

DEPARTMENT OF HOMELAND SECURITY (DHS)

STATEMENT OF WORK (SOW) FOR *Curb-To-Gate AI Passenger Data Model* 70RSAT24CB0000010

1.0 GENERAL

1.1 BACKGROUND

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Screening at Speed (SaS) program pursues transformative research and development (R&D) activities that support a future vision for increasing aviation security effectiveness from curb to gate while dramatically reducing wait times and improving the passenger experience. To enable this vision, SaS, in conjunction with the Transportation Security Administration (TSA) Innovation Task Force (ITF), is considering the development of key technologies that will enable a seamless passenger experience.

The key technologies would enable an enhanced screening solution by:

- Allowing passengers to complete the screening process more quickly
- Maintaining or improving the current security posture at the airport checkpoint
- Being capable of integrating into new concepts of operations
- Support an open architecture that will allow technology partners access to the raw measurement data and the data processing resource environment for the purpose of algorithm development, software integration and testing initiatives.

This effort seeks to rapidly mature the artificial intelligence (AI)-driven solution to technical readiness level (TRL) 6 suitable for demonstration through TSA's ITF.

1.2 SCOPE

This effort includes the concept development, systems engineering, and development of a curb-to-gate AI passenger data model. This effort uses a phased approach to develop requirements, monitor progress, and reduce technical risk in a methodical way. The goal of the base period is to apply system modeling and simulation to develop a robust design for a prototype where DHS S&T would be able to assess the viability of the concept and to specify high-level requirements for future research and development acquisition efforts. If all options are exercised, the final result is the delivery of a full-up prototype and associated design documentation that can support field demonstrations.

1.3 OBJECTIVE

This effort seeks to mature and demonstrate a design for technology to enable data integration of passengers throughout their airport journey.

2.0 SPECIFIC REQUIREMENTS/TASKS

TASK ONE. PROJECT MANAGEMENT (*Base Period, Option Period One, Option Period Two*) The contractor shall be responsible for project management activities that include: project management plan, technical direction of the project; project direction and task execution; interaction with DHS S&T; resource planning and assignment; data and records management; risk mitigation and planning; compliance management including completing privacy compliance documentation; and security management.

For all formal meetings with DHS S&T, the contractor shall submit a meeting agenda and briefing package to the Contracting Officer Representative (COR). The meeting agenda and draft briefing package shall be provided at least three (3) business days prior to the meeting. The contractor shall submit the final briefing package (including meeting minutes) no later than five (5) business days after execution of the meeting.

SUBTASK 1.1 Kickoff Meeting

A post-award kick-off review shall be held within thirty (30) days of contract award. This formal meeting shall address: Project overview; Team Organization and Key Personnel; Project Schedule and Deliverables. In addition to the agenda, briefing packages, and minutes, the contractor shall provide a One-Page Non-Proprietary Project Summary Sheet, and a Non-Proprietary Quad Chart in accordance with DHS S&T instructions/templates.

SUBTASK 1.2 Monthly Status Report (MSR)

Reports of project status shall be required on a monthly basis. A template of the Monthly Status Report shall be provided to the contractor upon contract award. These reports shall be electronically submitted to the program manager by the 15th of each month. The Monthly Status Report Templates provide a standardized format to collect the following information at a minimum:

Static information (information that does not change monthly over the project):

- Project title and contract number
- Period of performance
- Principal investigator's name, telephone number, e-mail and unclassified/secure facsimile number(s)
- Contractor's financial contact name and telephone number

Monthly update information to be provided in bulleted or short narrative format:

- Activity during the previous reporting period
- Progress achieved against project milestones, tasks, and deliverable(s) during the reporting period
- Noteworthy accomplishments (e.g. meetings, presentations, publications, patent filings, etc.)
- Risk Register, Topics of concern/slippage (technical, schedule and/or cost) and recovery plan
- Explicit plans for the upcoming month
- Project budget information, including funds expended by category, significant material

purchases, and obligated funds remaining

SUBTASK 1.3 Monthly Teleconference

The contractor shall conduct an informal teleconference with the COR, Program Manager (PM), and other stakeholders to discuss the monthly report and other matters as deemed appropriate, three (3) working days after delivery of the monthly report (subject to COR/PM availability). The contractor shall document any new COR/PM guidance that results (e.g., in an email).

