

OUR CUSTOMERS

As the research and development arm of the Department of Homeland Security (DHS) and the Science Advisor to the Secretary, the Science and Technology Directorate (S&T) provides sound, evidence-based scientific and technical perspectives to address a broad spectrum of current and emerging threats – from drones to opioids to biometrics and beyond. S&T works for and with DHS Components, first responders at all levels, and other members of the homeland security community. S&T obtains requirements from [our customers](#) then works with industry, academia, innovators, and our network of laboratories to develop solutions for today's challenges and tomorrow's threats.

MISSION

S&T enables effective, efficient, and secure operations across all homeland security missions by applying scientific, engineering, analytic, and innovative approaches to deliver timely solutions and support departmental acquisitions.

Through [operational analysis](#), [systems engineering](#) and [test and evaluation](#), S&T ensures:

- requirements are fully understood
- solutions meet requirements
- solutions perform as advertised

S&T first looks for solutions that are commercially available through our [Technology Centers](#) and [Tech Scouting and Transition](#) division. If no suitable solutions are found, S&T subject matter experts work hand in hand



with our customers to develop new solutions and capabilities. Throughout the process, S&T works with industry to ensure the technology can be [transitioned to the commercial market](#). Regardless of developing in house or finding a commercial technology, S&T strives to ensure it can be adopted by DHS Components and the homeland security community.

COLLABORATION

S&T brings together end-users, industry representatives, and innovators to define requirements and better understand where technology solutions can improve operations.

Using [various funding vehicles](#), S&T collaborates with government, industry, and academic stakeholders as well as innovators to make those solutions available. S&T leverages a variety of stakeholders to make solutions available, including those below.

- [Federally Funded Research and Development Centers](#)
- [Private Sector Industry](#)
- [International Partners](#)
- [National Laboratories](#)
- [University Programs/Centers of Excellence](#)





TECHNOLOGY CENTERS

As a matrixed organization, S&T's Technology Centers bring focused attention to today's threats and tomorrow's emerging requirements, with key expertise in the following areas:

- [Social Sciences](#) studies the individual, social, and economic implications of technological advances and ways to increase adoption and use.
- [Biometrics and Identity](#) analyzes science, methods, tools, and technologies to recognize individuals and protect sensitive and personal information.
- [Office for Interoperability and Compatibility](#) evaluates communications and network capabilities.
- [Data Analytics](#) researches distributed data storage, privacy, security, high performance computation, automated analysis, machine learning, artificial intelligence, and large data set visualization.
- [Modeling and Simulation](#) rapidly prototypes tools to model and simulate operational, threat forecasting, and incident response environments.
- [Sensors and Platforms](#) explores a variety of sensor technologies and platforms, as well as methods for sensor integration.
- [Hazard Awareness and Characterization](#) analyzes current, emerging, and future chemical, biological, and explosive hazards.

S&T IMPACTS

Technology must evolve faster than the threats it is designed to combat. S&T positively impacts and supports readiness and security of the homeland before, during, and after crises and disasters uniting industry and innovators with end users, and working to fund development and incorporate solutions into our nation's infrastructure. To learn more, visit us at scitech.dhs.gov, and click on [Our Work](#). Examples of our efforts include:

BORDER AND PORT OF ENTRY SECURITY

S&T developed technologies to facilitate legitimate trade and travel across air, land, and sea. For example, a universal user interface called the [Common Viewer System](#) allows Customs Officers the ability to view X-ray images from multiple locations.

Our investigative technologies help fight human trafficking. For example, [Child Exploitation Image Analytics](#) (CHEXIA) reduces the amount of time to identify and rescue children from exploitation, as well as identify perpetrators, through automated face recognition algorithms and forensic tools.

CRITICAL INCIDENTS

The [Enhanced Dynamic Geo-Social Environment](#) (EDGE) training platform is a free virtual tool to practice responding to an active shooter incident, within a single agency or with multiple jurisdictions and disciplines.

The [Team Awareness Kit](#) (TAK), a government-off-the-shelf tactical tool that uses a cell phone to help responders visually track team members and share encrypted data across jurisdictions, disciplines and components, in real time.

DISASTER RESILIENCE

S&T's [Flood Apex Program](#) helps reduce flood-related fatalities and property loss, increase community resilience, and improve flood preparation, response, and recovery.

S&T's web-based [Hurricane Evacuation](#) (HURREVAC) platform monitors hurricanes and storm surge, providing decision makers the information they need to pre-position resources, make evacuate decisions, and more.

PARTNER WITH US!

S&T works with industry, academia, and laboratories to ensure future innovation cycles address high-priority security risks and that the marketplace invests in technology solutions better aligned to operator needs.

