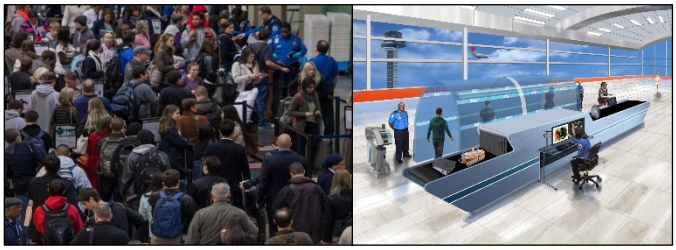
Screening at Speed

Homeland Security
Science and Technology

VISION: AIRPORT SAFETY, CURB TO GATE

Imagine walking through an airport security checkpoint without removing your coat and shoes or your laptop from its case—with only minimal delays before arriving at your departing gate, confident in your own safety and that of your fellow travelers. The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) Screening at Speed program is pursuing transformative research and development (R&D) activities that support this future vision for increasing security effectiveness from curb to gate, while dramatically reducing wait times and improving the passenger experience.



This project will result in a passenger screening process that is more reliable, less invasive, and efficient.

AVIATION SECURITY REIMAGINED

The Screening at Speed program is developing new technologies, techniques, and processes that will allow aviation checkpoints to screen 300 passengers and their carry-on belongings per lane, per hour, while meeting the Transportation Security Administration's (TSA) highest security standards. New systems will reduce the need to remove outerwear or liquids and electronics from carry-on bags, while adapting dynamically to information provided by risk-based screening. Raising passenger throughput and lowering costs will also enable highly secure screening to address emerging threats and support the efforts of other homeland security components.

DELIVERING SOLUTIONS TO THE FIELD

The Screening at Speed program will deliver solutions that can be transitioned to the field to meet urgent customer needs, while also defining and advancing the future screening environment. S&T is identifying opportunities to augment and enhance current systems and processes such as advanced person and carry-on baggage scanning systems and using advanced machine-learning algorithms for benign and threat object detection. The program will also demonstrate innovative technologies and techniques that, while currently less mature, will lay the groundwork toward a long-term vision for a transparent and convenient security system. For example, work is under way on a passenger self-screening approach where travelers can complete the entire security process without engaging a Transportation Security Officer.

SYSTEM OF SYSTEMS APPROACH

The Screening at Speed program's primary customer is TSA. S&T works closely with TSA's Office of Requirements and Capabilities Analysis to execute R&D to address critical capability needs. This includes looking at the holistic architecture and developing technology development processes, coordinated with TSA's recapitalization plans, to ensure smooth and timely insertion of technology.

The Screening at Speed program systematically develops screening technologies by leveraging state-of-the-art technologies from industry, academia, national laboratories, and other government organizations. The program develops capabilities across six key areas: passenger analysis, passenger screening, carry-on screening, enabling technologies, overarching architecture, and test and evaluation. Advances across these areas will come together in a system of systems approach to enable efficient screening that balances security and passenger throughput. The Screening at Speed program also works cooperatively with other S&T projects and DHS Component stakeholders to align requirements and develop dual-use capabilities to improve transition opportunities and reduce acquisition costs.

COORDINATING FOR SUCCESS

Screening at Speed's R&D activities directly support TSA capability development roadmaps. To minimize risk, Screening at Speed is coordinating between national labs, academia, and industry, and facilitating developmental testing and evaluation at government sites such as the Transportation Security Laboratory. Screening at Speed also works closely with TSA's Innovation Task Force to demonstrate promising technologies and provide early feedback to system developers to increase the likelihood of successful transitions of advanced capabilities.