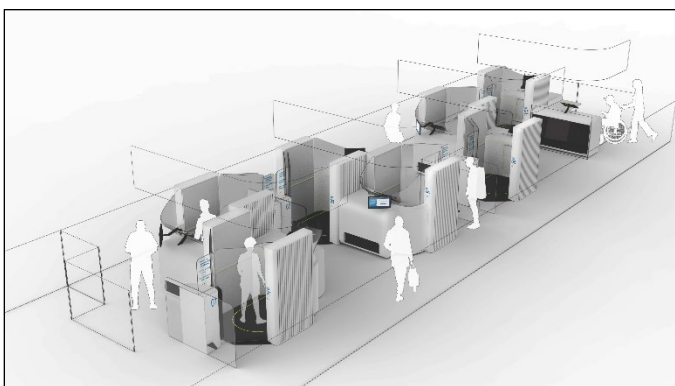


AVIATION SECURITY REIMAGINED

Passenger self-service screening is laying the groundwork for a reimagined airport checkpoint by developing prototypes and hardware that allow passengers to complete the airport screening process with minimal-to-no intervention while Transportation Security Officers (TSOs) maintain oversight.

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is innovating the airport checkpoint to increase checkpoint effectiveness while improving the passenger experience. Self-service screening will provide the DHS Transportation Security Administration (TSA) with a new screening model that offers an enhanced checkpoint experience for PreCheck® customers.



Self-Service Screening Concept Design. Credit: Micro-X Ltd.

BUILDING THE FUTURE OF SCREENING

The S&T Screening at Speed Program is developing the passenger self-service screening concept for TSA to provide a self-service experience like the self-checkout at a grocery store. Passengers and their carry-on items will be screened at individual stations that prompt them through the steps and alert them if they forgot to screen anything. The aim is to reduce pat downs and bag inspections and give TSOs more time to assist passengers who can't resolve issues on their own.

In 2021, S&T awarded four contracts to develop passenger self-service screening concepts, hardware, and prototypes to three different companies: Micro-X Ltd., Vanderlande Industries Inc., and Voxel Radar. These companies are developing self-service technology for TSA PreCheck® lanes to streamline the security checkpoint while meeting TSA's most rigorous security standards.

The S&T Screening at Speed Program also partnered with the S&T Silicon Valley Innovation Program to work with Lauretta AI and Deep North to develop video analytic tools to enhance the self-service screening systems. Video analytics tools provide passengers the user interface, sensors, and software that communicate what is needed to correctly complete the screening process with minimal-to-no intervention from TSOs.

IMPROVING THE PASSENGER EXPERIENCE

Through concept designs, prototypes, hardware, and video analytics development, the Screening at Speed Program is reimagining the airport screening experience. Passenger self-service screening aims to reduce pat downs and bag inspections, improve the passenger experience, and optimize TSO resources while meeting security screening standards.

RECENT ACCOMPLISHMENTS

- Conducted a critical design review for the pod-based self-service screening concept. (FY23 Q3)
- Tested and demonstrated the lane-based self-service screening prototype and trained TSOs for future airport pilot. (FY23 Q3)
- Conducted a design review for next generation millimeter wave panel sensors for use in a self-service screening solution. (FY22 Q4)

UPCOMING MILESTONES

- Pilot a passenger lane-based self-service screening system at Harry Reid International Airport TSA Innovation Lanes to gain feedback on the passenger and TSO experience. (FY24 Q2)
- Build a pod-based self-service screening module and submit for testing and demonstration. (FY25 Q1)
- Demonstrate a pod-based passenger self-service screening system that enables checkpoint screening with limited TSA intervention. (FY25 Q2)

INDUSTRY PARTNERS

- Deep North, Redwood, CA
- Lauretta AI, Arlington, MA
- Micro-X Ltd., Federal Way, WA
- Vanderlande Industries Inc., Marietta, GA
- Voxel Radar, San Francisco, CA