TSA Innovation Task Force

Fiscal Year 2023 Report to Congress

January 14, 2025

Message from the Administrator

January 14, 2025

I am pleased to present "TSA Innovation Task Force," an annual report prepared by the Transportation Security Administration (TSA). This report provides performance data from TSA innovation projects and checkpoint enhancements between October 2022 and September 2023.

This report was compiled according to section 1916 of the *Federal Aviation Administration* (FAA) *Reauthorization Act of 2018*, (Pub. L. No. 115-254, 132 Stat. 3186) signed into law on October 5, 2018.

This report is being provided to the following Members of Congress:

The Honorable Ted Cruz
Chair, Senate Committee on Commerce, Science, and Transportation

The Honorable Maria Cantwell
Ranking Member, Senate Committee on Commerce, Science, and Transportation

The Honorable Rand Paul
Chairman, Senate Committee on Homeland Security and Governmental Affairs

The Honorable Gary Peters
Ranking Member, Senate Committee on Homeland Security and Governmental Affairs

The Honorable Mark Green
Chairman, House Committee on Homeland Security

The Honorable Bennie G. Thompson
Ranking Member, House Committee on Homeland Security

Inquiries relating to this report may be directed to me at (571) 227-2801 or to TSA's Legislative Affairs office at (571) 227-2717.

Sincerely,

David P. Pekoske
Administrator

Executive Summary

In 2018, TSA published the *TSA Strategy 2018-2026*, which highlights "Accelerate Action" as a strategic priority necessary for TSA to fulfill its vital mission of protecting the Nation's transportation systems to ensure freedom of movement of people and commerce. Innovation and agility enable TSA to "Accelerate Action" for both today's and tomorrow's complex and dynamic threat environments.

The TSA Innovation Task Force (ITF) mission is to cultivate innovation in transportation security and enhance screening operations by enabling the introduction of new technologies into live operational environments, enabling rapid knowledge transfer that accelerates the deployment of technology, processes, and policies.

To accomplish this mission, the ITF engages industry, solicits state-of-the-art technologies, and demonstrates them in a live airport environment; develops operational requirements; and identifies opportunities for further technology development and procurement.

ITF's fiscal year (FY) 2023 accomplishments include the following:

Completed four technology demonstrations: The ITF completed the following four demonstrations in FY 2023 which resulted in cost avoidance, operational benefits, requirements generation and lessons learned.

- aXite AX-Box Gatekeeper: Assessed the capabilities of the AX-BOX Gatekeeper to correctly detect and respond to malicious network traffic.
- HumanLink XRT4: Assessed the capability of the XRT-4 to receive property/baggage scans and simulate accessible property screening using Original Equipment Manufacturer (OEM)'s user interfaces and functionality to provide consistent training for a geographically dispersed workforce.
- Palantir Foundry: Assessed a commercial data infrastructure's ability to integrate and translate TSA's operational data into a readable format.
- Pangiam Project Dartmouth: Assessed the use of artificial intelligence (AI) and machine learning (ML) computer vision technologies to highlight areas of interest in Computed Tomography (CT) images and identify prohibited item (PI) threats in accessible property.

Cost Avoidance: ITF's demonstration outcomes generated approximately $500,000 of cost avoidance for the Agency.

Broad Agency Announcement: The ITF saw strong engagement from industry and small businesses upon launching Broad Agency Announcement (BAA) VI, yielding an outcome of eight new technology demonstrations in FY 2023. Of the 21 submissions, 63 percent of companies were small businesses.

Industry Engagement: The ITF promoted its BAA and demonstration accomplishments by engaging industry at 12 conferences. TSA participated in 30 speaking engagements, obtained over 300 lead retrievals, exhibited at three booths, networked with vendors and provided the ITF

marketing collateral to conference attendees. The ITF's industry exchange program drives submissions to open BAA and additional solicitations within TSA, provides a direct avenue for industry communications to applicable TSA capability programs and promotes TSA and the ITF's mission and current strategies to critical stakeholders.

Partnership Agreements: The ITF continued its two partnership agreements with Federally Funded Research and Development Centers (FFRDC), leveraged the Department of Homeland Security Science & Technology Directorate (DHS S&T) Partnership Intermediary Agreement (PIA) that established the Innovation Hub for solution-sourcing and facilitated four information sharing agreements between TSA's Information Technology office and airports. The data sharing agreements have enabled airports to build passenger profiles to inform projected passenger trends and arrival curves. Accurate passenger trends and arrival curves facilitate operational decisions to optimize deployment and allocation of the screening workforce. The data sharing agreements have also enabled airports to create a check and balance of projected passenger throughput and actual passenger throughput, which inform modeling enhancements.

TSA Innovation Task Force
Annual Report

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I. Legislative Language

This report is submitted to the appropriate committees of Congress, as mandated by section 1916 of the *Federal Aviation Administration* (FAA) *Reauthorization Act of 2018* (Pub. L. No. 115-254, 132 Stat. 3186 (2018)).

Section 1916 states:

> (b) ACTIVITIES. – The task force shall –
>
> (3) submit to the appropriate committees of Congress an annual report on the effectiveness of key performance data from task force-sponsored projects and checkpoint enhancements.

II. Background

The Transportation Security Administration (TSA) created the Innovation Task Force (ITF) in 2016. The ITF fosters innovation by integrating key stakeholders to identify and demonstrating emerging solutions in live operational environments. These solutions increase security effectiveness and efficiency, improve the customer experience and flow of commerce, and secure freedom of movement throughout the Nation's transportation systems. The ITF activities are codified through the enactment of the *FAA Reauthorization Act* in 2018 as shown in **Figure 1.**

Figure 1: ITF Activities Codified in the *FAA Reauthorization Act of 2018*

The ITF is a catalyst for TSA to adopt cutting-edge technologies through an agile demonstration process, industry collaboration, and rapid technology development and transfer. Findings from ITF demonstrations inform TSA decisions on requirements, acquisition and procurement, and research and development (R&D) with their impact shown in **Figure 2**.

Figure 2: Impacts of ITF Demonstrations

The ITF measures performance effectiveness through the criteria listed in **Figure 3**.

