

**SECURING THE  
HOMELAND WITH**

# SCIENCE AND TECHNOLOGY



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Homeland  
Security  
Science and Technology



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## WE'RE IMPROVING THE ABILITY TO SCREEN FOR THREATS BY:

**DETECTING  
1.25 MILLION  
ADDITIONAL THREATS**

EACH YEAR AT AIRPORTS  
(ScreenADAPT)



**EVALUATING  
160**

**EXPLOSIVE DETECTION  
CANINE TEAMS'  
PERFORMANCE (REDDI)**

## WE HELP COMBAT CYBERATTACKS THROUGH:

**STRENGTHENING  
SECURITY OF  
6 MILLION  
MOBILE APPS**

WITH AUTOMATED APP (Kryptowire)

**TRANSITIONING  
18 TECHNOLOGIES**

TO HELP SECURE THE NATION'S  
INFRASTRUCTURE MARKET (TTP)

## S&T IS MOBILIZING INNOVATION BY:

**APPROVING  
966 SAFETY ACT  
APPLICATIONS**

(SAFETY Act)

**AWARDING  
\$285  
MILLION**

TO SMALL BUSINESSES  
(SBIR)

**CROWDSOURCING  
5 CHALLENGES**

FOR NEW HOMELAND  
SECURITY SOLUTIONS  
(Public-Private Partnerships)

## WHEN NATURAL DISASTERS STRIKE, OUR TECH IS:

**INFLATING IN 12 MIN  
AND HOLDING BACK  
FLOODWATERS IN TUNNELS  
FOR 21 DAYS**

(Tunnel Plug)



**DETECTING HEARTBEATS  
IN UP TO 30 FT OF RUBBLE**

(FINDER)



**HELPING RESPONDERS  
RESCUE 950 PEOPLE**

DURING HURRICANE HARVEY  
(ATAK)



**VERIFYING  
IDENTITIES/  
FAMILIAL  
RELATIONSHIPS**

WITHIN 90 MIN  
(Rapid DNA)

## S&T SUPPORTS FIRST RESPONDERS ACROSS THE NATION BY:

**PROVIDING FREE  
VIRTUAL  
TRAINING**

ON ACTIVE SHOOTERS  
(EDGE)

**MAKING AVAILABLE OVER  
18,000  
PROTECTIVE  
GARMENTS**

(Wildland Firefighter Gear)



**SAVING APPROX.  
\$3 MILLION**

IN EQUIPMENT REPLACEMENT COSTS  
(RIC-M)



**HELPING SAVE  
475 VICTIMS**

OF CHILD SEX TRAFFICKING  
(CHEXIA)





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## SCREENING

The **ScreenADAPT** is an eye-tracking software used to improve threat-detection training. It was transitioned to the Transportation Security Administration in 2017.

The **Regional Explosives Detection Dog Initiative (REDDI)** brings classroom instruction, exercises, and training aids to explosive detection canine teams. It started in 2017.

## CYBERSECURITY

**Kryptowire** is a mobile app-vetting platform that was transitioned to the General Services Administration in 2016.

The **Transition to Practice (TTP)** program helps bring federally funded cybersecurity research to the marketplace. It was launched in 2012.

## MOBILIZING INNOVATION

The **Small Business Innovation Research (SBIR)** program helps small businesses commercialize and deliver operational prototypes. It started in 2004.

The **Support Anti-Terrorism by Fostering Effective Technologies (SAFETY) Act** helps incentivize development and deployment of anti-terrorism technologies by creating systems of risk and litigation management. The program launched in 2003.

**Prize Challenges** are competitive award opportunities for the private sector to stimulate innovation in solving homeland security capability gaps. They began in 2015.

## NATURAL DISASTERS

The **Tunnel Plug** is an inflatable tool that helps prevent or limit flooding in transportation tunnels. It launched in 2012.

The **Finding Individuals for Disaster and Emergency Response (FINDER)** tool detects heartbeats of victims trapped in wreckage. It was transitioned in 2015.

The **Android Team Awareness Kit (ATAK)** is a government off-the-shelf application that provides a real-time view of an area of operations. It was launched in 2017.

**Rapid DNA** quickly verifies identity and familial relationships. It started in 2009.

## FIRST RESPONDERS

The **Enhanced Dynamic Geo-Social Environment (EDGE)** is a virtual training tool that helps officials coordinate response to critical incidents. It was transitioned in 2017.

The **Wildland Firefighters Advanced Personal Protection System (WLFF APPS)** helps improve form, fit and function of protective layers for firefighters. It was launched in 2012.

The **Radio Internet-Protocol Communications Module (RIC-M)** helps response agencies upgrade and reconfigure legacy communications systems at a low cost. It was licensed for commercial use in 2015.

In 2016, **Child Exploitation Image Analytics (CHEXIA)** helped law enforcement agencies analyze images more quickly and efficiently.