

ADVANCING DETECTION CANINE SCIENCE

Canines are a demonstrated effective resource for detection operations. As such, there is a need for a centralized focal point within the Department of Homeland Security (DHS) to address detection canine mission requirements, conduct operationally relevant research, facilitate knowledge sharing, and act as a repository of expert advice on common problems across government, academia, and the private sector.

The Science and Technology Directorate's (S&T) [Detection Canine Program](#) provides the Homeland Security Enterprise with the tools, techniques, and knowledge to better understand, train, and deploy detection canines in their operational environment.

PROGRAM FOCUS AREAS

The program has three specific focus areas:

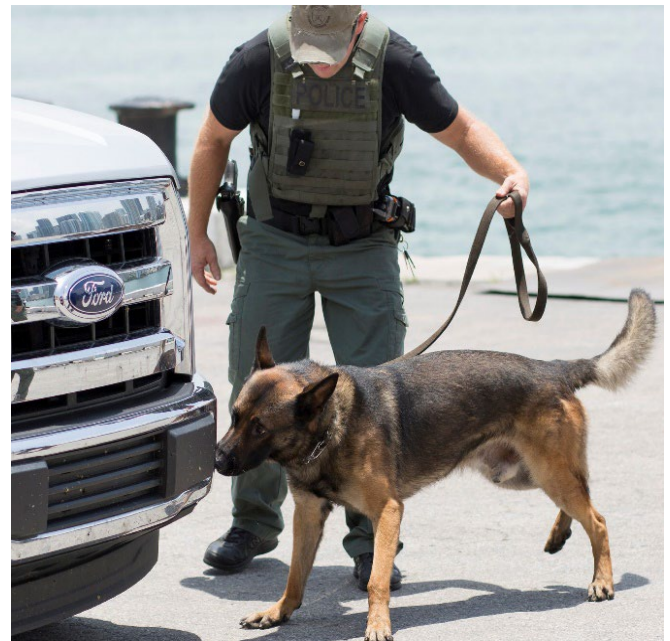
- Development and testing of canine training aids that can be used to test and improve canine ability to detect threats.
- Independent operational test and evaluation capability for detection canines; discovering canine strengths and weaknesses by performing in-field assessments; and using a scientifically rigorous approach with statistically significant results to enhance and validate testing methods.
- Canine research and development (R&D) structure and function with focus on basic understanding of canine olfaction, cognition, genetics, genomics and breeding, and behavior to improve operational efficiencies and training methods.

RESEARCH AND DEVELOPMENT INITIATIVES

The S&T person-borne improvised explosive device ([PBIED Canine Initiative](#)) began in 2012 to understand the strengths and limits of canines specially trained to detect PBIEDs being carried by people, either on their person or in bags, in mass transit and large crowd event operational environments. This type of parametric study and testing is critical to scientifically determine the limits of performance.

The [Regional Explosives Detection Dog Initiative](#) (REDDI) was started in 2017 as an outreach effort aimed at advancing the knowledge and capabilities of our nation's detection canine teams. This initiative addresses the need for a centralized focal

point within DHS to address mission requirements, conduct operationally relevant research, facilitate knowledge sharing, and act as a repository of expert advice for the detection canine community.



A canine sniffs to detect any potential threats concealed in a vehicle.

PARTNERS AND PROGRAM PERFORMERS

The program works in partnership with several law enforcement agencies in the National Capital Region:

- University of Maryland Police Department
- Maryland State Police
- Pentagon Force Protection Agency
- Transportation Security Administration
- Federal Protective Service

Our program performers include:

- Auburn University, Auburn, AL
- Battelle Memorial Institute, Washington, DC
- Johns Hopkins University Applied Physics Laboratory, Laurel, MD
- MIT Lincoln Laboratory, Lexington, MA
- Naval Surface Warfare Center Indian Head Division
- Texas Tech University, Lubbock, TX