Biometrics Acquisitions Path Forward
Innovative Technology Demonstration (ITD) Pathway defined in the TSA Acquisitions Manual (TSAM)
# Executive Summary

## Biometrics Acquisition Path Forward

The TSA Biometrics Team proposes to use the TSA Systems Acquisition Manual (TSAM) Innovation Technology Demonstration (ITD) to find efficiencies in the acquisition process, and deliver the right technology to the field at the right time.

### Background

#### Biometrics
- TSA has been testing Biometric technologies in the field since 2015.
- TSA released a Biometrics Roadmap in October of 2018, laying out intent of the Agency to explore Biometrics.
- Multiple public and private partners are currently deploying or testing Biometric technologies in the aviation sector.

#### TSAM
- The TSAM was signed in August 2018, and included the ITD process as a possible strategy to streamline acquisitions.
- The ITD process allows for field demonstrations of mature technologies.

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### ITD Process

The ITD process requires three decision points:

- **Decision Point 1: ITD Plan Brief**
  - Approves the demonstration and initial Acquisition strategy / timeline.

- **Decision Point 2: ITD Closeout Brief**
  - Approves the demonstration results and recommends next step.

- **Decision Point 3: ITD Transition Brief**
  - Approves recommended next step and path forward.

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### Next Steps

Utilizing the TSAM ITD Process requires the following steps:

1. **Internal TSA Socialization** - achieve understanding and buy-in for the new process within TSA.
2. **DHS Socialization and Approval** - socialize process and strategy at Departmental level to gain approval to tailor the traditional Acquisition Lifecycle.
3. **Decision Point 1 Documentation Development** - begin creating documentation to support Decision Point 1, including new Consolidated Operations Requirements Document (CORD).

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The TSAM ITD Process will allow for the efficient Acquisition of mature Biometrics technology, in coordination with public and private partners currently working to deploy in the aviation sector.
Decision Point 1: ITD Plan Brief

The ITD process has three primary decision points, the first of which reviews the demonstration plan and path forward for the technology.

**Required Documentation**

Innovation Technology Demonstration Plan
- Inclusive of:
  - Final CORD & CDP
  - CORD = Consolidated Operations Requirements Documentation, new document from JRC
  - Test & Data Collection Methodology
  - Initial Life Cycle Cost & Logistics Support Plan

Demonstration Strategy & Timeline
- Timeline & costs for demonstration
- Overall Acquisition decision points, documentation & supporting data

**Requested Approvals**

Approvals Requested at the Demo Plan Brief (Decision Point 1)
- Approval to conduct demonstration(s)
- Approval of proposed Acquisition Strategy & Timeline

**Approval Body**

Per the TSAM, the Demonstration Plan is approved by the Technology Innovation Demonstration Steering Committee
- This committee is chaired by RCA, with representatives from IT, and APM

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Comparison to Traditional ALF

This decision point combines elements of an ADE-1 and ADE-2A, in that it validates the following:

- The need to study a prospective material solution
- The conceptual operational use of the solution
- The proposed strategy to study the effectiveness of the solution
Decision Point 2: ITD Closeout Brief

The second decision point in the ITD Process validates the demonstration results and approves the appropriate transition.

**Required Documentation**

**Innovation Technology Demonstration Closeout Brief**
- Inclusive of:
  - Demonstration results
  - Lifecycle Cost & Logistics Support Plan
  - Operational and Functional Requirements

**Updated Acquisition Strategy & Timeline**
- Proposed timeline and costs for Acquisition, procurement, and deployment
- Proposed ALF placement and decision points

**Requested Approvals**

**Approvals Requested at the Demo Plan Closeout Brief (Decision Point 2)**
- Approval of Proposed ALF Placement (or other transition)
- Approval to Propose ALF Placement to ADA

**Approval Body**

Per the TSAM, the Demonstration Transition is approved by the Technology Innovation Demonstration Transition Committee
- This committee is comprised of the Assistant Administrators of RCA, IT, APM, and the user office

**Comparison to Traditional ALF**

This decision point combines elements of an ADE-2A/B/C and ADE-3, in that it validates the following:

- The need for an Acquisition program or procurement
- The final operational and functional requirements
- The operational effectiveness of the solution
- The lifecycle sustainment plan and cost

Transportation Security Administration
Decision Point 3: ITD Transition Brief

The final approval in the ITD process is an Acquisition Decision Authority (ADA) approval decision, via an Acquisition Review Board (ARB), of the recommended transition

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### Required Documentation

**Innovation Technology Demonstration Transition Brief**
- Inclusive of:
  - Demonstration Closeout Brief
  - SLAs with partners and service providers
  - Deployment plan

**Final Acquisition Strategy & Timeline**
- Timeline and costs for Acquisition, procurement, and deployment
- Proposed ALF placement
- Proposed AD-102 documentation update timeline and plan

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### Requested Approvals

**Approvals Requested at the Demo Plan Closeout Brief (Decision Point 2)**
- Transition placement
  - According to Transition Committee recommendation, either in ALF or proceeding to Procurement

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### Approval Body

Per the TSAM, the final Transition decision is dependent on the approval of an TSA ARB, chaired by TSA's ADA
- Per the TSAM, the role of TSA ADA is fulfilled by the Component Acquisition Executive (CAE). Unless otherwise designated, this Deputy Administrator acts as the CAE for TSA
- ARB members include the CFO, CIO, HCA, and CC

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### Comparison to Traditional ALF

The equivalent of this decision point in the TSA ALF is dependent on the proposed transition point. For example, if the proposed transition point is to ADE-3, this decision would mirror that ADE.

After the transition placement is approved, any ALF documentation required for compliance with AD-102 will need to be updated to official formats and routed for review as appropriate.

