

The SAFETY Act and Innovation

Developing and Deploying New Technologies

May 7, 2015

Office of SAFETY Act Implementation
Science and Technology Directorate



**Homeland
Security**

Science and Technology

Joining the Conversation

“First and foremost, successful innovation in the area of homeland security means safer, more resilient communities. Each of us not only plays a key role in achieving success, but we are also consumers. The safety of ourselves, our families, our friends, and our communities is a shared responsibility....”



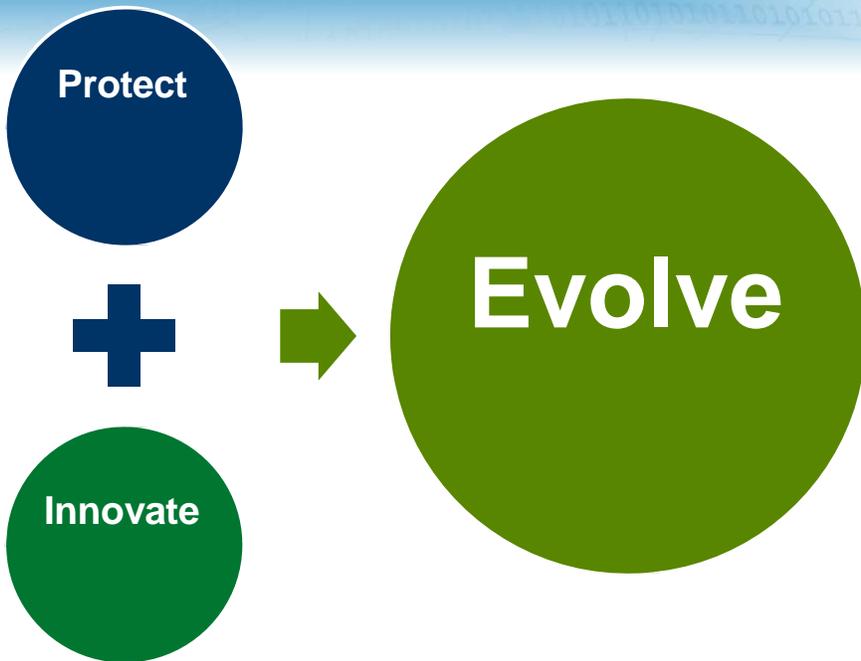
<http://www.dhs.gov/science-and-technology/join-conversation>



**Homeland
Security**

Science and Technology

Bringing Technology To Market



**Homeland
Security**

Science and Technology

Protect



Transition



protect

verb pro·tect \prə-'tekt\
Evolve

“To cover or shield from exposure, injury, damage, or destruction...to guard...”

“To defend”

“To maintain the status or integrity of especially through financial or legal guarantees”



Homeland Security

Science and Technology

What is the SAFETY Act?

- Congress enacted the Support Anti-terrorism by Fostering Effective Technologies (SAFETY) Act as part of the Homeland Security Act of 2002
- Provides legal liability protections for manufacturers and sellers of qualified anti-terrorism technologies that could save lives in the event of a terrorist attack
- Protections apply **only** to claims arising out of, relating to, or resulting from an Act of Terrorism when SAFETY Act covered technologies have been depl

oyed



**Homeland
Security**

Science and Technology



What protections are available?

Liability cap

Exclusive action in Federal court

No joint and several liability for non-economic damages

No punitive damages and prejudgment interest



**All benefits of Designation, plus...
Government Contractor Defense
Placement of qualified products
on the Approved SAFETY Act
Products List for Homeland
Security**

Limitations on use and deployment

Limited term

**Liability protections associated apply only
to acts that occur during the term**



**Homeland
Security**

Science and Technology

What types of technologies are applicable?

Any qualifying product, equipment, service (including support services), device, or technology (including information technology) designed, developed, modified, or procured for the specific purpose of preventing, detecting, identifying, or deterring acts of terrorism or limiting the harm such acts might otherwise cause.



