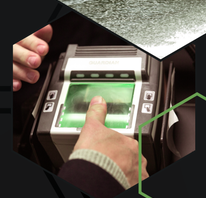
HOLDING THE LINE

The U.S. border spans more than 6,000 miles of land and 2,000 miles of coastal waters—a vast, challenging environment for DHS Components to navigate.

Building on the current wave of success at the border is critical to the nation's continued safety. Targeted investments in the right technologies today will result in future cost savings and greater security.

S&T's investments in cutting-edge research and development and strong public-private partnerships are empowering Components with advanced technologies. These solutions protect the hardworking men and women of DHS and give them the edge against the ever-evolving threats to America's borders.



THE SCIENCE BEHIND HOMELAND SECURITY

S&T is the research and development arm of DHS. We provide evidence-based scientific and technical expertise to enhance the capabilities of DHS Components and public safety agencies. We collaborate with partners in government, industry, and academia to drive innovation and address current and emerging threats to strengthen the nation's ability to respond to crises.

@dhsscitech

Visit the S&T Website
scitech.dhs.gov

Science and Technology

STRENGTHENING BORDER SECURITY

The Science and Technology Directorate (S&T) is investing in the next wave of emerging technologies to equip Department of Homeland Security (DHS) Components with innovative solutions that secure the nation's borders, enforce immigration laws, combat transnational criminal activities, and keep lawful trade and travel flowing.

ADVANCING DETECTION AND SCREENING TECHNOLOGIES

Rising numbers of travelers and goods pass through the United States each year, requiring more sophisticated security processes to detect threats and illicit activities. S&T is operationalizing science and technology for the Department and nation, to enhance border security and help DHS Components operate more efficiently and effectively.

Discover More Border Security Resources

ENHANCING THE SCREENING PROCESS

Swift, secure trade and travel routes are crucial to the nation's economic success. S&T is investing in emerging technologies—like AI/ML and biometrics—to improve threat detection tools that can make screening faster and more effective.

Remote Identity Validation: Evaluating technologies for their ability to combat identity fraud by matching "selfies" to official documents.

High Definition-Advanced Imaging Technology: New scanning capabilities that identify concealed objects without slowing down travelers.

DEPLOYING NEXT-GEN DRONES

The nation's borders include rough terrain and remote locations, which can be difficult to surveil and secure. S&T is strengthening partnerships with industry and technology hubs, including industrial defense community innovators, to expand unmanned aircraft systems capabilities that boost DHS Component operations at the border.

Counter-Unmanned Aircraft Systems: Evaluating kinetic anti-drone capabilities to secure DHS law enforcement operations.

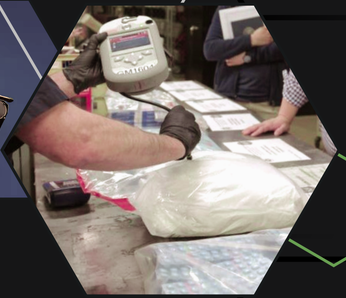
MQ-9 Reaper Big Wing: Increasing flight duration and surveillance capabilities of an unmanned aerial vehicle to capture actionable intelligence on illicit activities.

IMPROVING DETECTION

As challenges to the nation's borders continue to evolve, DHS Components need solutions that adapt to the changing threat environments. S&T's research and development in emerging tech areas is enhancing surveillance and detection capabilities.

Fentanyl Detection: Several ongoing efforts to improve the detection of illicit fentanyl crossing the border and moving within the United States.

Maritime Approaches Surveillance Towers: Combines radar and video streams into an integrated picture that improves maritime domain awareness.



ACCELERATING DECISION-MAKING

S&T's research, development, and innovation in AI/ML and data analysis and management are equipping security operators with the tools they need to make the right call at the right time.

StreamView: A livestream investigation tool that organizes data to help agents investigate leads, identify relationships, and build a cohesive case.

Kestrel: AI-powered analytics platform that improves threat modeling to inform decision-making for U.S. Customs and Border Patrol operations.

Fentanyl Supply Chain Model: AI-enabled supply chain analytics that reveal transnational criminal organizations flooding our communities with fentanyl.