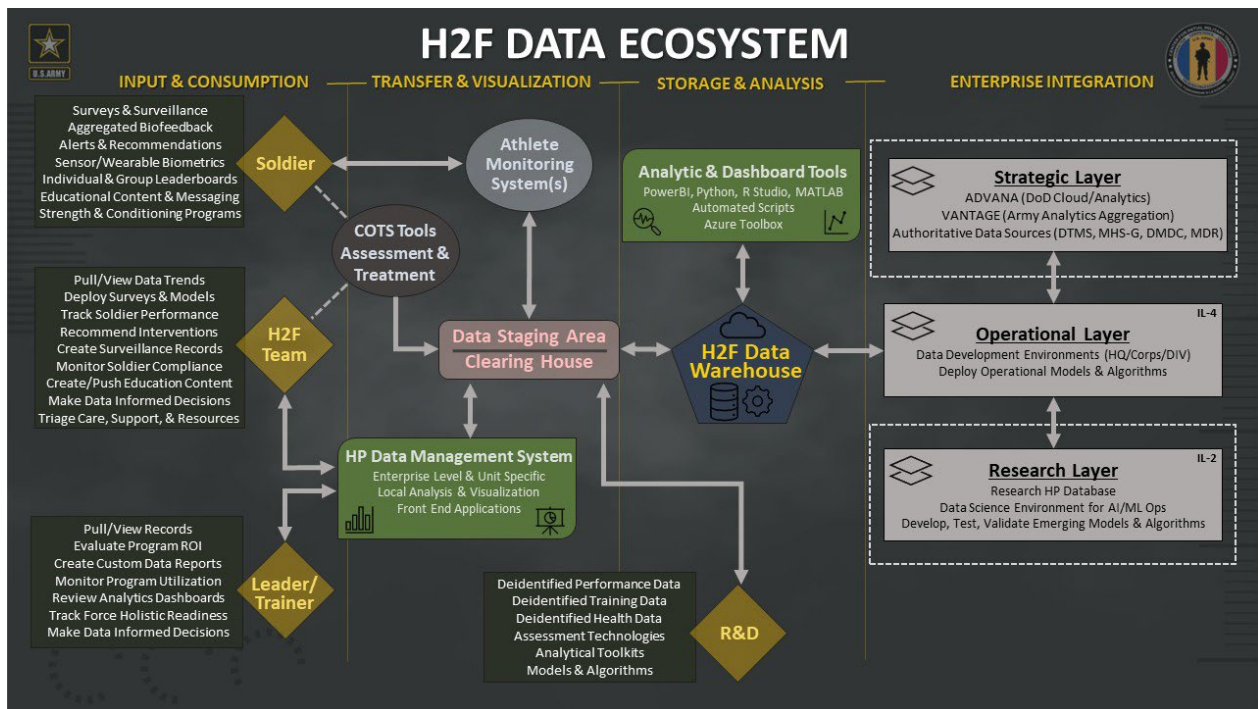
H2F Human Performance Data Warehouse Project

OVERVIEW

To establish governance and optimize data-driven human performance (HP) improvements over time, the US Army's Holistic Health and Fitness (H2F) system needs disparate sourced data to be maintained and secured at the enterprise level. Additionally, artificial intelligence, machine learning, and data interaction at the TRADOC/CIMT Headquarters, Corps, & lower echelons will enable senior leaders and H2F performance teams to leverage HP and health data to reduce attrition, improve readiness, and enhance Soldier lethality. In partnership with Army Futures Command Chief Information Office, Army Applications Lab, Army Software Factory, Data and Decision Sciences Directorate, Office of the Secretary of Defense Chief Digital and Artificial Intelligence Officer, DEVCOM Soldier Center, and the Center for Initial Military Training and Holistic Health and Fitness at Training and Doctrine Command, this effort will create, demonstrate, and transition an integrated data backbone for human performance governance across the entire force. This goal includes services/systems establishment, data ingestion, curation, processing, governance processes, and AI/ML Ops at Army echelons to leverage the data. The architecture of this complex problem requires integrations with Army systems and commercial front end products to work effectively (see Schematic 1: H2F Data Ecosystem).

Requirements for the solicitation of proposals to support the Data Warehouse project development, accreditation, maintenance, and sustainment. Performers will work at their

desired location and schedule but must be available for discussions during core business hours. The Period of Performance will be 1 year from contract award.



Schematic 1. Visual representation of data elements, flow, and warehousing layers.

GOALS

1. Receive and transition the cloud environment established by Soldier Center's MASTR-E project as a launching point for H2F's HP Data Warehouse.
2. Leverage and adapt existing abilities to push/pull information from commercially available front-end services for HP data collection, analysis, and presentation.
3. Build an artificial intelligence and machine learning model operationalization management (AI/ML Ops) process.
4. Continue momentum of ATO work in IL4: develop a refined timeline for accreditation.
5. Establish a data staging area to serve as a clearing house for ELTs and ETLs in two-way conversion between transactional and warehouse data
6. Build and activate linkages to additional layers (Research and Operational) and other data management systems.

SPECIFICATIONS

- 1) Describe how you would inherit and further develop existing cArmy instances for data warehousing oriented on human performance. Provide a proposed technical architecture for your solution to provide data ingestion, cleaning, curation, warehousing, user-access, and provisioning within a cArmy-U environment.
 - a) Identify how this environment would provide the ability to provision training data sets with governance limiting access to specific organizations or teams.