Protect



Innovate

innovate



verb in·no·vate \ 'i-nə-,vāt\
Evolve

“To do something in a new way ... to have new ideas about how something can be done”

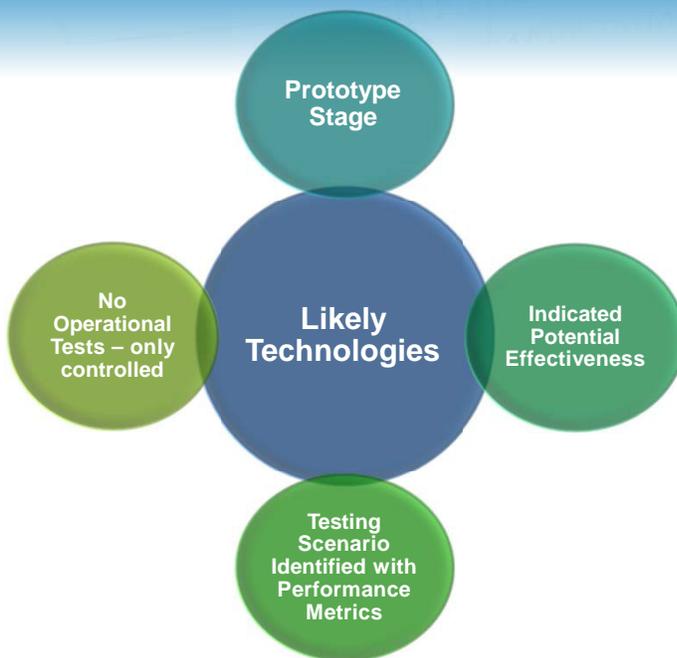
“To introduce as or as if new”



Homeland Security

Science and Technology

DT&E Designations (DTED)



- Facilitate the deployment of promising anti-terrorism technologies (TRL6) in the field for additional testing and evaluation or in response to exigent circumstances.
- **Have a Test Plan!**
- What is your liability exposure?
- What are your deployment plans?



Homeland Security

Science and Technology



DT&E Designation Basics

Technology Description

What you Sell or Provide or Offer – **Be clear and concise!**

Focus on Anti-terrorism aspects of the Technology

Test Plan and Scenario

Plan Ahead! Results from the plan can be used in a future Designation Application

How do **you** measure the capability and effectiveness of your Technology?

What are important metrics for the Technology?

Deployment Plans

If you are not issued a DTED, how are your plans for selling, deploying, or maintaining your Technology affected?

What would prevent executing the test plan without SAFETY Act DTED protections or other types of liability protections?



Homeland Security

Science and Technology



10

Test Planning to Deployment



Test Scenarios:

1. Record the environmental conditions. Are they representative of actual deployment situations?
2. Who are the intended users? Are they involved in the testing or pilot program?
3. What conditions must be met for the test to be considered successful? E.g., False Alarm Rate of less than 10% or Average Time Between Failures is more than 10 hours of operation.
4. Is your Technology being evaluated against existing standards or best practices?

Deployment:

1. How do you know that your processes are being followed?
2. How do you train users and evaluate proficiency? What maintenance or quality assurance records do you have?
3. What steps do you take to ensure **each deployment** is of consistent quality, performance, and safety?



U.S. DEPARTMENT OF
Homeland
Security

Science and Technology

What Type of Data Should I Collect?



1. Performance during Load Testing
2. Bug Tracking and Correction
3. Security Measures and Penetration Testing
4. Unit Tests (pass and fail)
5. Component or Systems Integration



1. Number of Detections
2. Detection Rate and Limits
3. False Alarms
4. Average Time Between System Failures
5. Failure Rate
6. User Rating



1. Quality Assurance Plans
2. Periodic Reviews
3. Post Orders and Statements of Work
4. Anti-Terrorism Procedures
5. Incident Reports
6. Penetration Tests, Independent Reviews or After-Action Reports



Homeland Security

Science and Technology

Review: DT&E Focus Areas

Deployment: PROCESSES

- What is required to deploy or operate the Technology?
- Do your processes follow industry best practices?
- Are the processes based on lessons learned from previous deployments?

