The Office of Security Capabilities (OSC) safeguards our Nation’s transportation systems through the qualification and delivery of innovative security capabilities and solutions.

Alignment to Strategic Five-Year Technology Investment Plan Themes:

1. Enhancing Core Mission Delivery by Focusing on System of Systems
2. Integrating Principles of Risk-Based Security (RBS) in Capabilities, Processes, and Technologies
3. Streamlining Acquisitions, Requirements, and Test and Evaluation Processes
4. Increasing Transparency in Engagement with Stakeholders to Enable Innovation
Key Topics

- Electronic Baggage Screening Program (EBSP) Funding Priorities
- FY16-18 Funding Activities
- High-Speed (HS) Explosive Detection Systems (EDS) Status
- Useful Life Review Study
- Reimbursement
- Strategic Roadmap
## Electronic Baggage Screening Program Funding Priorities

<table>
<thead>
<tr>
<th>Priority</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Operations and Management</td>
<td>Manage the program (includes staffing, training, equipment testing, and other program support costs)</td>
</tr>
<tr>
<td>2. Equipment to Ensure 100% Screening Compliance</td>
<td>Procure and deploy TSE (EDS and Explosive Trace Detection (ETD) units) to maintain 100% screening compliance</td>
</tr>
<tr>
<td>3. Critical Operational Projects</td>
<td>Execute unforeseen and urgent projects to quickly remedy unacceptable safety issues or security vulnerabilities</td>
</tr>
<tr>
<td>4. Fulfillment of Existing Obligations</td>
<td>Fulfill projects with executed Letters of Intent (LOIs) or Other Transaction Agreements (OTAs) Purchase and install equipment required for those projects</td>
</tr>
<tr>
<td>5. Threat Detection Capability Development</td>
<td>Develop threat detection algorithms DOES NOT include the deployment of these capabilities</td>
</tr>
<tr>
<td>6. Recapitalization or Upgrade of Equipment Due for Useful Life Replacement</td>
<td>Replace or upgrade aging machines that have reached the end of useful life Deploy new threat detection algorithms and Risk-Based Security (RBS) capabilities Upgrade network equipment in support of capability enhancements</td>
</tr>
<tr>
<td>7. System-Level Capability and Operational Efficiencies</td>
<td>Develop and deploy EDS system improvements to increase EDS lifespan, create efficiencies, and decrease alarm rates</td>
</tr>
<tr>
<td>8. Airport-Level Capability and Operational Efficiencies</td>
<td>Install new in-line systems Implement Checked Baggage Inspection Systems (CBIS) improvements to facilitate Planning Guidelines and Design Standards compliance Implement CBIS infrastructure enhancements to enable RBS capabilities</td>
</tr>
<tr>
<td>9. Reimbursement of Systems Completed without a Transportation Security Administration (TSA) Funding Agreement</td>
<td>Reimburse airport operators who had a reasonable expectation of reimbursement for costs incurred while developing and/or deploying in-line systems in the absence of an LOI or OTA funding agreement with TSA</td>
</tr>
</tbody>
</table>
FY16 Planned Funding Activities

FY16 Planned Activities

<table>
<thead>
<tr>
<th>FY16 Planned Activities</th>
<th>Program Operation &amp; Management (PO&amp;M)</th>
<th>Purchase and Installation</th>
<th>Facility Modifications (OTAs)</th>
<th>Technical and Engineering Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>• Test Activities</td>
<td>• Planned Purchases: 62 EDS</td>
<td>• Planned Designs: 11</td>
<td>• Develop and deploy enhanced threat detection algorithms</td>
</tr>
<tr>
<td>90%</td>
<td>• System Integration</td>
<td>• Planned Installations: 36 EDS</td>
<td>• Planned Facility Modifications: 9</td>
<td>• Develop EDS upgrade kits</td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
<td></td>
<td>• Enhance alarm resolution capabilities</td>
</tr>
<tr>
<td>70%</td>
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<tr>
<td>60%</td>
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<td>50%</td>
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<td>40%</td>
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<tr>
<td>0%</td>
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</tr>
</tbody>
</table>
Current status of the planned OTA projects for FY16

