

# DHS Science and Technology Directorate

## Apex Screening at Speed Program

### Introduction

Imagine entering an airport and walking through a security checkpoint with your coat and shoes on, your laptop in its case, with minimal delays until you have arrived at your departing gate. The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) Apex Screening at Speed program invests in technologies and techniques that will bring that vision closer to reality.

Apex programs are high-priority, long-term commitments to achieve S&T's Visionary Goals. The Apex Screening at Speed program's mission is to increase DHS's capability to respond to evolving threats while reducing invasiveness and inconvenience to passengers.



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

### Program Overview

The Apex Screening at Speed program will research and develop the new technology, techniques, and processes that allow aviation checkpoints to screen 300 passengers and their carry-on belongings per lane per hour to TSA's highest security standards. New systems will reduce the need for divestiture of outerwear or removal of liquids and electronics from carry-on bags, and adapt dynamically to information provided by risk-based screening. Raising throughput and lowering costs will also enable highly secure screening to support other homeland security customers.

### Program Timeline

The Apex Screening at Speed program aims to deliver solutions that can be implemented within five years and shape future screening technology development. S&T is

identifying opportunities to augment and enhance current systems and processes such as advanced person and carry-on baggage scanning systems and passenger identification and vetting techniques, which are achievable in five years. It will also demonstrate innovative technologies and techniques that, although not implementable in five years, will lay groundwork towards a long-term vision for a transparent security system.

### Program Approach

The Apex Screening at Speed program's primary customer is TSA. S&T works closely with TSA and the DHS Enhance Security Integrated Product Team (IPT) to plan the system's evolution. This includes looking at the holistic architecture and developing technology development spirals, coordinated with TSA's recapitalization plans, to ensure smooth and timely technology insertion.

The Apex Screening at Speed program will systematically develop technologies for passenger screening by leveraging existing state-of-the-art technologies from industry, academia, national laboratories, and other government organizations. The project will work from the current systems such as Advanced Imaging Technology, Advanced Technology X-Ray systems, computed tomography derivatives, application programming interfaces, automated target recognition software, and secondary screening technologies and methods. It will also resource other S&T projects and efforts complimentary to the task.

### Strategic Alignment

S&T's plans are consistent with TSA's Strategic Investment Plan and the RDT&E Strategic Plan developed jointly between TSA and S&T's Homeland Security Advanced Research Projects Agency. To minimize risk, S&T is coordinating between national labs, academia, and industry, and testing at government sites such as the Transportation Security Laboratory. The program is also aligned with the DHS Enhance Security IPT where screening stakeholders identify, prioritize, and document their research and development needs.