Operation: SUPPORT

- How will you support the testing? Think about: Training, Maintenance, Installation
- Will a third party help you conduct the testing?

Consistency

- Is a Quality Assurance or Quality Control plan in place?
- ISO 9000 Quality Management or CMMI Certifications?

Technology Maturity

- The Technology should be approaching readiness for operational, field, or pilot tests.
- Has the Technology been developed with Government oversight or participation?

Testing and Principles

- Provide any component, laboratory, or developmental test results.
- Demonstrations or Modeling & Simulation can also support the evaluation.
- Well-known principles or methods on which the Technology is based (i.e. X-ray, Infrared, Polymerase Chain Reactions).

Tip: Case Studies or Pilot Programs may be more relevant for Service-based Technologies.



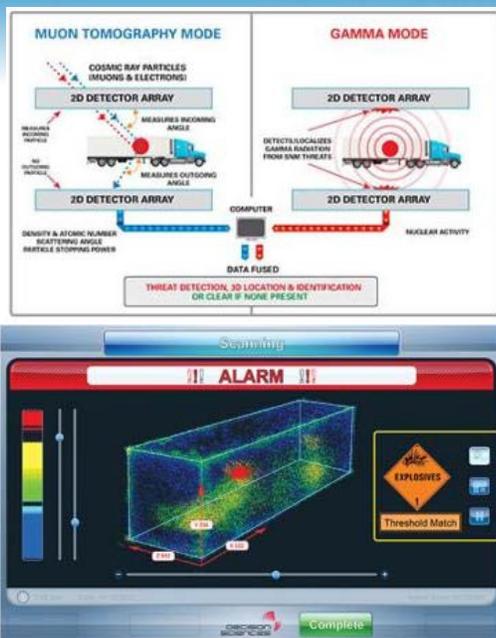
Homeland Security

Science and Technology



13

Spotlight On: Detection



Multi-Mode Passive Detection System for Cargo Inspection

A passive detection system for cargo and vehicle inspection that combines gamma ray detection technology and muon tomography. It includes the main apparatus, the software used to control the detectors and produce the three-dimensional image, the technical manuals, and training.

Harnessing naturally occurring radiation and emitted gamma radiation allow the detection, location, and identification of shielded and unshielded nuclear and radiological materials.

Images from: www.decisionsciencescorp.com/solutions/marketing-materials/scanning-technologies-fact-sheet/



Homeland Security

Science and Technology



Spotlight On: Software Applications

GammaPix™

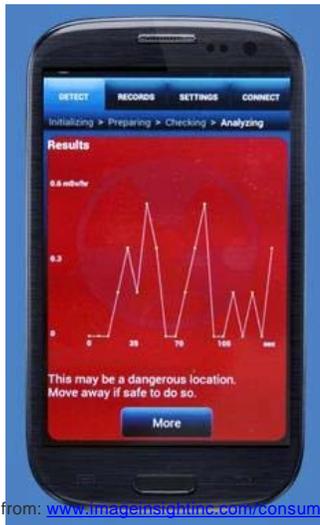


Image from: www.fragrancescience.com/consumer-apps

Software that can be installed on computers or mobile devices such as phones and tablets for use in detecting gamma radiation.

The software works with most digital cameras to identify gamma rays emitted from a radioactive source.



Homeland Security

Science and Technology



Spotlight On: Cyber Security

Virtual Dispersive Networking™ (“VDN”)

Software platform that combines Peer-to-Peer networking, virtualization and routing functionality to combat hacking and Distributed Denial of Service attacks.

