DHS Science and Technology Directorate

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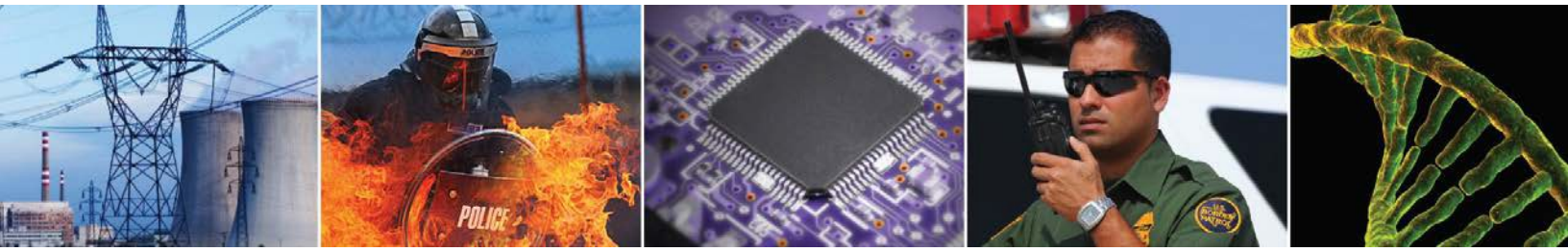

Mission

To deliver effective and innovative insight, methods and solutions for the critical needs of the Homeland Security Enterprise (HSE).

History

The **Science and Technology Directorate** (S&T) was stood up when the Department of Homeland Security (DHS) was established on March 1, 2003.

Statutory Authorities

» Title III of the Homeland Security Act of 2002, as amended (6 U.S.C. Sections 181 – 195d)
  - The SAFETY Act of 2002 and Implementing Regulations (6 U.S.C. Sections 441 – 444 and 6 C.F.R. Part 25, 71 Fed. Reg. 33147, 33159 (June 8, 2006))

Key roles and successes

» Serves as Science Advisor to the DHS Secretary.

» Ensures DHS and the homeland security community have the science, technical information and capabilities they need to help prevent, protect against, respond to and recover from major threats and disasters, both manmade and natural.

» Provides strategic and focused technology options and process enhancements; seeks innovative, system-based solutions to complex HSE problems; and discovers, adapts and leverages technology solutions developed domestically and internationally.

» Serves as a trusted partner for DHS operators and state, local, tribal and territorial first responders. It is important to recognize that although research and development (R&D) is the backbone of this organization, S&T maintains a complex set of roles and responsibilities that extend beyond a traditional R&D organization.

Strategic directions

» S&T keeps pace with evolving threats and security challenges, and will implement several **strategic objectives and initiatives**. Through this work, S&T will ensure DHS is poised to bridge current capability gaps as well as anticipate homeland security challenges 20 to 30 years ahead, balancing security concerns with the need to share information publicly.

» S&T will identify and leverage investments by others that can be adapted for homeland security applications, resulting in a shorter development cycle and a greater return on investment dollars.

» S&T provides the bridge that connects emerging technologies with commercial success. It answers the questions: Why should taxpayers continue to fund this program/project? What return will taxpayers receive from successful implementation of the solution?

Major initiatives

Apex programs represent a change in the way S&T manages R&D programs and projects. Apexes are a collection of S&T projects that represent one or more paths toward achieving an increased or improved capability for the HSE, resulting from the S&T strategic priority, or an external stakeholder's operational need. The Apex Programs take the next steps towards implementing

Homeland Security
Science and Technology

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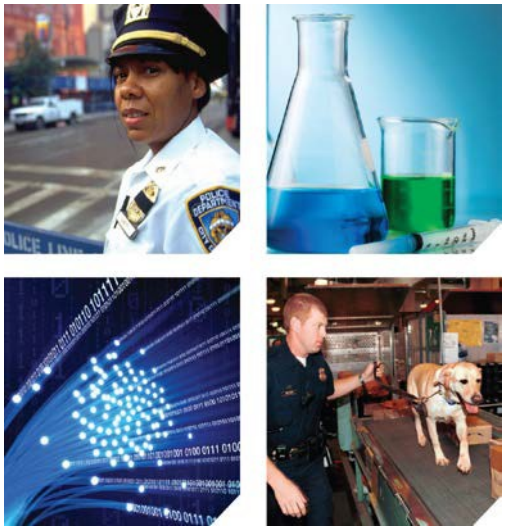
solutions to improve the security and resilience of our nation.

Apex Projects are supported by **Apex Technology Engine Teams** (Engines) that provide expertise in focused topic Areas, and identify and share subject matter expertise, technical solutions and tools, best practices, lessons learned and reusable products, and solutions on behalf of Apex and other S&T projects. Collaboration to leverage knowledge from the DHS enterprise and external stakeholders are core components of the Engine approach.

S&T established **Integrated Product Teams** (IPT) to learn the needs of components and drive capability development. The IPTs convene mission-focused teams of component operators and DHS technical experts in key threat areas. The IPT process empowers the Department and components to make sound R&D investments based on a plan that comes directly from our front lines and is informed by technical experts.

The **Silicon Valley Innovation Program** (SVIP), which launched in late 2015, is S&T's first Homeland Security Innovation Program (HSIP) regional program. S&T is leveraging commercial investments to focus on several sectors: information technology, finance, energy, health and first responders. The SVIP is expanding DHS's reach to identify new technologies that strengthen national security with the goal of reshaping how government, entrepreneurs and industry work together to find cutting-edge solutions. DHS is reaching out to Silicon Valley to harness the commercial R&D ecosystem for government applications, co-invest in ideas, and accelerate technology transition to market.

Since its inception in 2016, S&T's **Program Executive Office for Unmanned Aerial Systems** (PEO UAS) has been integrating and orchestrating S&T's various UAS efforts under one umbrella by pursuing a three-pronged approach to homeland security: policy, technology and component operations. In the policy arena, the PEO is the DHS-designated leader of the interagency community for addressing nefarious UAS use, and co-leads the National Security Council's technology and response work groups. On the technology front, the PEO directs the development of modeling and simulation software and other computational capabilities to gain valuable, analytical insight into the UAS domain. Finally, the PEO aids DHS components and homeland security practitioners in their ongoing efforts to plan and execute security arrangements for National Special Security Events and high-value locations.



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