<table>
<thead>
<tr>
<th>New In-Line OTAs</th>
<th>Terminal</th>
<th>Recapitalization OTAs</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airport</strong></td>
<td></td>
<td><strong>Airport</strong></td>
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</tr>
<tr>
<td>Baltimore/Washington International Thurgood Marshall (FacMod)</td>
<td>E</td>
<td>Burbank-Glendale-Pasadena (FacMod)</td>
<td>A (Nodes 1 &amp; 2)</td>
</tr>
<tr>
<td>Charleston AFB/International (Design)</td>
<td>Main</td>
<td>Houston Intercontinental (Design Add)</td>
<td>A</td>
</tr>
<tr>
<td>El Paso International (Design/FacMod)</td>
<td>Main</td>
<td>Chicago-O’Hare International (Design Add)</td>
<td>T3</td>
</tr>
<tr>
<td>Phoenix-Mesa Gateway (Design)</td>
<td>Main</td>
<td>Fairbanks International (FacMod)</td>
<td>Main</td>
</tr>
<tr>
<td>Kona International at Keahole (FacMod)</td>
<td>Main</td>
<td>Dallas/Fort Worth International (FacMod)</td>
<td>A, B, C, D</td>
</tr>
<tr>
<td>Louis Armstrong New Orleans International (FacMod)</td>
<td>New</td>
<td>Chicago-O’Hare International (FacMod)</td>
<td>T5</td>
</tr>
<tr>
<td>Chicago O’Hare International (Design)</td>
<td>T3-L</td>
<td>Saipan International Airport (Design)</td>
<td>Main</td>
</tr>
<tr>
<td>St. Petersburg-Clearwater International (Design)</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitka Rocky Gutierrez (Design)</td>
<td>Main</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt Lake City International (FacMod)</td>
<td>New</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albert J. Ellis (Design)</td>
<td>Main</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-Cities (Design)</td>
<td>Main</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savannah/Hilton Head International (Design)</td>
<td>Main</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Awarded**: Green
- **Added**: Green
- **Cancelled**: Red
FY17 Planned Funding Activities

FY17 Planned Activities

- **PO&M**
  - Test Activities
  - System Integration
  - Business Operations (staffing and training)
  - Engineering Support

- **Purchase and Installation**
  - Planned Purchases: 46 Medium-Speed (MS) EDS and 70 Rapid Speed (RS) SEDS
  - Planned Installation: 54 MSEDS and 64 RSEDS
  - Recap of CTX-5500s
  - Recap of Itemizer DX ETDs

- **Facility Modifications (OTAs)**
  - Planned Designs: 2
  - Planned Facility Modifications: 7

- **Technical and Engineering Initiatives**
  - Develop/deploy EDS upgrade kits
  - Upgrade In-line EDS networks
  - Deploy information technology security enhancements
FY18 Planned Funding Activities

**FY18 Planned Activities**

- **PO&M**
  - Test Activities
  - System Integration
  - Business Operations (staffing and training)
  - Engineering Support

- **Purchase and Installation**
  - Planned Purchases: 38 EDS and 31 ETD
  - Planned Installation: 48 EDS

- **Facility Modifications (OTAs)**
  - Planned Designs: 14
  - Planned Facility Modifications: 19
  - Recap of CTX-9000/9400s

- **Technical and Engineering Initiatives**
  - Develop and deploy enhanced threat detection algorithms
  - Deploy EDS upgrade kits and network upgrades
  - Enhance alarm resolution capabilities
High-Speed EDS Status

- High-Speed (HS) SEDS currently in test:
  - Smiths XCT HI-SCAN
  - MDI CTX-9800 SEIO
- Systems projected to be on Qualified Products List (QPL) by FY17/18
- Consistent with FedBizOpps posting from August 2013, TSA does not prohibit airports from designing or constructing for HS EDS
- However, TSA will not fund such projects due to the risk

<table>
<thead>
<tr>
<th>TSA Will Fund</th>
<th>TSA Will Not Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase and install of qualified EDS</td>
<td>Any BHS retrofit for HS EDS</td>
</tr>
<tr>
<td>Design/construction of new, approved HS CBIS systems once on QPL</td>
<td>Design/construction of any HS CBIS prior to QPL availability</td>
</tr>
</tbody>
</table>
Useful Life Review Study

- In FY16, a review study was conducted to evaluate useful life of currently deployed TSE.
  - Evaluated Reliability, Maintainability, and Availability (RMA) data and age data for the EDS and ETD fleet
  - The TSE age histograms, along with recent RMA data analysis, show the lifespans have not exhibited significant changes since the last report in 2014

<table>
<thead>
<tr>
<th>Actively Deployed Checked Baggage TSE</th>
<th>Calendar Year 16 Useful Life Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDS</td>
<td>15 years</td>
</tr>
<tr>
<td>ETD</td>
<td>10 years</td>
</tr>
</tbody>
</table>

- From FY11-16, EBSP has actively conducted recapitalization of EDS
- From FY10-16, EBSP has actively conducted recapitalization of ETD
Reimbursement

- Reimbursement Review and Validation Plan for In-line Baggage Screening Systems approved on June 16, 2016
- Timeline for submission, review, and validation of reimbursement claims
  - August 2016: Reimbursement Justification Request application and instructions posted to FedBizOpps
  - November 2016: Deadline for initial reimbursement applications
  - January 2017: TSA concludes application evaluations
  - January 2018: TSA will then evaluate the detailed project cost information to determine the amount eligible for reimbursement
  - January 2018: TSA completes all evaluations and ready to begin reimbursement
Outline path forward for EBSP to meet TSA’s goal to “Improve security effectiveness through a system of systems technological approach.”

