The Department of Homeland Security, or DHS, is a complex organization with multiple missions. These include: preventing terrorism and enhancing security; enforcing and administering the U.S. immigration laws; securing and managing our borders; ensuring resilience to disasters; safeguarding and securing cyberspace; and providing essential support to national and economic security. To give you an idea of what this entails let’s take a quick look at a day in the life of homeland security. The organization prescreens two million passengers a day before they fly into, out of, within and over the United States. DHS is responsible for patrolling 3.4 million square miles of U.S. waterways and screening 100% of cargo and vehicles entering the U.S. from Canada and Mexico. This is just a small part of the responsibilities of the Department of Homeland Security.

To fulfill this multifaceted mission, the DHS budget in FY2017 was over $66 billion. The accompanying figure shows the distribution of the budget authority by organization for FY2017. The Federal Emergency Management Authority, or FEMA, had 21%; Customs and Border Protection had 21%; the U.S. Coast Guard had 15%; and the Transportation Security Administration, or TSA, had 11%. The budget for the DHS SBIR program is associated with two of the smaller organizations - the Science and Technology Directorate and the Domestic Nuclear Detection Office. The budget authority for the Science and Technology Directorate was 1% of the DHS total budget authority for FY2017.

A Day in the Life of DHS

» A Day in the Life of DHS
» Screen 2,000,000 airplane passengers
» Patrol 3.4M square miles of waterways
» Screen 100% cargo and vehicles entering US from Canada and Mexico
In order to understand the topics that appear in the DHS Small Business Innovation Research Program it’s important to understand the mission of these two organizations. The mission of the Science and Technology Directorate, also referred to as S&T, is “to deliver effective and innovative insight, methods and solutions for the critical needs of the Homeland Security Enterprise.” Its five visionary goals include: (1) Screening at speed so that security matches the pace of life; (2) providing a trusted Cyber Future which protects privacy, commerce and community; (3) Enabling decision makers so they can receive actionable information at the speed of thought; (4) Assuring the Responder of the Future is protected, connected, and fully aware; and (5) Disaster-Proofing Society to yield resilient communities. In fulfilling this mission and visionary goals the DHS SBIR topics address prioritized capability gaps that were identified across the DHS enterprise. Examples include: aviation security; biological threats; border security; counterterrorism; cybersecurity; and first responders.
The second organization represented in the DHS SBIR solicitation is the Domestic Nuclear Detection Office, also known as DNDO. This is a jointly staffed, national office established in 2005 for the purpose of improving the nation’s capability to detect and report unauthorized attempts to import, possess, store, develop or transport nuclear or radiological material for use against the nation and to further enhance this capability over time.

The accompanying figure, organized around Technology Readiness Levels (or TRLs) shows where various initiatives are focused in the commercialization process. The Academic Research Initiative, or ARI, fulfills needs at the earliest Technology Readiness Levels. There is some overlap between the Exploratory Research, or ER, initiatives and the Academic Research Initiative. The Advanced Technology Demonstration, or ATD, comes later and overlaps with the positioning of the SBIR program. DNDO’s Transformational and Applied Research Directorate has developed and is implementing a technology roadmap to provide breakthrough technologies that will have a dramatic impact on capabilities to detect nuclear and radiological threats. This is accomplished through an aggressive and expedited research and development (R&D) program. The current roadmap will guide DNDO’s R&D efforts through 2021. These R&D efforts are referred to as Grand Challenges.

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The DHS SBIR solicitation contains topics relevant to both of these organizations, that is, the Science and Technology Directorate, as well as the Domestic Nuclear Detection Office. There is one DHS SBIR solicitation annually, historically released in December. DHS is a contracting organization and its solicitations are announced in FedBizOpps. Topics are released for a period of two weeks prior to the release of the Phase I solicitation, thus allowing time for interested parties to contact the topic authors during this two-week window. The timeline for proposal preparation and submission is short – 30 days. Applicants are notified of award within 90 days of the proposal submission due date. The period of performance is typically May to October with Phase II proposals due in November.
The size of DHS Phase I awards, whether it be for S&T or DNDO, is $150,000. These are firm fixed price contracts. Phase II awards differ in size with S&T providing awards of up to $750,000, while DNDO will provide up to $1,000,000 for DNDO topics. However, S&T has historically provided a number of additional opportunities to help companies bring their technologies to market. These include participation in the DHS / NSF I-Corps Program and the potential to receive an additional $200,000 in Phase II as part of the Commercialization Readiness Pilot Program, or CRPP. DHS has also implemented a pilot program referred to as Other Agency Technology Solutions, or OATS. This leverages investments made by other agencies which can fulfill DHS capability gaps and requirements.

In FY2017, the DHS SBIR program had a budget of $14 million for S&T topics and $2 million for topics funded by the DNDO program. Seventeen percent of Phase I submissions received an award. Fifty-four percent of the Phase I awardees had less than 24 employees; while sixteen percent of all Phase I awards were made to women-owned small businesses. Forty percent of Phase I awardees went on to receive Phase II funding. Thirty-nine percent of the Phase II projects received some sort of Phase III funding either from product sales, private investment, DHS internal R&D funds; funding from other government agencies, and/or licenses.

If you are interested in learning more about the DHS SBIR program – please contact John Pucci, the SBIR Program Manager for the S&T Directorate or Marissa Giles, the SBIR Program Manager for DNDO.

FOR MORE INFORMATION, PLEASE CONTACT
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