

Primary Screening for Passengers



Science and
Technology

SCREENING MORE TRAVELERS FOR MORE THREATS

The number of air travelers the Department of Homeland Security's (DHS) Transportation Security Administration (TSA) screens every day at airport checkpoints is rising once again after the pandemic stall, with a record 2.9 million travelers flying the Sunday after Thanksgiving 2023.

Passengers are also still required to remove shoes, outerwear, and personal belongings to be properly screened, causing further delays. Each time a passenger triggers an alarm, a Transportation Security Officer (TSO) must manually resolve the alarm, slowing throughput even further.

TSA will need faster, higher-resolution screening systems and new concepts of operations to keep pace with increased numbers of travelers and evolving threats, as well as reduce the number of alarms TSOs must resolve on their own.

DEVELOPING SOLUTIONS FOR TSA

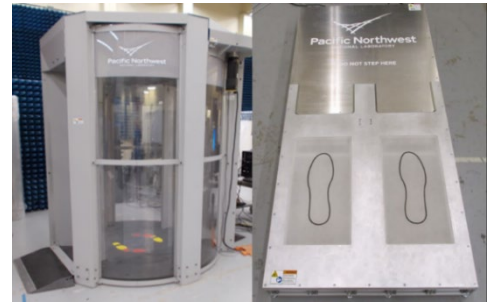
DHS Science and Technology's (S&T) Primary Screening for Passengers project develops passenger screening technologies that are safe, provide higher-resolution scans, and have better automated detection algorithms to reduce false alarms. These systems will substantially reduce the need to remove shoes, headwear, outerwear, and small personal items before being screened.

Novel approaches to solving these problems include improving competition-winning algorithms to reduce false alarms, developing real-time screening capabilities to screen passengers more efficiently, wider testing of a shoe scanner that would allow passengers to keep their shoes on at the checkpoint, and building a handheld screening wand to reduce pat downs and intrusive screening after an alarm and for limited mobility passengers who can't use traditional screening systems.

SCREENING AT THE SPEED OF TRAVEL

The Primary Screening for Passengers project delivers technologies to TSA that reduce passenger time in-line at the checkpoint while meeting increased security measures and reducing operator burden. When integrated with other

advanced checkpoint technologies, these systems will provide faster, less invasive, and less costly passenger screening.



Limited removal of outerwear or personal items will decrease passenger inconvenience and increase checkpoint throughput. Systems with material discrimination will confirm whether items are potentially harmful or benign, reducing pat-downs and other intrusive security measures.

RECENT ACCOMPLISHMENTS

- Demonstrated a handheld screening wand to resolve passenger screening alarms. (FY23 Q3)
- Delivered passenger screening retrofit kits to TSA to improve performance of existing systems. (FY23 Q3)
- Demonstrated a real-time passenger screening panel prototype to enable passenger self-screening. (FY23 Q4)
- Submitted shoe scanner for certification readiness testing to detect threat items without removing shoes. (FY23 Q4)

UPCOMING MILESTONES

- Complete a handheld screening wand technical design review to screen limited-mobility passengers. (FY24 Q3)
- Complete shoe scanner certification readiness testing to detect threat items without removing shoes. (FY24 Q3)
- Deliver a real-time passenger screening system for certification readiness testing. (FY24 Q4)

PASSENGER SCREENING PARTNERS

- Transportation Security Laboratory, Atlantic City, NJ
- Pacific Northwest National Laboratory, Richland, WA
- Spectral Labs Inc., San Diego, CA
- Lauretta AI, Arlington, MA
- DeepNorth, Redwood, CA
- Luna Inc., Roanoke, VA