VDN is also designed to prevent malware from extracting data from a network by inserting a virtual machine between the operating system and the network interface.

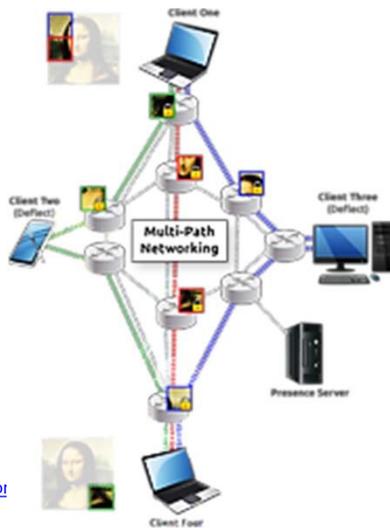


Image from:
<http://www.prweb.com/prweb/209088.htm>

[ty/prweb10](http://www.prweb.com/prweb/209088.htm)



Homeland Security

Science and Technology



1

6

1

evolve
verb nivalv -volv



Evolve

“To change or develop slowly often into a better, more complex, or more advanced status”

Transition



Homeland Security

Science and Technology

Is the Technology Ready for Designation?



Homeland Security

Science and Technology

Support your submission with copies of manuals, test reports, training materials and the like. Include a list of attachments and that all files are readable.



18

What insurance and financial data are needed?

Your Company

- Major industry or business sector
- Total number of employees and number who worked directly on the Technology in the most recent fiscal year.

Insurance

- Answer all parts of question 16.1
- Answer for each policy separately

Financials

- Corporate balance sheet, income statement, and statement of cash flows
- Technology revenue projections for next three years.



**Homeland
Security**

Science and Technology



Spotlight On: Detection

VACIS® XPL Passenger Car Inspection System

Inspection system for scanning motorcycles, passenger cars, and buses. The Technology also includes installation, training, image analysis, and warranty and maintenance services that may be included in the sale of the Technology or as a stand-alone service offering.



Homeland Security

Science and Technology



20

Spotlight On: Critical Infrastructure

Southern Methodist University's (SMU) Security and Emergency Management Program

The Security and Emergency Management Program includes policies, procedures, programs, equipment and personnel.

SMU also provides these security services to the Office of Presidential Libraries, National Archives and Records Administration, for the George W. Bush Presidential Center.



Images from: www.smu.edu/AboutSMU/Facts/



Homeland Security

Science and Technology



Spotlight On: First Responders

LifeRing

Software application that enables Smartphone, PC and Tablet users to establish secure ad hoc Common Operational Picture networks in response to situations where people need to coordinate and collaborate with many others.

It has the capability to facilitate voice, photo, streaming video and text communications.

