



2015–2019 Strategic Plan Summary

Science and Technology Directorate



**Homeland
Security**

Science and Technology

OUR MISSION

“The Science and Technology Directorate’s mission is to deliver effective and innovative insight, methods, and solutions for the critical needs of the Homeland Security Enterprise. The successful execution of this mission rest significantly on whether we can transform our approach to research and development (R&D). Our strategy serves as the directorate’s roadmap for how it plans to serve as a model for federal R&D.”

— Dr. Reginald Brothers
Under Secretary for Science and Technology
Department of Homeland Security



S&T ROLES

S&T engages the whole of government and Homeland Security Industrial Base (HSIB) to develop a capability roadmap. Each of the five S&T Homeland Security Advanced Research Projects Agency (HSARPA) divisions, the three First Responders Group divisions, and APEX programs and Technical Engines have developed Capability Roadmaps aligned to the needs of their operational end users. These high-level roadmaps formalize a vision, identify strategic drivers, and list R&D objectives.

	Role	Description
APEX and Technical Engines	Air Security	Transform immigration and customs inspection of international travelers.
	Border Security	Create data-driven methodologies that directly support key goals.
	Border Awareness	Improve situational awareness to effectively and efficiently deploy resources to areas of high risk.
	Information	Create and apply a decision support system for community risk assessment and resilience planning.
	Next Gen Cyber	Deliver advanced sensing tech, situational understanding, response & recovery, and network predictions across all levels.
	Next Gen First Responder	Create game-changing tools, tech and wearable comm devices for first responders.
	Biothreat Awareness	Develop environmental sensors to detect biothreats.

WHO WE ARE

In the last twelve years, the Science and Technology Directorate (S&T) has grown into a trusted partner for DHS operators, and state, local, tribal, and territorial first responders. S&T maintains a diverse and complex set of roles and responsibilities that extend beyond traditional research and development. These technology-based solutions will provide homeland security operators and first responders with the most advanced tools and capabilities they need to complete their missions.



VISIONARY GOALS

In collaboration with the Department of Homeland Security Components, Congress, first responders, industry and academia, S&T was challenged with the task of developing a set of visionary goals with the objective of creating a more cohesive research and development agenda. These goals provide horizon points to drive innovation within S&T and its ecosystem of technical expertise – both inside and outside of the government.



SCREENING AT SPEED:

Security that Matches the Pace of Life



A TRUSTED CYBER FUTURE:

Protecting Privacy, Commerce, and Community



ENABLE THE DECISION MAKER:

Actionable Information at the Speed of Thought



RESPONDER OF THE FUTURE:

Protected, Connected, and Fully Aware



RESILIENT COMMUNITIES:

Disaster-Proofing Society

STRATEGIC FRAMEWORK

S&T's implementation plan is phased over the next five years and is designed to be a solution-driven timeline, dedicated to pushing new, innovative ideas forward, while driving the scientific capabilities of the nation forward. These strategic initiatives are designed to make S&T a more connected and collaborative organization. The first few years focus on collaboration with business, government, private and industry partners to come up with new, dynamic solutions to the problems that face our nation today. The strategic actions and business plans will be reviewed annually, and leadership is always looking to improve and evolve practices as they are necessary.

S&T STRATEGIC FRAMEWORK			Intensity of Activity (FY 2015 - FY 2019)				
			FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Deliver Force Multiplying Solutions	I	Identify and Prioritize Operational Requirements and Capability Gaps					
	II	Make Strategic Investments in High-impact, Priority Areas					
	III	Partner with the Homeland Security Enterprise					
Energize the Homeland Security Industrial Base	I	Optimize Markets by Pooling Demand and Developing Standards					
	II	Engage the HSIB through a Deliberate, Continuous, and Transparent Approach					
	III	Improve Programs Designed to Increase Collaboration with Innovative Companies					
Establish a Strong and Healthy Leadership Culture	I	Empower the Workforce					
	II	Provide Meaningful Leadership Development and Professional Growth Opportunities					
	III	Engineer a Pipeline for the Next Generation of Homeland Security Professionals					