SUBTASK 1.4 End of Period Summary

The contractor shall provide an End of Period report for the base period and each option period (if exercised) to the DHS S&T COR outlining project progress and expectations for the upcoming contract period.

TASK TWO. System Architecture Development (*Base Period-10 months*)

SUBTASK 2.1 Requirements

The contractor shall meet with DHS S&T and other stakeholders to understand the Government's desired capabilities and shall develop and deliver requirements documentation for the technology being matured. The requirements documents shall include systems level requirements as well as human-interface, data processing, data storage, and software requirements. Major technical risk areas shall be identified. These requirements shall also include privacy and other compliance activities in order to ensure a successful transition to operations. The requirements document shall remain a "living" document throughout the activities conducted in Task 2.

Deliverable: System Requirements Document

SUBTASK 2.2 System Design and Develop Engineering Prototype

The contractor shall perform appropriate modeling, simulations, or algorithm prototyping required to reduce major technical risk areas identified and progress the design toward established requirements. For this effort, this will include staging a representative environment, as approved by the Government, and algorithm training. The contractor shall assess, document, and present the project metrics based on expected performance. The contractor shall provide DHS S&T with at least the following:

- Concept of Operation
- Expected performance (and discussion of how design tradeoffs impact performance)
- Prototype and project risks
- Prototype test objectives
- Prototype test and evaluation schedule

Deliverable: Project performance metrics including concept of operation, expected performance (and discussion of how design tradeoffs impact performance), prototype and project risks,

prototype test objectives, prototype test and evaluation schedule

SUBTASK 2.3 Prototype Design Review

Upon completion of subtask 2.2, the contractor shall conduct a prototype design review (PDR) with DHS S&T covering all aspects of the integrated solution developed under Subtask 2.2 as well as any tradeoffs required to meet the requirements.

Deliverable: PDR Briefing

SUBTASK 2.4 Prototype Design Demonstration

Upon delivery of the PDR Briefing, the contractor shall conduct a prototype design demonstration with DHS S&T covering all aspects of the solution developed under Subtask 2.2 as well as any tradeoffs required to meet the requirements. The scope of the Prototype Design Review and Prototype Design Demonstration shall be sufficient to allow DHS S&T to evaluate the feasibility of the approach and to approve/disapprove the Pilot Demonstration.

Deliverable: PDR Demonstration

TASK THREE. Pilot Demonstration (*Option Period One - 8 months*)

SUBTASK 3.1 System Demonstration Preparation

If DHS S&T approves the system prototype design, the contractor shall proceed with system maturation towards demonstrating the system in a representative environment. The contractor shall produce and assemble any hardware as documented at the prototype design review. All interfaces into and out of the prototype shall be documented in an Interface Control Document (ICD). The contractor shall draft a test plan for both internal demonstration readiness as well as the live demonstration period.

Deliverable: Working prototype; user software demonstration and manuals; ICD; draft Test Plans

SUBTASK 3.2 Internal Readiness Testing

The contractor shall execute the prototype test schedule approved under Subtask 2.2 to demonstrate suitability for live demonstrations. This testing shall include any cybersecurity testing including data security and penetration testing. Any deviations from the requirements shall be documented for review with the COR. The contractor shall propose mitigations for any deviations from the requirements.

Deliverable: Internal Readiness Report

SUBTASK 3.3 Test Readiness Review

Upon completion of the internal readiness testing, the contractor shall hold a Test Readiness Review (TRR) to document the design and testing results from the internal readiness process. Additionally, the contractor shall conduct a live demonstration of a predefined test scenario to demonstrate performance of the system to the metrics agreed upon in Subtask 2.2. The Readiness Review (including live demonstration) shall be sufficient to allow DHS S&T to

evaluate the feasibility of the approach and to approve/disapprove the delivery of prototypes for performance verification.