Figure 3: ITF Activities and Measures of Effectiveness

ITF Activity	Measure of Effectiveness
Solution Demonstrations	Number of completed solution demonstrations
	Number of solutions leading to acquisition, procurement, or lessons learned
	Outcome (i.e., cost avoidance, operational benefits, requirements generation)
Solution Identification	Broad Agency Announcement VI Engagement Metrics
	Industry Engagement / Event Metrics
	Strategic Communications Metrics
	Process Improvements
Partnerships	Field Engagement Metrics
	Collaborative Solutions with other Agencies
	Partnership Agreements
	International Outreach

III. Solution Demonstrations

ITF demonstrations are short-term pilots of people, process and technology solutions that enable assessments in lab or live operational environments. They allow TSA to prioritize requirements, accelerate technology development, improve security effectiveness and enhance screening efficiency. Demonstrations provide vendors with access to operationally realistic environments and the data collected helps them better understand TSA needs, allowing them to improve technical performance and human factor considerations. Following each demonstration, the ITF transitions new knowledge and critical performance data to the appropriate TSA office and recommends next steps. The data informs future TSA decisions and supports the development of capability areas supported by ITF demonstrations as shown in **Figure 4.**

Figure 4: Capability Areas Supported by ITF Demonstrations

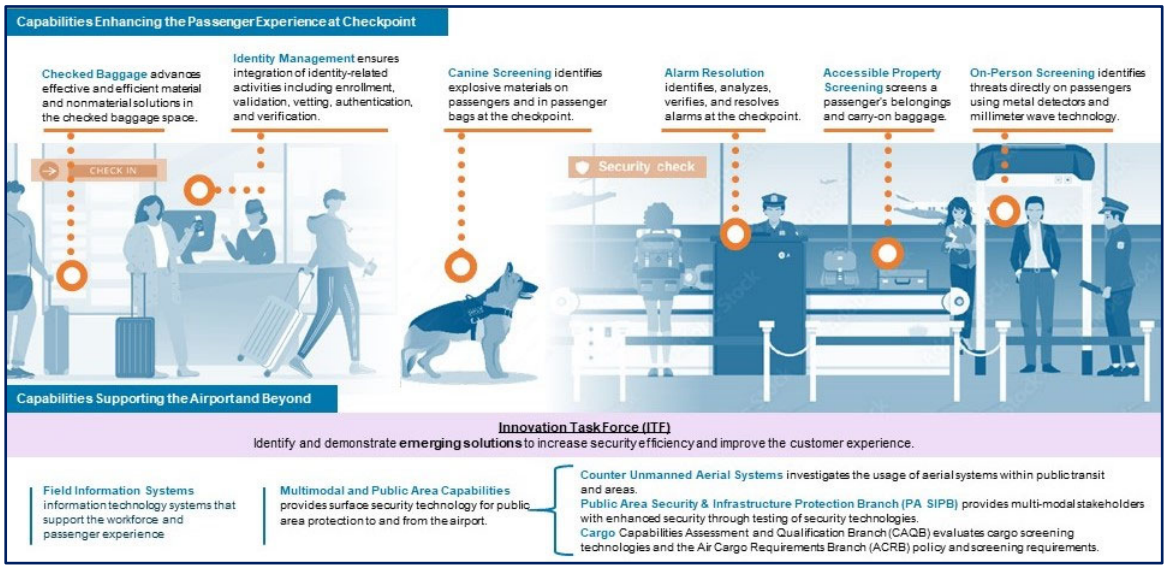
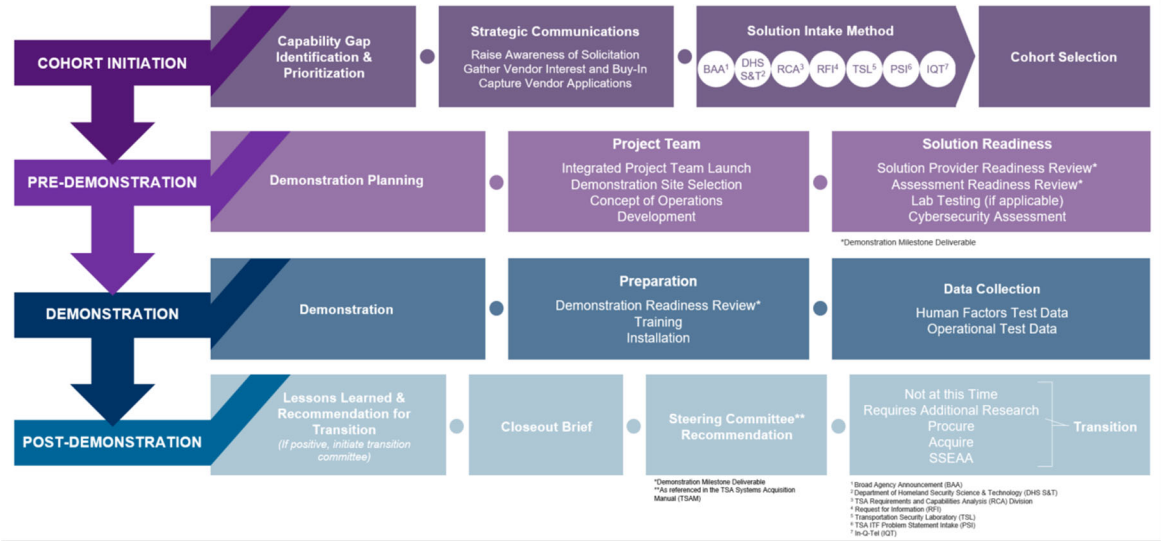


Figure 5 explains the ITF demonstration lifecycle, an agile process for technology assessment.

Figure 5: ITF Demonstration Lifecycle



Demonstrations Completed in FY 2023

The ITF completed four technology demonstrations in FY 2023**. Figure 6** describes each demonstration and how they informed TSA capability analysis and operational and functional requirements.