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Transportation Security Administration

RCA REQUIREMENTS & CAPABILITIES ANALYSIS

2020-TSFO-00198_00177
TSAM ITD Transition Process

The purpose of this process is to study the effectiveness of more mature technologies in the field, allowing for a potential transition into the formal Acquisition lifecycle.

Technology Innovation Demonstration Flow Chart

Not of Interest
Effort stops, TSA not interested in pursuing this technology at this time

Requires Further Research
Effort referred for developmental activity (e.g., DHS S&T) or to airport for consideration/implementation

Acquire
Effort transitioned to the appropriate ARB for review and approval for entry into the ALF

Produce
Effort transitioned to end-user office and HCA for Procurement

Upon Acquire decision, an ARB must review and approve the technology for inclusion into the ALF, entry points may include:

Pre-Need Need Analyze and Select Obtain Produce, Deploy, and Support

*Demonstrations are intended for technologies with TRL 6 or higher
Notional FY19-20 Biometric Capability Development

Requirements will be developed to maximize flexibility in the acquisitions/deployment strategy for delivering biometrics capabilities to increase security effectiveness, capture operational efficiencies and transform the passenger experience.

Goal = Biometric E-Gate: Self service form factor integrates CAT, Biometrics, and ensures passenger is directed to correct level of physical screening
Biometric/Identity Activities

STIP Development
• Biometric Repository Upgrade
• CAT STIP Client augmented with Biometric Capabilities
• Interfaces with CBP, HART, and External entities

Prototype Unit Development
• CAT with biometrics (Two Phases)
• Biometrics Enabled TSA Technology for Identity (BETTI)- Biometric Egate
• Precheck Wayfinding Unit

Other Identity Projects
• Mobile Driver License demonstration on CAT
• McKinsey Business Case Study (OBIM funded)
Biometrics Architecture
TSA Biometrics Architecture Mission

Create an automated and scalable facial recognition capability at TDC that enhances security, improves operational efficiency and passenger experiences, leverages enterprise investments, maximizes sustainability, and facilitates partnerships while respecting privacy, civil rights, and civil liberties.
TSA's Biometric Architecture design principles are grounded in the organizational mission and strategy publications below:

**Key guidance supporting TSA's strategy and mission:**

- Maximizing what's already there
  - Maximize CBP and DHS investments in terms of capabilities and infrastructure in addition to what TSA has developed and validated

- Privacy by Design
  - Assure architecture and technical solutions adhere to privacy standards and are within TSA's authorities

- Simple & Consistent Experience
  - Create a consistent and intuitive experience for travelers and TSOs by incorporating form and human factors. Keep training and instructions simple and easy to understand for both TSOs and travelers

- Open & Modular Architecture
  - Mitigate risk of vendor 'lock-in' and allow easy Third Party integration through API-led connectivity to provide data-sharing and biometrics services

- Alignment to TSA IT Vision and Security
  - Emphasize outcome-based security engineering considerations to maintain compliance with IT's enterprise vision and policy to create a truly secure solution

These principles were used to evaluate potential architecture paths forward and will continue to guide TSA to an optimal, future proofed biometrics capability.
How it’s currently being done in ATL Biometrics Pilot

**Description:** TSOs use an externally hosted, industry-owned camera to match international passengers in a commercial cloud. Match results are sent to a web-based GUI hosted on the DHS network. A DESKO is used by TSOs to scan boarding passes and manually compare with results from CBP. No capability exists to match domestic passengers without a passport.

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<thead>
<tr>
<th>Flow</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Airline DCS sends flight passenger reservation information to TSA and CBP systems</td>
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<tr>
<td>2</td>
<td>TVS-1 pairs biographies for International Outbound passengers with photos from DHS Sources</td>
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<td>3</td>
<td>TVS-1 stages flight galleries for International Outbound passengers and sends to TVS-2 for matching</td>
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<tr>
<td>4</td>
<td>Camera captures photo of passenger and sends to TVS-2 for matching</td>
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<tr>
<td>5a</td>
<td>TVS-2 matches the captured photo to the photo in the pre-staged flight gallery and shares the UID, match result, and captured photo with TVS-1</td>
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<tr>
<td>5b</td>
<td>DESKO confirms biographies and vetting status when passengers scan boarding pass at TDC</td>
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<tr>
<td>6</td>
<td>TVS-1 sends the UID, match result, captured photo, and biographies to the CBP GUI which the TSO manually verifies using the passenger’s boarding pass</td>
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*Note: CAT can be used to authenticate the passenger’s credentials*
TSA’s biometrics architecture must incorporate proven, cost-efficient technologies, leading standards, and business-centric services in order to promote long-term changeability.

- Scale to TSA-specific passenger segments and meet TSA mission needs
- Incorporating technological advancements to enhance security operations and mitigate bias
- Adapt to regulatory and sociotechnical changes during the roll-out of new solutions
- Enable Private-Public Partnership (3P) deployments through APIs and modularity

An assessment of authorities, privacy issues, costs, tradeoffs, and potential, phased courses of action will continue to inform the broader TSA biometrics solution space.
Biometrics Industry Engagement Day
Monday, March 11, 1-5pm
TSA INFORMATIONAL ARB
Biometrics Initiative
03/06/2019, 9:00 AM

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<tr>
<th>Name</th>
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<tr>
<td>Latetia Henderson, AA, CAE</td>
<td>APM</td>
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<td>Mario Wilson, DAA</td>
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<td>Darby LaJoye, EAA</td>
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<tr>
<td>Pat Rose, CFO</td>
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<td>Russell Roberts, CIO</td>
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See Back Page

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See Back Page