Deliverable: Test Readiness Review

TASK FOUR. PROTOTYPE EVALUATION (*Option Period Two - 12 Months*)

SUBTASK 4.1 Prototype Delivery, Installation, and Performance Verification

Upon completion of the development spirals and approval by DHS S&T to proceed, the contractor shall deliver the system to an evaluation facility as directed by the COR. Possible locations include McCarran International Airport (Las Vegas, NV), the DHS S&T Transportation Security Laboratory (TSL, Atlantic City, NJ) or the TSA Systems Integration facility (Washington, DC). Upon delivery, the contractor shall set up the system and perform the necessary measurements and adjustments to demonstrate (according to limited site-verification testing defined in Subtask 2.2) and ensure the system continues to function properly.

Deliverable: Prototype Delivery to DHS directed site and report of limited site testing

SUBTASK 4.2 User Training

As directed by the COR, the contractor shall facilitate user training on-site with the prototype and/or at a designated DHS facility in the National Capital Region. This training shall equip attendees with the knowledge necessary to safely and effectively operate and maintain the prototype.

Deliverable: Onsite User Training

SUBTASK 4.3 Prototype Evaluation

The contractor shall provide technical support to DHS S&T/TSA's evaluation of the prototype system. The contractor shall work with DHS S&T to resolve any deficiencies that arise during evaluation. At the conclusion of the evaluation, the contractor shall participate in an evaluation debrief to discuss feedback from the evaluation. Contractor property does not transfer to DHS. The Contractor shall decommission and remove the prototype system from the evaluation facility upon completion of this subtask.

At the COR's direction the Contractor shall plan the removal of the system from the data collection site and then remove the system as per the plan as approved by the COR.

Deliverable: Technical Support and Evaluation Debrief

3.0 KEY MILESTONES AND DELIVERABLES

SOW REFERENCE	Sub task	EVENT / DELIVERABLES	DUE BY
Task 1: Project Management (Base Period, Option Period One, Option Period Two)	1.1	1) Project management plan 2) Kickoff 3) Agendas, draft briefing packages 4) Minutes, final briefing packages 5) Project Summary Sheet, and Non- Proprietary Quad Chart	1) 15 days after award 2) 30 calendar days after award 3) 3 working days before mtg. 4) 5 working days after mtg. 5) 3 working days before mtg.
	1.2	Monthly Status Report	15 th calendar day of the month
	1.3	Monthly Teleconference	5 working days after delivery of MSR
	1.4	End of Period Summary Document	15 working days before end of current contract period
Task 2: Design Engineering Prototype (Base Period)	2.1	Systems Requirements Documents	5 working days before PDR
	2.2	Project Performance Metrics	5 working days before PDR
	2.3	Prototype Design Review (PDR)	6 months after award
	2.4	Prototype Demonstration in support of completion of PDR	10 months after award
	2.4	End of Period Summary Report	10 months after award
Task 3: Fabricate, Assemble and Test Prototype (Option Period One)	3.1	Prototype Fabrication/Working Prototype; ICD; Software demonstration; draft test plans	Not later than (NLT) 14 months after award
	3.2	Internal Readiness Report	5 days before TRR
	3.3	Test Readiness Review and Demonstration	18 months after award
Task 4: Prototype Evaluation (Option Period Two)	4.1	Prototype Delivery to DHS directed site	NLT 24 months after award
	4.2	Onsite User Training	NLT 26 months after award
	4.3	Technical Support and Evaluation Debrief	29 months after award

4.0 PROJECT TIMELINE

	Indicate Month Deliverable is due after Award or Services are to be completed															
	1	4	5	6	7	8	10	12	13	14	15	16	17	18	20	24
Task 1: Project Management																
SUBTASK 1.1 Kickoff Meeting	X															
SUBTASK 1.2 Monthly Status Report	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SUBTASK 1.3 Monthly Teleconference	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SUBTASK 1.4 End of Period Summary							X							X		
TASK 2: Design Engineering Prototype																
SUBTASK 2.1 Requirements			X													
SUBTASK 2.2 Performance Metrics			X													
SUBTASK 2.3 Prototype Design Review				X												
SUBTASK 2.4: Prototype Demonstration							X									
TASK 3: Fabricate, Assemble and Test Prototype																
SUBTASK 3.1 Prototype Fabrication									X							
SUBTASK 3.2 Readiness Testing									X							
SUBTASK 3.3 Test Readiness Review												X				
TASK 4: Prototype Evaluation																
SUBTASK 4.1 Prototype Delivery																X