Figure 6: ITF Demonstrations Completed in FY 2023

Demo	Description
aXite	The AX-BOX Gatekeeper is a cybersecurity tool produced by the company, aXite. This security tool is built for mission critical systems and runs a unique Artificial Intelligence detection program to detect anomalies. The AX-BOX Gatekeeper is capable of protection and smart configuration management. The tool showed it can protect Transportation Security Equipment while enabling it to operate in a secure, interoperable and networked environment. This aligns with DHS and TSA enterprise architecture objectives and cyber standards for checkpoints and checked baggage technologies. The ITF transitioned this technology to the Checked Baggage Capability Manager for further testing on equipment at Dallas Love Field Airport (DAL).
HumanLink	The HumanLink's X-ray Tutor 4 (XRT4) is a Computer Based Training (CBT) program that was created on scientific research and has adaptive and specialized training. The program considers the trainee's skills and knowledge to provide a motivating, efficient and effective training experience. The demonstration showed the capability of the XRT4 to receive property/baggage scans and simulate accessible property screening using actual data. This provides consistent training for a geographically dispersed workforce and enables tailored training for TSOs by focusing on individual skill gaps, which will increase threat detection and decrease false alarm rates. ITF demonstrated the solution at both Harry Reid International Airport (LAS) and LaGuardia Airport (LGA) and transitioned it to TSA's Training and Development (T&D) for further research and development.
Palantir	The Palantir Foundry solution is a commercial open architecture/data infrastructure tool that

Demo	Description
	can synchronize real time operational data from Transportation Security Equipment and provide a platform for data-driven decision making. Operational data collected includes current wait times, resource/staffing levels, and threat detection data including types of threats (firearms, prohibited items, liquids). The ITF added this solution information to the ITF Supplemental Solution for External Adoption/Acquisition list and lessons learned were transitioned to the TSA Information Technology (IT) office for further consideration.
Pangiam	Pangiam Project Dartmouth has the potential to use artificial intelligence/machine learning (AI/ML) computer vision technologies to highlight areas of interest in CT images and identify prohibited item (PI) threats across multiple checkpoints throughout an airport (potentially detecting a coordinated threat). This solution intends to alleviate the mental load of the TSO and increase efficiency and effectiveness of accessible property screening. The demonstration identified technical requirements for assessing and procuring future technologies with this capability. The ITF shared this information and other lessons learned with the vendor so they could improve their solution to better meet TSA's needs. The ITF provided the vendor with DHS partnership options that could support Pangiam advancing its algorithms.

Cost Avoidance, Other Transactional Agreements (OTA), and Bailments

In alignment with the Administrator's Intent 3.0 objective to "Accelerate Action," the ITF utilized OTAs to cost share demonstrations. This allowed TSA to solidify requirements before investing in expensive long-term solutions. The ITF had four OTAs in progress during FY 2023 and is tracking an additional eight OTAs and one bailment agreement likely to result from demonstration planning. A Bailment Agreement establishes the responsibilities of TSA and the Solution Provider during a temporary transfer of property to TSA for the purpose of assessment through demonstration. Bailments do not have any obligated funds and permit TSA to only take possession of the solution for a finite timeframe prescribed in the agreement. The value of the bailed property is the estimated value of the equipment being provided to TSA and includes equipment, services, setup, software licensing, and updates. FY 2023 cost avoidance is captured in **Figure 7**.

Figure 7: FY 2023 ITF Cost Avoidance

Demonstration	Cost Avoidance
aXite	**$45,000**
HumanLink	**$505,000**
Palantir	**$120,000**
Pangiam	**$120,000**
ITF OTA Cost	**- $290,000**
Cost Avoidance Total = **$500,000**[1]	

Current ITF Demonstrations

During FY 2023, the ITF supported the development of a Self-Service Screening (SSS) system

[1] Cost avoidance is realized through industry provided technology for TSA testing, calculated at the end of each demonstration, and reported in the year that the demonstration is closed out. This number is subtracted from ITF OTA delivery. The cost avoidance captures the amount that TSA did not have to pay to conduct the demonstration.

effort led by DHS S&T. SSS is a network of connected and integrated TSE that allows an individual to complete the screening process and resolve system alarms with minimal Transportation Security Officer (TSO) interaction. The ITF leverages this initiative to fill high-priority capability gaps and align solutions with TSA's roadmap for future screening technology. The SSS Integrated System was assessed at the TSA System Integration Facility (TSIF) during FY 2023 Q2-Q4. The lab assessment involved mock passengers and TSOs from the Innovation Checkpoint (ICP) at LAS that were trained and operated the system. The TSIF assessment results were used to inform the Standard Operating Procedures, Staffing Model, Concept of Operations and test and evaluation plans. FY 2024 assessments are slated to take place at the ICP at Harry Reid International Airport. **Figure 8** depicts demonstrations, stages, and statuses of ITF solutions sourced through the 2023 BAA. Detailed descriptions of these solutions can be found starting in Section IV.

Figure 8: Current ITF Demonstration Stages and Planning by Vendor

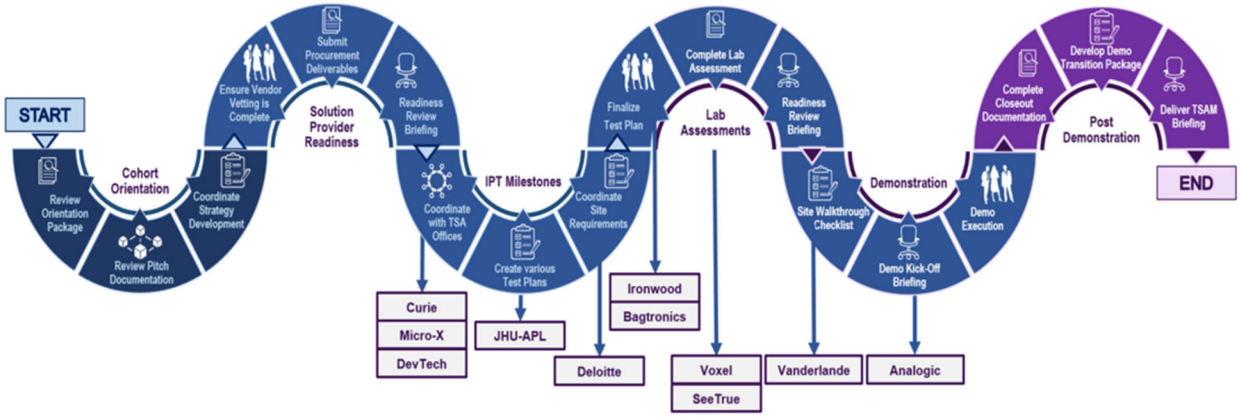


Figure 9 shows key data points for solution demonstrations since 2016.