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- b) Describe how you would handle the compute, store, access, and transaction issues that may come with multiple instances of the same data across several end user devices.
 - c) Detail how you would integrate analytical and visualization tools (e.g., PowerBI, Tableau, R Studio, Python, MATLAB) between several parent-child governance structures.
- 2) Provide an explanation of how you would use environment provided services and integrate toolkits to enable an end-to-end artificial intelligence (AI) and machine learning (ML) development process to design, build and manage reproducible, testable, and evolvable AI/ML-powered data solutions based on:
 - a) Unifying the release cycle for AI/ML models and associated software applications
 - b) Automated diagnostic testing of AI/ML artifacts (e.g., data validation, model testing, model integration testing, model validation)
 - c) Enabling the application of agile principles to AI/ML projects
 - d) Remaining agnostic across language, framework, platform, and infrastructure practices
 - e) Deploying, updating, and maintaining AI/ML models with regulatory governance
 - 3) Please detail how you would agnostically integrate third-party hardware/software applications and other cloud data management systems for H2F data collection (data pulls) AND dissemination (data pushes). While many systems have existing APIs, others only permit csv, json, or XML exports. Moreover, each integration will need to seamlessly convert between file types for easy transfer or uninhibited access by approved users.
 - a) End user, coach/instructor, command-level human performance data management system solutions
 - b) Strength and conditioning software applications utilized by Soldiers and maintained by H2F performance teams.
 - c) Wearable biometrics from COTS devices as either raw data pushed into analytical scripts and/or resulting summary metrics with datetime and event detail tags.
 - d) Training logs and survey/questionnaire banks and responses, with governance over bank content and modification.
 - e) Existing Army databases (e.g., Digital Training Management System, Military Health System-Genesis, Defense Manpower Data Center, Medical Operational Data System)
 - f) H2F performance assessment and optimization hardware/software systems:
 - i) Velocity based training tools
 - ii) Motion tracking technologies
 - iii) Forceplate technologies
 - iv) Cognitive/vision testing tools
 - v) Workload monitoring systems
 - vi) Rehabilitation tools and therapies
 - vii) Marksmanship and occupational skills assessments systems
 - 4) Please describe a proposed data model for organizing disparately sourced, heterogeneous data. Describe how data acquired across multiple sensors,

manufactures, time-points, and environments, will be organized and managed for accessibility, querying, aggregation, and model development.

- 5) Please detail how you would enable the HP Data Warehouse to function across multiple layers:
 - a) Pull deidentified data down to a Research Layer for model development
 - b) Push validated models from a Research Layer for deployment in the Operational Layer
 - c) Pull identifiable data down from the Strategic Layer for incorporation in Operational Layer models
 - d) Push identifiable data up to the Strategic Layer for cataloging across Army systems
- 6) Propose a recommended team size and composition to develop and maintain the described data warehouse and environment. Include estimated costs per hour, per employee to each specialty desired, estimated annual costs of storage space and computation for H2F Data Warehouse, and estimate structure plus annual costs of sustainment personnel.
- 7) Describe how you would make adjustments to the specified team in order to pivot onto and conduct a technology transition within the cArmy infrastructure.
- 8) Describe how you will work with the government lead(s) and ATO support SMEs for delivery of technical architecture proposed above to include achieving ATO with a cArmy-U environment.
- 9) Describe how you will collaborate with other non-government providers to support a transparent, team approach through development, tests/evaluations, refinement, and transition efforts. Include how you would on-board and support problem solvers from initial engineering/stand-up work through transition and sustainment.
- 10) Describe how you plan to track developmental, environmental changes, and emerging security concerns in the Development Life Cycle, including:
 - a) Proposed standardized framework and tools that will be used that define activities and deliverables
 - b) Methods to plan, estimate, and schedule each task associated with the project
 - c) Demonstrating how configuration management will increase visibility on all aspects of the life cycle to all stakeholders involved in the development process
 - d) Demonstrating how proposed plan increases the speed of development and decreases project risks
- 11) Propose costs, activities, and schedule to achieve ALL the requirements contained in this RFP.

Response Requirements for this RFP Announcement:

1. State your detailed approach to meet the scope and requirements
2. State your staffing structure and management approach for this effort
3. Costs associated with support for a Period of Performance of 12 months.
4. Include previous experience where you have done this type of work before, customer and the outcome. If no previous experience it will be evaluated as neutral.
5. Submit your responses into 4 separate volumes:
(Volume 1: Detailed Technical Approach, Volume 2: Staffing and Management Approach, Volume 3: Cost, Volume 4: Prior experience/ Company past performance). This will allow for sections to be easily separated for evaluation purposes.
6. Your total submission is limited to no more than 30 pages total not including the cover page. This allows flexibility for each offeror to tailor their responses accordingly. Ensure that each volume is separated and labeled per the guidance above.
7. Submit your response to this RFP NLT 4 January 2023 by 5pm EST.
8. All response materials submitted to response@onenationinnovation.org
9. All Response Submissions **must** include the following Cover Page administrative data:
Business Name
Technical and Business Point of Contact Name
Title
Email
Phone
Business URL
Business Address:
Business Phone:
Unique Entity ID:
Cage Code:
Business Status: (i.e., Nonprofit)
10. After submission deadline, ONI will go through a down selection with the government representatives that may lead to one-on-one meetings between One Nation Innovation and the down selected Offeror for potential follow-on information requirements.
11. Evaluation Criteria: This agreement will be firm fixed price. Innovative approaches will make your submission stand out. Your submission will be evaluated on the following:
 - Your approach to meet the requirement (40% weight)
 - Staffing and Management (20% weight)
 - Cost for a 12 month period of performance (20% weight)
 - Previous experience/understanding of your company's ability to successfully conduct the work (20% weight)