Color Legend	Intensity Levels
Surge Effort	
Steady-state Effort	

ENGAGING INNOVATORS

The goal of any innovator is to leverage new methods, ideas, and creativity to provide a unique solution to a problem. At S&T, we are dedicating to finding the solution-makers and engaging them in projects, prizes, and opportunities to help make communities safer and more resilient, and to make public safety sectors more effective. Together we can work toward a more productive, innovative future. **Think differently with us.**



APEX

APEX programs are high-priority, high-value projects. These multidisciplinary programs span 3 - 5 years and undergo quarterly reviews by an executive steering committee. Each APEX program consists of a balanced portfolio of projects with scientifically feasible risk that span from basic research to advanced technology development.



ACCELERATOR PROGRAMS

The Accelerator program incorporates business accelerators to identify companies whose technologies could represent the next generation of solutions for DHS end users. S&T is piloting its accelerator program in the field of wearable technology, a high priority for its Next Generation First Responder initiative.



S&T'S FIVE NATIONAL LABORATORIES



Chemical Security Analysis Center



National Urban Security Technology Laboratory



National Biodefense Analysis and Countermeasures Center



Plum Island Animal Disease Center



Transportation Security Laboratory



PRIZE COMPETITIONS

Have an idea for some great new technology, or how to help make communities safer, but not sure what to do with it? The S&T Prize Competition incentivizes innovative ideas and solutions to address a wide range of challenges while inspiring and mobilizing diverse, non-traditional talent.

OUR PURPOSE

From counterterrorism to natural disasters, S&T uses both the knowledge of science and the tools of technology to make our country, our communities, and our families more secure across the broad spectrum of threats facing the homeland.

	Role	Description
HSARPA	Security	Develop and transition technical capabilities that strengthen U.S. border, maritime, and POE security.
	Cyber Security	Provide the infrastructure necessary to support cyber R&D.
	Chem & Bio Threat Defense	Develop, incorporate and promote best approaches to prevent, prepare, respond and recover from chem/bio threats.
	Resilient Systems	Identify and innovate practical solutions to enhance national hazard resilience.
	Explosives	Seeks innovative approaches in explosives detection and countermeasures.
First Responders Group	Technologies	Develop force multiplying tools and solutions to save lives and maximize preparedness.
	Interoperability	Empower first responders with the ability to communicate with data, info and each other.
	Security Research	Test, evaluate, and assess services and radiological nuclear response recovery tools.

CAPABILITY DEVELOPMENT SUPPORT

The Capability Development Support (CDS) Group works closely with the DHS components to ensure programs and systems reduce or mitigate the challenges in the safest, most efficient and most cost-effective manner. CDS provides an innovative, systems-based approach to help operators define their needs, and to develop technologies and solutions that can be quickly deployed to frontline operators. The CDS also assesses the operational environment and fiscal limitations to ensure the best solutions are chosen.

R&D PARTNERSHIPS

The Research and Development Partnerships (RDP) Group supports the Homeland Security Enterprise (HSE) access to science-based capabilities and solutions through trusted partnerships! Through these capabilities, RDP strives to become a more innovative, integrated and effective contributor to DHS and the HSE. DHS also collaborates with international partners to enhance information sharing, increase situational awareness, improve incident response capabilities and overall incident management, support law enforcement activities, and coordinate strategic policy issues.

LEARN MORE



For the full Strategic Plan 2015-2019, go to:
www.dhs.gov/science-and-technology/st-strategic-plan



To learn more about S&T: scitech.dhs.gov

Homeland Security Advanced Research Projects Agency (HSARPA): www.dhs.gov/science-and-technology/hsarpa

Capability Development Support (CDS):
www.dhs.gov/science-and-technology/cds

Research and Development Partnerships (RDP):
www.dhs.gov/science-and-technology/rdp

First Responders Group (FRG):
www.dhs.gov/science-and-technology/first-responders



First Responders Community: www.firstresponder.gov



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