Figure 9: Key Data Points for Solution Demonstrations

Key Data Points	Result
Completed solution demonstrations since ITF inception in 2016	**55**
ITF-enabled demonstrations since ITF inception in 2016	7
Solutions transitioned into an acquisition or procurement	8
Solutions deemed as "Not at This Time"[2]	13
Solutions deemed as "Requiring Further Research"	22
Solutions recommended to be "Sustained"	5
Innovation Checkpoint tours conducted in FY 2023	24
TSIF tours for Self-Screening Solution conducted in FY 2023	16

[2] Demonstrations that were deemed "Not at This Time" were placed in this category based on a lack of vendor. readiness, lack of field readiness, inability to perform as needed, inability to appropriately address capability gaps or

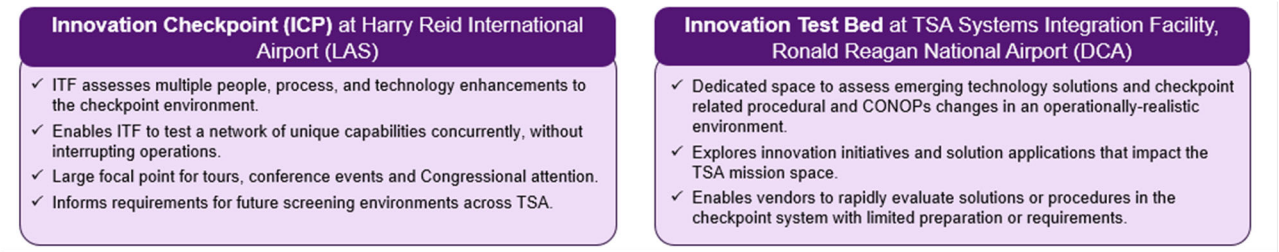
Advancing the Checkpoint Environment (ACE)

TSA's ACE mission is to provide an environment that allows new technologies and processes to be assessed concurrently so that TSA can advance decision-making that is data-driven. Technology and process improvements generated by ACE demonstrations will ultimately increase security effectiveness and efficiency, enhance the customer experience and provide tools for Transportation Security Officers (TSOs) to best accomplish screening. The Innovation Checkpoint (ICP) and the Innovation Test Bed (ITB) are critical to the ACE mission.

The ICP was established between the Clark County Department of Aviation, LAS and TSA to showcase unique opportunities to modify and define future aviation security processes and enhance the customer experience. TSA demonstrates new capabilities at the ICP to promote a culture of continuous improvement, remain ahead of the dynamic threat environment and simultaneously enhance security and the customer experience.

The ITB was designed as a dedicated space to assess emerging technology solutions and checkpoint related procedural and Concept of Operations (CONOP's) changes in an operationally realistic environment. The ITB explores innovation initiatives and solution applications that impact the TSA mission space. This effort enables the ITF to rapidly evaluate solutions or procedures in the checkpoint system with limited preparation or requirements. **Figure 10** describes the capabilities and operations of the ICP and ITB.

Figure 10: ACE Facts

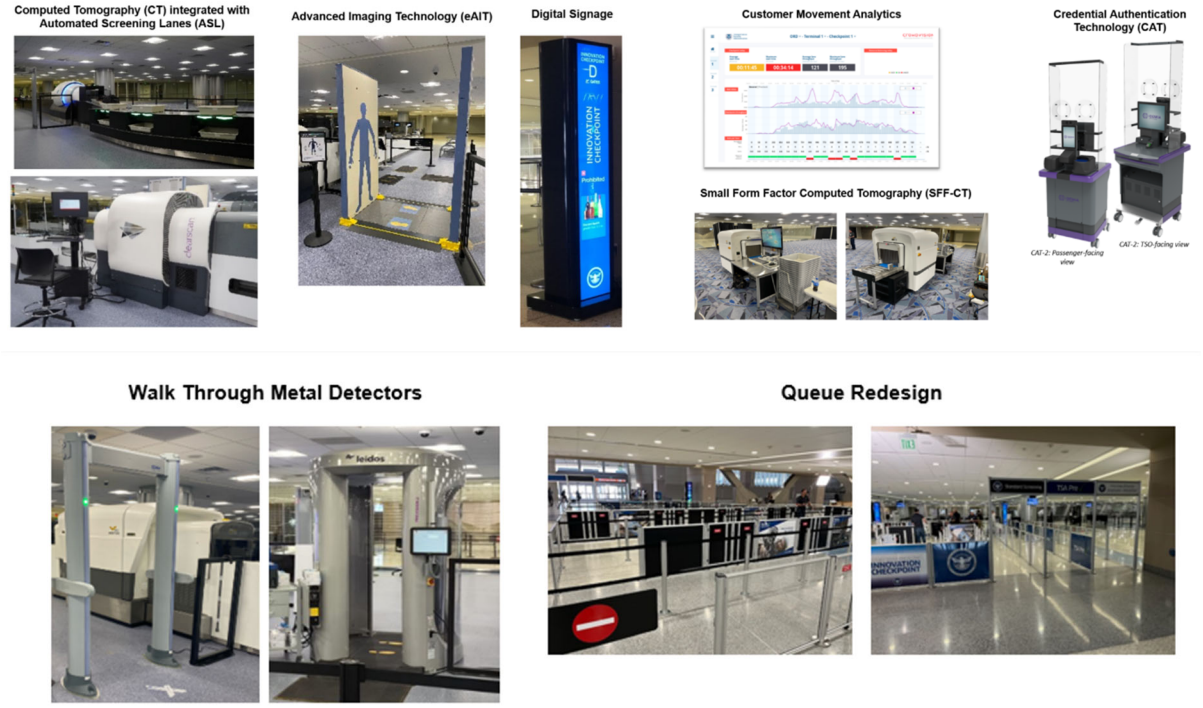


Below are images of the ICP and the ITB, respectively.

TSA leverages private sector innovation, production, and technologies to set a standard by which to measure the checkpoint of the future using the ICP and ITB. **Figure 11** shows the equipment at the ICP.

inability to provide TSA with an opportunity to define future requirements. These demonstrations drive knowledge-sharing and ensure TSA does not procure, acquire, or test capabilities that are not ready for field deployment.