	Indicate Month Deliverable is due after Award or Services are to be completed														
	26	28	30												
Task 1: Project Management															
SUBTASK 1.1 Kickoff Meeting															
SUBTASK 1.2 Monthly Status Report	X	X	X												
SUBTASK 1.3 Monthly Teleconference	X	X	X												
SUBTASK 1.4 End of Period Summary			X												
TASK 4: Prototype Evaluation															
SUBTASK 4.1 Prototype Delivery															
SUBTASK 4.2 User Training Development	X														
SUBTASK 4.3 Prototype Evaluation			X												

5.0 OTHER CONTRACT DETAILS

A. Period of Performance.

The period of performance for this effort is from date of award to 30 months. The period of performance structure, should all options be awarded is:

Base Period	10 months
Option Period One	8 months
Option Period Two	12 months

B. Place(s) of Performance.

All design and development work on the project will occur at the contractor facility located at Lauretta AI LLC, 80A Oxford St, Arlington, MA 02474 -6925, CAGE Code: 8H4E7 or the facilities of the respective partners. Meetings and reviews will be attended as required by the appropriate contractor team personnel at the location to be approved by the DHS S&T COR.

C. Deliverables.

The contractor shall provide all deliverables identified in this SOW directly to the DHS S&T COR and DHS S&T Contracting Officer, with a copy of the transmittal letter to the Financial Analyst.

D. Monthly Status Report.

The contractor shall deliver a monthly status report (MSR) to the DHS S&T COR, DHS S&T Business Operations Manager, SandT.Explosives.MSR@dhs.gov, and DHS S&T Financial Analyst on the 15th day of every month containing metrics pertaining to financial, schedule, scope, risk, and performance assessment information in S&Ts provided template. This MSR will describe the previous 30 calendar days' activity, technical progress achieved against goals, difficulties encountered, recovery plans (if needed), plans for the next 30 calendar day period, and financial status (see Invoices below). The MSR template will be provided by the DHS S&T COR to the Contractor at project kickoff.

E. Invoices. The contractor shall deliver invoices to invoicesat.consolidation@ice.dhs.gov in accordance with Section G.3 of the contract.

F. Security Requirements.

Work performed under this SOW will require access to classified information. The maximum level of classified access will be SECRET.

Classified work is required under this SOW, DHS will provide specific guidance to the contractor as to which work will be conducted in a classified manner and at which classification level. The contractor will also adhere to other applicable Government orders, guides and directives pertaining to classified work. Classified work will only occur at the following Government facilities:

TSA Headquarters, 6595 Springfield Center Dr, Springfield, VA 22150

TSA Systems Integration Facility, 3701 Post Office Rd, Arlington, VA 22202

DHS Science & Technology, 1790 Ash St SE, Washington, DC 200032

DHS Transportation Security Laboratory, Building 315, Atlantic City International Airport, Egg Harbor Township, NJ 08405

It is anticipated that the contractor will have access to SSI under this contract. There will be no classified work, access, or storage at the contractor's facility. The Contractor is authorized to access only unclassified information at the contractor's site located at:

Lauretta AI LLC, 9111 Jollyville Rd, Suite 255, Austin, TX 78759, CAGE Code: 8H4E7

Each individual employed under the contract who will have access to sensitive information shall be a citizen of the United States of America, or an alien who has been lawfully admitted for permanent residence as evidenced by a Permanent Resident Card (USCIS I-551). Any exceptions must be approved by the DHS S&T Chief Security Officer or designee. Contractor personnel on the contract having access to SSI data shall be required to have or obtain a DHS Suitability Clearance. All contractor employees and subcontractors with access to SSI shall sign a DHS Form 11000-6 (Non-Disclosure Agreement) and mark both the sensitive information box and the SSI box. Any Controlled Unclassified Information (CUI) handled, stored or in any way used in the performance of this task order will be safeguarded in the manner applicable to SBU and FOUO information described in DHS Form 11000-6.