Agreed upon pathways, interdependencies, and supporting roles to achieve targeted future state objectives.
EBSP Strategic Roadmap Overview - Notional

Future Concept Development (Pre-Need/Need)
- Evolve screening technology to meet the changing threat landscape

Program Integration
- Continue to integrate with the System Architecture team

Connected Technology
- Cybersecurity (STIP 6.0)
  - RBS Solution
  - Remote Monitoring

Increased Detection
- Detection Algorithms
- Next Gen Alarm Resolution Tool
- Improved Threat Discrimination

Common Approach
- Common Image Format
- Common Network
- Common Footprint

System of Systems Implementation including Next Generation Capability Development

EDS CP2 OEM C Acquisition Contracts/CP2 Sole Source Omnibus IDIQ Tech Services Contract

New Acquisition Program
EBSP Strategic Roadmap - Notional Operational View (OV)

**MAD Development of 2027-2030 Capabilities (Need)**
- Advanced Algorithm Development
- Advanced Component Development
- Advanced Architecture

**S&T Development of 2027-2030 Capabilities (Pre-Need)**
- Advanced Algorithm Development
- Advanced Component Development
- Advanced Architecture

**S&T Development of 2030-2040 Capabilities (Pre-Need)**
- Capability upgrades for Next Gen CBT TSE
- Algorithm Development

**S&T Development of 2040-20xx Capabilities (Pre-Need)**

**Program Acquisition of Developed Capabilities 2027-2030**
- EBSP 2 TSE
- EBSP 2 Capabilities

**System Architecture**
- Informs Long Term Direction for System of Systems Approach

**Detection Requirements**
- RTM Detection (5.8)
- HME Capable (7.2)
- UltraFAR (7.2R)

**System Requirements**
- Speed (BPH)
- Reliability
- Size
- Safety
- Core Functions
- Image Archive, Alarm Clearing, GUI Timer, FDRS Bag Count
- Common GUI 2.0
- STIP 5.0

**Legend**
- Program Action
- MAD Action
- S&T Action
- System Architecture
- Critical Project
- Common Arch.
- Detection
- RBS/Connect.
- MAD Connect.
- MAD Flow
- S&T Flow

**EDS CP2 Baseline:**
- ORD 3.4
- EDS CP2 OEM C Acquisition Contracts/CP2 Sole Source Omnibus IDIQ Tech Services Contract

**System of Systems Implementation in Conjunction w/ PSP**
- Next Gen EDS
- Common Footprint
- Common Network

**EBSP Strategic Roadmap - Notional Operational View (OV)**

**Open Threat Assessment Platform (OTAP) X-Ray**

**Algorithm (Concept)**

**Algorithm (Deploy)**

**Network Upgrades (Deploy)**

**Common Image Format (Concept)**

**Common Image Format (Deploy)**

**Common Network (IAN) (Concept)**

**Common Network (IAN) (Develop & Test)**

**Common Footprint (Spec Development)**

**Common Footprint (Concept)**

**Common Footprint (Deploy)**

**Algorithm (Concept)**

**Algorithm (Dev & Test)**

**Algorithm (Deploy)**

**Remote Monitoring (Concept)**

**Remote Monitoring (Deploy)**

**RBS Solution (Concept)**

**RBS Solution (Develop & Test)**

**RBS Solution (Deploy)**

**Hardware (Deploy)**

**Cybersecurity (STIP 6.0) (Concept)**

**Cybersecurity (STIP 6.0) (Develop & Test)**

**Cybersecurity (STIP 6.0) (Deploy)**

**Critical Project**

**Program Acquisition of 2027-2030 Capabilities**

**S&T Flow**

**Legend**


**System Architecture**
- Informs Long Term Direction for System of Systems Approach

**Detection Requirements**
- RTM Detection (5.8)
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- Common GUI 2.0
- STIP 5.0
Increased Detection initiatives focus on rapidly developing and deploying new threat detection algorithms and enabling improved threat resolution technology, ensuring TSA’s Security Mission is fulfilled.