Figure 11: FY 2023 Deployed Equipment at the Innovation Checkpoint



Deployed equipment at the ICP features the following technologies:

- **Computed Tomography (CT) 3-D X-ray scanners** integrated with Automated Screening Lanes (ASL) to screen carry-ons increase throughput with fewer divestiture requirements, lower false alarm rates, and improved threat detection.
- **Small Form Factor Computed Tomography (SFF-CT):** DHS S&T's Screening at Speed Program is pursuing R&D to increase security effectiveness from curb-to-gate while reducing wait times and improving customer experience. The SFF-CT system is part of a portfolio of investments in Accessible Property Screening that give TSA and DHS end-users flexibility to deploy systems to any airport. SFF-CT can be installed against a wall, in compact checkpoints, and trailers at regional airports. It shares critical components with the full-sized CT system that uses existing detection algorithms, reducing costs and configuration management complexity. Projects like the SFF-CT will allow TSA to pursue innovative checkpoint concepts and Screening at Speed.
- **Credential Authentication Technology (CAT)** verifies traveler identity, risk status, and flight information.
- **Advanced Imaging Technology (AIT)** detects presence of concealed metallic and non-metallic threats carried in or underneath clothing. Passenger touch rate is lowered while maintaining high detection standards. There are two different vendors in the checkpoint.
- **Walk Through Metal Detectors (WTMD)** detect metal objects, like firearms and knives.
- **Passenger Movement Analytics** assess wait times and flow through the checkpoint.
- **Dynamic Digital Signage** provides messaging to help travelers navigate the checkpoint.

- **Queue Redesign:** The 2023 redesign of the queue system enhances customer experience by improving the aesthetic of the checkpoint and separating lines where passengers enter.
- **ICP Infrastructure:** The ITF is working with LAS and the Clark County Airport Authority to update ICP infrastructure, which will allow for further testing of complex technologies.

IV. Solution Identification

The ITF engages with transportation security and technology industry representatives to support global transportation security innovation, identify new solution providers, learn about new capabilities and latest advancements, share information about TSA's most pressing needs and market upcoming solicitation efforts. Industry engagement is vital to leveraging the full ecosystem of stakeholders to identify emerging solutions for demonstration, enable TSA to gather operational data to inform decision-making and secure the freedom of movement for people and commerce.

FY 2023 BAA

BAAs are used to solicit proposals for research and development efforts. The Innovative Demonstrations for Enterprise Advancement (IDEA) BAA is the ITF's formal, competitive intake method that identifies emerging capabilities for demonstration in operationally realistic or laboratory environments. Through the BAA, TSA seeks to solicit industry capabilities that address specific focus areas as referenced in **Figure 13**. The ITF selected the eight solutions listed in **Figure 12** to proceed to the demonstration planning phase of the ITF solution lifecycle:

Figure 12: Demonstrations Selected from BAA VI

Solution Name	Description and Potential Impact
petiteC™ *Curie Technologies*	• Description: Enables security asset management information to be automatically shared between TSA and relevant stakeholders. • Impact: Automating TSA's asset management could enhance cooperation, increase TSE availability by informing TSA staff of required maintenance/service information in real-time, enhance operational performance and increase the efficiency of TSE data analysis.
Swab Sampling Efficiency Assessment Tool *Johns Hopkins University*	• Description: Low cost, easy-to-use prototype for quantifying trace explosive sampling that enables enhanced training, practice and feedback to operators. • Impact: Could improve efficiency in TSO swabbing techniques and explosives threat detection (ETD) sample collection resulting in better customer experience.
Risk-Modulated Resource Screening (RiMS) *DevTech*	• Description: Optimizes scheduling based on dynamic risk factors and technical components. • Impact: Could automate scheduling of K-9 teams through airports and identify at-risk locations using AI. This would provide K-9 teams and their management important schedule information more efficiently to enable proactive schedule changes and an improved K-9 work environment.

Solution Name	Description and Potential Impact
3rd-Party Cyber Assessor *Ironwood*	• Description: AI that provides objective, on-demand vulnerability, and risk assessments equivalent to a trained cybersecurity technician of environments that contain TSE. • Impact: Could provide a third-party cybersecurity inspection program that TSA's IT could use on current and future TSE assessment needs, reducing the need to deploy expensive cybersecurity expert(s) to approve the use of various technologies resulting in cybersecurity effectiveness aligning with security program objectives.
CheckpointEDGE *Deloitte*	• Description: Open architecture tool that is intended to integrate TSA's operational data and translate it into a dashboard format, allowing the TSO to understand current wait times, resource/staffing effectiveness, threat detection summaries (e.g., number of firearm discoveries or other security incidents), and other important information. • Impact: This solution would enable TSA to make near real-time resource allocation decisions and better understand trends in threats, wait times, and passenger throughput. ITF shared all results and lessons learned with the TSA Information Technology office for further consideration. A mature solution would provide the opportunity to inform TSA capability readiness, address TSA's data ingestion capability gap and assess an open, interoperable platform and assist in recognizing relationships between TSE.
Automatic PI Detection Algorithm *SeeTrue*	• Description: Third-party AI-based automated PI Detection Algorithm • Impact: Could identify PI in passenger checkpoint baggage with high detection and low false alarm rates, alleviating TSO mental burden and increasing efficiency and effectiveness of Accessible Property Screening resulting in an improved customer experience.
Express+ Lane *Analogic*	• Description: Designed to meet the Checkpoint Property Screening System (CPSS) full size requirements. • Impact: The eXpress + could improve Screening Efficiency when multi-plexing (e.g., when multiple TSOs are reviewing images from the same CPSS) by providing a passing lane to allow processing of clear bags without delays caused by bags that take longer to review by a TSO resulting in an improved customer experience.
Bagtronics *Tactile Telerobot*	• Description: Utilizes a telerobotic system to support TSOs in performing bag searches, ETD swabbing, and container opening. • Impact: This solution allows officers to safely search through suspicious luggage without the risk of being harmed. This technology is helpful in cases of potential explosive devices and substances that could be harmful upon contact. This solution will provide a safe effective security process.

