SAFELY DETECTING POTENTIAL THREATS

Surface transportation operators need a way to safely detect potential threats on people and in their bags, without physically searching them or impacting their flow through the system, but at the same time, maintaining personal privacy. Currently there are very limited solutions to solve this challenging problem; this is why the Department of Homeland Security Science and Technology Directorate is developing a layered and integrated capability to detect potential threat items at the speed of the traveling public.

LEVERAGING R&D ACROSS PARTNERSHIPS

S&T's Surface Transportation Explosive Threat Detection (STETD) Program is working in collaboration with the surface transportation end users, our stakeholders, and our technology development partners to close the surface transportation security gap through innovative technologies designed to work together and provide screening coverage from "curb to platform":

- **Forensic Video Exploitation & Analysis (FOVEA):** A "user-in-the-loop" tool capable of quickly capturing the surrounding circumstances of a leave-behind event, allowing security personnel to clear 30-50 percent of suspicious packages without necessitating an emergency response.

- **Real-time Threat Detection Agent (RTTDA):** An automated algorithm capable of detecting left-behind items in rush-hour traffic, to include the capability to tag and follow individuals associated with the object in order to more efficiently clear suspect items.

- **Standoff Detection:** Non-invasive imaging sensors using complementary parts of the electromagnetic spectrum, which can safely scan people and their bags within soft-target venues and crowded places without physically coming into contact with them.

- **Layered Architecture:** Gathers input from distributed sensors of different modalities to achieve a more accurate and holistic threat assessment.

Washington Metropolitan Area Transit Authority (WMATA) serves as a test bed for several S&T developed surface transportation security technologies.

SECURING SURFACE TRANSPORTATION, SOFT-TARGET VENUES, AND CROWDED PLACES

S&T is developing this technology for use in the surface transportation environment, because it is the most difficult security challenge. However, these tools will also have application to other parts of the Homeland Security Enterprise. They can also be used to monitor events that take place at stadiums, convention centers, or schools, and to enhance security in any soft-target venue or environment with unstructured crowds.

It's impossible for law enforcement officials to be everywhere at all times. S&T is developing these tools to serve as a force-multiplier, assisting security personnel in keeping the public safe.

To learn more about the STETD Program, please visit: https://www.dhs.gov/science-and-technology/Surface-Transportation