DHS has and will exercise full control over granting, denying, withholding, or terminating unescorted Government facility and/or sensitive Government information access for Contractor employees, based upon the results of a background investigation. DHS may, as it deems appropriate, authorize, and make a favorable entry of duty (EOD) decision based on preliminary security checks. The favorable EOD decision would allow the contractor to commence work temporarily prior to the completion of the full investigation. The granting of a favorable EOD decision shall not be considered as assurance that a full employment contractor fitness (suitability) authorization will follow as a result thereof. The granting of a favorable EOD decision or a full contractor fitness (suitability) authorization determination shall in no way prevent, preclude, or bar the withdrawal or termination of any such access by DHS, at any time during the term of the task order. No employee of the contractor shall be allowed unescorted access to a Government facility, access to any sensitive information or access to DHS IT Systems without a favorable EOD decision or contractor fitness (suitability) determination by the DHS Office of Security. Contract employees assigned to the task order not needing access to sensitive DHS information or recurring access to DHS facilities will not be subject to security contractor fitness (suitability) screening. Contract employees waiting and EOD decision may not begin work on the task order. Limited access to Government buildings is allowable prior to the EOD decision if the contractor is escorted by a Government employee. This limited access is to allow contractors to attend briefings, nonrecurring meetings, and begin transition work. Classified information is Government information which requires protection in accordance with Executive Order 13526, National Security Information (NSI) as amended and supplemental directives. If the contractor has access to classified information at a DHS owned or leased facility, it shall comply with the security requirements of DHS and the facility. If the contractor is required to have access to classified information at another Government Facility, it shall abide by the requirements set forth by the agency.

FAR 52.204-2 Security Requirements (Mar 2021)

(a) This clause applies to the extent that this contract involves access to information classified "Confidential," "Secret," or "Top Secret."

(b) The Contractor shall comply with-

(1) The Security Agreement DD Form 441), including the National Industrial Security Program Operating Manual (32 CFR part 117); and

(2) Any revisions to that manual, notice of which has been furnished to the Contractor.

(c) If, subsequent to the date of this contract, the security classification or security requirements under this contract are changed by the Government and if the changes cause an increase or decrease in security costs or otherwise affect any other term or condition of this contract, the contract shall be subject to an equitable adjustment as if the changes were directed under the Changes clause of this contract.

(d) The Contractor agrees to insert terms that conform substantially to the language of this clause, including this paragraph (d) but excluding any reference to the Changes clause of this contract, in all subcontracts under this contract that involve access to classified information.

(End of clause)

G. Protection of Information

It is anticipated that the contractor will have access to controlled unclassified information (CUI) including personally identifiable information and sensitive security information under this contract including business contract information, TSA operations data, TSA sensor data (millimeter wave outputs, X-ray images), and mock passenger data collected from the Transportation Security Laboratory (TSL) in accordance with TSL's approved human subject research protocols. The data will be stored, accessed, and sent electronically. Data may be shared between the contractor, S&T (including TSL), TSA, and the DHS Office of Procurement Operations, as appropriate. Any CUI received or generated from this contract shall be destroyed at the end of the contract.

H. CYBER-SUPPLY CHAIN RISK MANAGEMENT (C-SCRM)

Definitions

1. Component: a unit defined by the supplier that connects to and functions as part of the product. For software products, a component is a unit of software defined by a supplier at the time the component is built, packaged, or delivered. For hardware, a component is one hardware unit designed to connect to and function as part of a larger product.
2. End-of-Life (EOL): means that an ICT product has reached the final stage of the product life cycle in which that version of the ICT product will no longer be supported nor manufactured (e.g., no patches will be developed, no security improvements will be made, and, sometimes, no troubleshooting technical assistance will be offered).
3. End-of-Support (EOS): means that an ICT product will no longer be supported (e.g., no patches will be developed, no security improvements will be made, and, sometimes, no troubleshooting technical assistance will be offered).

4. Information and Communications Technology (ICT): encompasses the capture, storage, retrieval, processing, display, representation, presentation, organization, management, security, transfer, and interchange of data and information; includes all categories of ubiquitous technology used for the gathering, storing, transmitting, retrieving, or processing of information (e.g., microelectronics, printed circuit boards, computing systems, software, signal processors, mobile telephony, satellite communications, and networks).
5. Product: part of the equipment (hardware, software and materials) for which usability is to be specified or evaluated.