Figure 13: Overview of Responses by BAA Focus Area

Regulatory Compliance	**1**	Solutions that support the inspection activity of regulated aircraft/airport operators, both domestic and foreign, validate chain of custody for pre-screened cargo, validate that regulated entities have conducted security assessments and have implemented security plans, validate passenger screening operations at Last Point of Departure
Security Effectiveness	**2**	Solutions that provide explosive detection through non-iodizing radiation for both on-person and carry-on property threats, at both a passenger screening checkpoint and non-traditional screening environment
Innovation Checkpoint	**4**	Emerging and innovative technology for Accessible Property Screening (APS), On Person Screening (OPS), Alarm Resolution (AR), data integration, crowd movement analytics, innovative equipment configurations, upgrades for new and/or existing Transportation Security Equipment (TSE) consisting of hardware and/or software to enhance screening operations, effectiveness, efficiency or passenger experience
Customer Experience	**5**	Solutions that push critical communications directly to travelers, including pre-travel preparation advisements, support off-premise checkpoint and/or checked baggage screening, to include secure transport of 'screened' individuals from an off-premise location to the sterile area
Screening Efficiency	**8**	Solutions that enable secure remote transmission to enable support remote screening, enable Security Technology Integrated Program (STIP) client for seamless data reporting for TSE, lower false alarm rates for both on-person and accessible property screening; enable dynamic algorithm switching for efficient screening of a traveler/non traveler

Figure 14 shows other key data points for 2023 BAA submissions.

Figure 14: BAA Key Data Points

Key Data Points	Result
Total submissions	21
Unique vendor submissions	19
Submissions selected to be demonstrated in FY 2024	8
Percentage of small business submissions	63%
Percentage of vendors who submitted to BAA and have never contracted with TSA	67%
Percentage of vendors who submitted to BAA and had not previously participated in ITF BAAs	42%

Problem Statement Intake Strategy and Process

The ITF revised its Problem Statement Intake (PSI) strategy to provide a crowdsourcing forum for TSA offices and field components to submit critical problems for consideration in ITF's solicitation process. The ITF launched the updated process in 2023 by soliciting problem statements within select TSA Directorates and Airports. Each problem statement submitted to the ITF will be either demonstrated; transitioned to a TSA office, ITF Innovation Channel (e.g., HSWERX), or DHS S&T; or deferred. The ITF has managed 20 problem statements from 10 TSA offices and led two high impact executive stakeholder decision panels, which assessed problem statements based on the criteria in **Figure 15**. The ITF collaborates with industry, government partners, field components, nonprofits and academia to address problem statements which include:

- Detecting chemical, biological, radiological threats during passenger screening.
- Standardizing TSA's catalog of simulants to mimic the similar properties of real live explosives for testing and training.
- Optimizing staffing, scheduling, and time and attendance for field workforce.
- Detecting internal concealments and validating implanted medical devices.
- Enhancing engagements with limited English-proficient individuals, persons with

disabilities, and citizens from Tribal Nations through communications solutions.
- Automating field data collection to increase security effectiveness and efficiency.

Figure 15: Evaluation Criteria for ITF Problem Statement Intake

Industry Exchange Speaking Events and Conferences

The ITF led TSA's participation in the following engagements in FY 2023. The ITF's industry exchange program drives submissions to open BAA and additional solicitations, provides a direct avenue for industry communications to applicable TSA capability programs and promotes TSA and ITF's mission and current strategies to critical stakeholders.

- **Consumer Electronics Show (CES) 2023 and EDGE23 @ CES in Las Vegas, NV:** TSA personnel promoted ITF's IDEA BAA, co-hosted an exhibition booth with DHS Components and participated in four speaking engagements including the TSA Administrator speaking on the *Top Tech Trends in Travel* panel. Other topics included safe travel, biometrics, Counter-Unmanned Aircraft Systems (C-UAS) and a Joint Session with CBP. This conference was critical to driving submissions to the BAA.
- **Passenger Terminal Expo (PTE) 2023 in Amsterdam, Netherlands:** The ITF secured TSA eight speaking engagements and partnered with CBP to co-host an exhibition booth, which was critical to driving submissions to the BAA. Panel engagements covered C-UAS, biometrics, digital identity, checked baggage, and self-service screening. Vendors that the ITF engaged with provided 20 percent of submissions to the FY 2023 ITF BAA.
- **Aviation Festival Americas in Miami, FL:** The ITF secured speaking engagements on TSA PreCheck®, open architecture, digital identity, interoperability and connectivity, and biometrics. TSA attendees engaged with industry stakeholders and promoted TSA's ITF.
- **EDGE23 Security Summit in Las Vegas, NV:** The ITF secured TSA speaking engagements on biometrics, identity management, security challenges for transportation infrastructure and information technology governance and accountability.
- **ITF Industry Day in Springfield, VA:** The ITF hosted an Industry Day to provide vendors with information to strengthen their BAA submissions. In addition to informing industry on the ITF's mission, goals and the strategy and processes behind industry solicitation, it showcased the ITF's current projects and successful demonstrations. The event included an overview briefing, fireside chats with TSA leaders and audience Q&A.
- **Future Travel Experience (FTE) 2023 in Long Beach, CA:** The ITF hosted a booth to provide information about its BAA. TSA speakers participated in panels on biometrics, digital identity, innovation, next generation think tanks, and successful airports of 2030.
- **Airport Planning, Design, and Construction Consortium:** The ITF attended and spoke

at the 2023 American Association of Airport Executives / Airport Consultants Council Airport Planning, Design and Construction Symposium in Anaheim, CA.

Other ITF-Attended Events in FY 2023

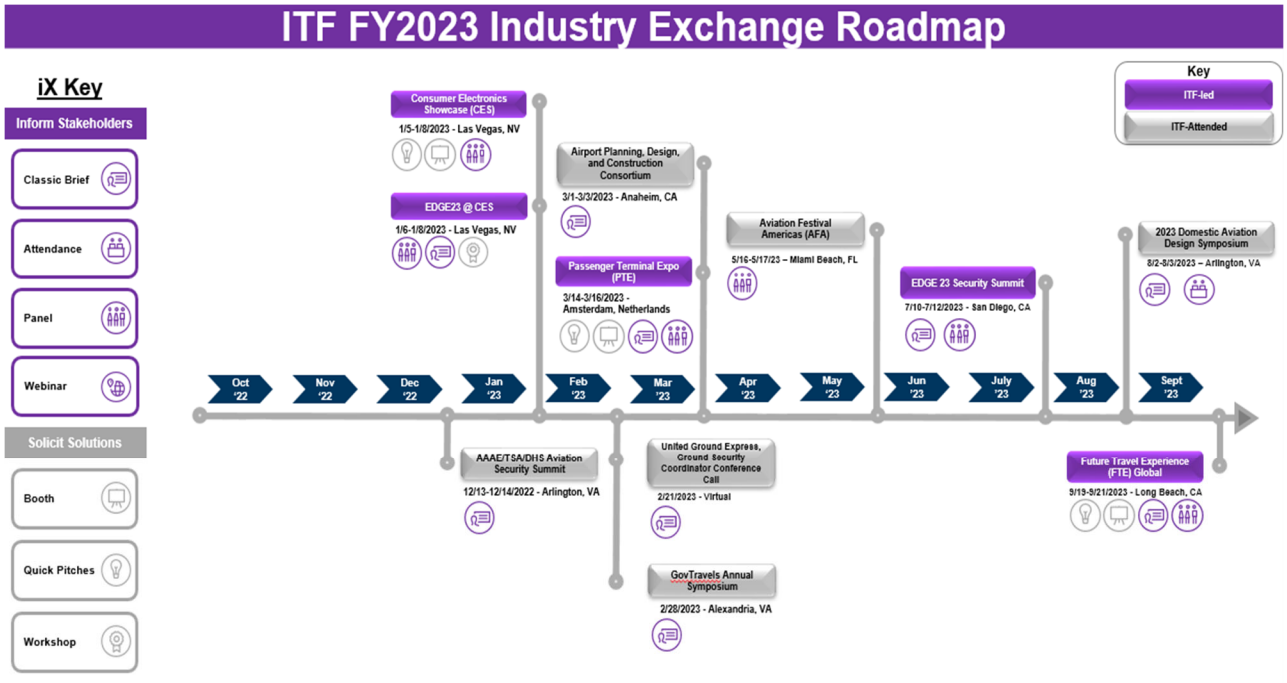
The ITF participated in several other industry events in FY 2023 as shown in **Figure 16**.

Figure 16: Other ITF-Attended Industry Events

Event Name	TSA Participation
American Association of Airport Executives (AAAE) Aviation Summit	1 ITF Attendee
United Ground Express, Ground Security Coordinator Conference	1 ITF Speaker
GovTravels: Annual Symposium	1 ITF Speaker
DefCon 2023	1 ITF Attendee

Figure 17 shows ITF's engagement activities and schedule for FY 2023.

Figure 17: TSA ITF FY 2023 Industry Exchange Roadmap



Strategic Communications

In addition to ITF's robust industry exchange program, the ITF enhanced its strategic communications approach to a hybrid environment by revitalizing its quarterly newsletters, optimizing its webpage, initiating social media campaigns and developing marketing materials like an ITF Yearbook. This approach optimized its engagement of various stakeholder audiences as shown in **Figure 18**.

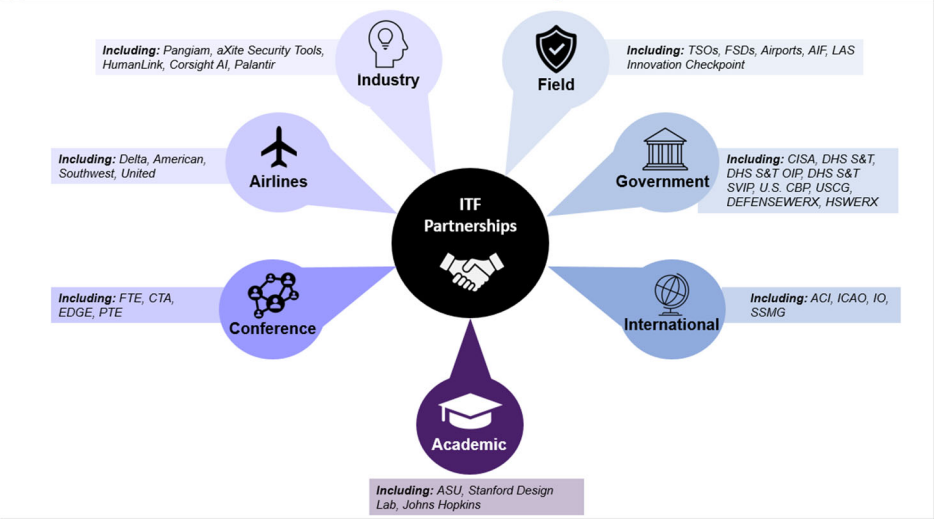
Figure 18: Key Data Points for FY 2023 Industry Exchange and Strategic Communications

Key Data Points	Result
TSA ITF conferences attended	12
TSA Speaking Engagements	30
Lead Retrievals at Conference Exhibition Booths	301
Exhibition Booths	3
BAA Submissions Driven by PTE Attendance	20%
Industry Day 2023 Attendees	100+
Industry Day 2023 YouTube Views	7.5K+
Industry Day 2023 Live Viewers	200+
TSA/ITF Acknowledgement in Third-Party Articles	4
ITF "Fly By" Newsletter FY 2023 New Subscribers	121
ITF Social Media Campaign FY 2023 Total Engagement	9,425[3]

V. Partnerships

The ITF engages a variety of critical partners, both in its solution demonstration and solution identification efforts. TSA benefits from cooperative ventures with airlines, airports, international entities, other government agencies, and industry partners. The ITF provides significant cost avoidance to the federal government through these partnerships. **Figure 19** shows our key partners.