Original Equipment Manufacturer (OEM) End-use Information and Communications Technology (ICT) Product

1. The contractor shall provide new equipment unless otherwise formally approved by the Government, in writing. The contractor shall provide only Original Manufacturer (OEM) end-use products to the Government. In the event that a shipped OEM product, or part or component of that product, fails, all replacements must be new (i.e., non-refurbished, not previously used) OEM.
2. The contractor may provide previously-used OEM products only with written Government approval. Such parts shall be procured from their original source and shipped only from the manufacturer's authorized shipment points.

Accounting of Components in ICT Products

1. The contractor shall provide and maintain a list of components for each product used in performance of the contract, including through subcontracts or other arrangements. This list for each product shall provide the component manufacturer's name, address, state, and/or domain of registration, and, where applicable, the Unique Entity Identifier (UEI) number, for all components comprising the ICT products.
2. The contractor shall notify the Government when a new contractor/subcontractor/service provider is introduced to the ICT provided on this contract, or when suppliers of components or products are changed. If a software component used in the performance of the contract is updated with a new build or release, the contractor must update the list provided in accordance with (i) above to reflect the new version of the software. This includes software builds to integrate an updated component or dependency.
3. For software products, the contractor shall provide all OEM software updates, and patches to correct defects, for the life of the product [i.e., until the "End of Life" (EoL) or "End of Support" (EoS)]. Software updates and patches shall be made available to the government for all products procured under this Contract, and replaced when End of Support (EoS) is reached.
4. A contractor using team members in performance of the contract (e.g., subcontractors or other service providers) shall ensure that the standards for the accounting of components in this subsection are met by team members.

Supply-Chain Transport

1. The contractor shall use formal, documented and accountable transit, storage, and delivery procedures (i.e., the possession of the end-use product to be delivered is documented at all times from initial shipping point to final destination, and every transfer of the product from one custodian to another is fully documented and accountable) for all information and communication technology (ICT) shipments to fulfill this contract.
2. The contractor shall maintain all records pertaining to the transit, storage, and delivery of ICT deliverables under this contract through at least 6 months after acceptance, and make available for inspection upon request of the Government.
3. iii. The contractor shall make use of tamper-proof or tamper-evident packaging for all shipments.
4. The contractor shall provide a packing slip for each container or package with the information identifying the contract or order number, a description of the hardware/software enclosed (Manufacturer name, model number, serial number), and the customer point of contact.
5. The contractor shall provide a shipping notification to the intended government recipient; with a copy transmitted to the Contracting Officer, or other designated representative. This shipping notification shall be provided electronically and identify the contract or order number, a description of the hardware/software being shipped (manufacturer name, model number, serial number), initial shipper, shipping date and identifying (tracking) number.

Changes to Ownership and Control

The Contractor shall immediately notify the Contracting Officer and Contracting Officer's Representative regarding any significant changes to corporate ownership or control from contract award through final delivery or the end of the period of performance. A significant change would be one in which a change occurs in the individuals or entities who, directly or indirectly, either (1) exercises substantial control over an entity, or (2) owns or controls at least 25 percent of the ownership interests of an entity.

6.0 POINTS OF CONTACT

Contractor POC:

[REDACTED]
Chief Executive Officer
Lauretta AI LLC
80A Oxford Street
Arlington, MA 02474-6925
[REDACTED]

Government POCs:

[REDACTED]

Baggage, Cargo and People Screening Division
Mission and Capability Support
Science and Technology Directorate
Department of Homeland Security

[REDACTED]

Contracting Officer's Representative:

[REDACTED]

Science and Technology Directorate
Department of Homeland Security

[REDACTED]

Contracting Officer:

[REDACTED]

Department of Homeland Security
Science & Technology Acquisitions Division
Washington, DC 20528

[REDACTED]

DHS S&T Invoicing:

U.S. DHS, ICE

Attn: S&T EXD Invoice

Burlington Finance Center

P.O. Box 1000

Williston, VT 05485-1000

[REDACTED]