Figure 19: Aviation, Government, Industry, and International Partners



Airport Innovation Forum (AIF)

Since 2020, the AIF has served as the ITF's primary field engagement channel with four objectives:

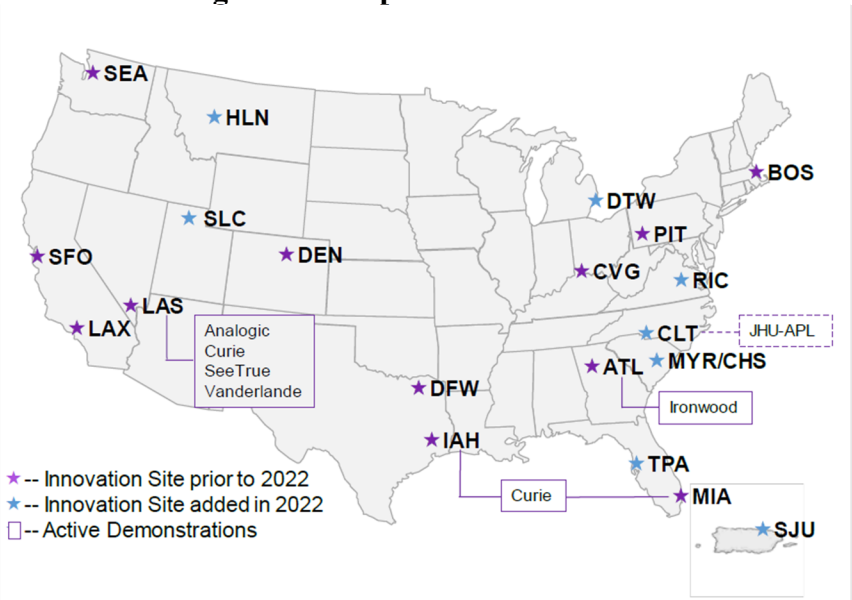
- Educate innovation sites and their airport authority partners on ITF demonstrations, new technologies coming to the field and TSA capabilities;

[3] Combined number of times the ITF social media content was viewed across LinkedIn, Twitter, and Instagram platforms.

- Empower innovation sites to run their ITF-enabled demonstrations;
- Provide a forum for streamlined updates and inter-site collaboration across airports; and
- Create an open dialogue between RCA and airports, soliciting ideas for problem statements, new and emerging capabilities and customer experience improvements.

ITF demonstrations are short term deployments designed to assess emerging technologies, collect data and generate knowledge that will ultimately inform TSA's strategic initiatives and decision making for future acquisitions or procurements. Airport authorities in collaboration with TSA Federal Security Director, can apply to be an innovation site if they are interested in partnering for solution demonstration. The ITF evaluates applications based on existing infrastructure, responsiveness, ability to install solutions, sufficient training and staffing and ability to collect robust data. ITF Innovation Airports are deemed best suited to host demonstration activities and are active members of ITFs Airport Innovation Forum (AIF). After an innovation site refresh in FY 2022, the ITF has 20 innovation sites as shown in **Figure 20**.

Figure 20: Airport Innovation Sites



For each demonstration the site is selected after close collaboration between the ITF Project Manager and Integrated Project Team, and careful consideration of a variety of qualitative and quantitative factors particular to the nature of the solution. The Innovation Site requires a strong partnership between the local TSA and the Airport Authority, necessary resources to maintain effective and efficient screening operations, absence of significant infrastructure limitations that could hinder the ability to conduct demonstrations and robust scheduling capabilities to accommodate the additional staffing requirements typically needed for limited-duration demonstrations.

Government Partnerships

The ITF continually broadens collaboration and integration of existing programs, expands the

organization's footprint into innovation communities and increases opportunities to commercialize new technologies for homeland security use. The ITF partnered with DHS S&T Office of Industry Partnerships (OIP) to use the Partnership Intermediary Agreement (PIA) with DEFENSEWERX and be part of the DHS Innovation Hub pilot. The PIA provides ITF access to a neutral facilitator, connecting a national network of individuals, businesses, academia and government organizations to enable innovative solutions for customers. In 2023, DEFENSEWERX hosted a collaboration event, which developed solutions for the ITF's plan of day problem statement and provided attendees with insights into PSI. Following the event, the ITF worked with DEFENSEWERX toward an assessment event and solution selection.

The ITF works with Federally Funded Research and Development Centers (FFRDC) like Sandia National Laboratory (SNL) and Pacific Northwest National Laboratory (PNNL). The SNL provides Human Factors Data Collection Plans, which ensure the recommendations provided to CMs, Transition Managers, and Integrated Project Teams include its impact on the TSOs and passengers. The PNNL supports development and demonstration execution.

Aviation Organization Partnerships

The ITF works with a variety of international partners including the Smart Security Management Group (SSMG), the International Civil Aviation Organization (ICAO) Assembly and international bi-lateral working groups in close coordination with TSA International Operations.

- **SSMG:** The ITF Director co-chairs this private initiative aimed at strengthening security, providing a seamless customer journey, increasing efficiency, and reducing operational costs. SSMG focuses on aviation, airport, threat, and community environments.
- **ICAO:** The ITF works with ICAO at international conferences, gaining international vendor exposure and new problem statements. ICAO is funded and directed by 193 national governments to support diplomatic interactions, research new air transport policies and standardize innovations.
- **Aviation Security Advisory Committee (ASAC):** The ITF Director is the Security Technology Sub-Committee Co-Chair on ASAC which includes private sector organizations affected by aviation security requirements including airports and airlines.

Figure 21 shows key data points for ITF partnerships.

Figure 21: Key Data Points for ITF Partnerships

Key Data Points	Result
AIF Airports in FY 2023	20
AIF Meetings Held in FY 2023	4
New Interagency Agreements Generated	1
Partnerships with FFRDCs since 2016	2
Information Sharing Agreements Signed with AIF airports in FY 2023	4

VI. Conclusion

In FY 2023, the ITF accomplished its mission by demonstrating emerging transportation security capabilities, initiating new business, enhancing Agency collaboration, and revolutionizing its innovation processes. It completed four successful solution demonstrations, transitioning valuable technologies and lessons-learned to the Agency while avoiding costs. It generated new technology solutions through its BAA and PSI and continued fostering key partnerships.

Lessons learned in FY 2022 challenged the ITF to instill continuous growth into its culture. In FY 2023, the ITF enhanced its processes and strategies related to demonstration, partnership and solution identification. The ITF provides TSA with the opportunity to accelerate action and create lasting impacts on security effectiveness, operational efficiency, and customer experience.