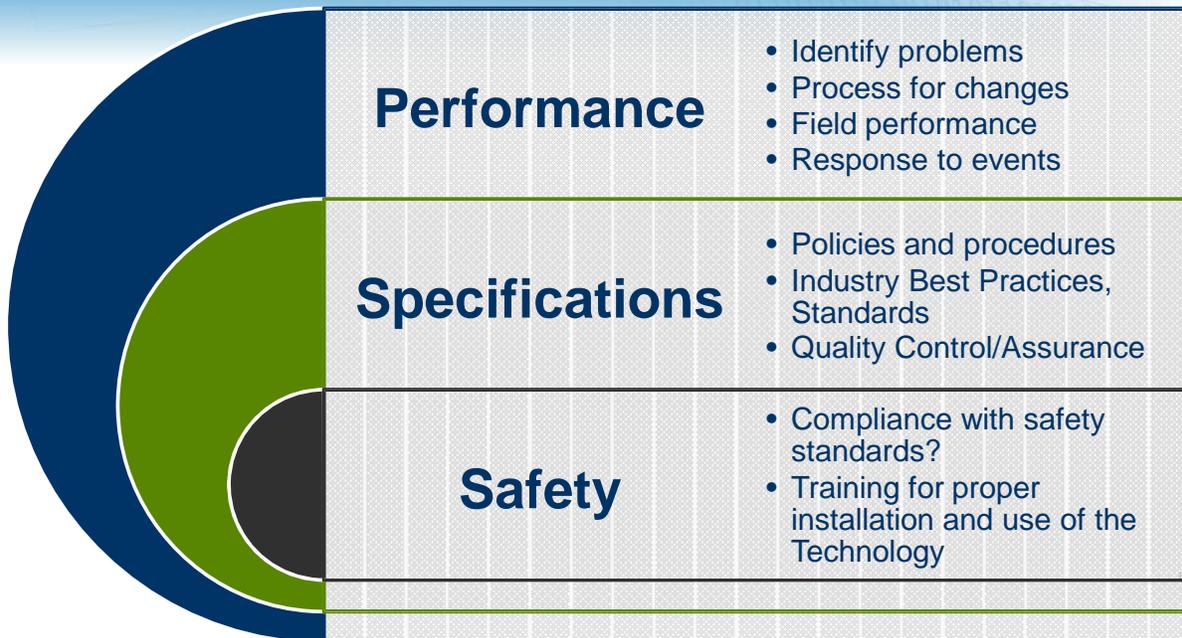


**Homeland
Security**

Science and Technology



What about Certification?

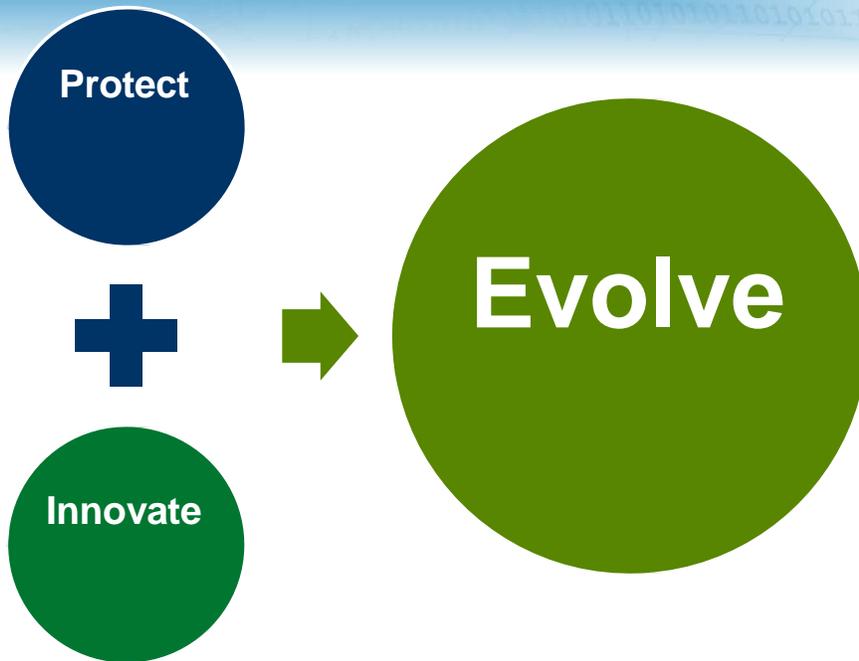


**Homeland
Security**

Science and Technology



Bringing Technology To Market



**Homeland
Security**

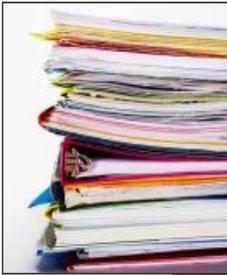
Science and Technology

Where Do I Start?

Our reviews are *paper-based*.

The more information you can provide about your Technology will help us in the review of your Application.

Often the *amount and quality of your information* can determine the difference between levels of coverage.



**Homeland
Security**

Science and Technology

Things to Consider

DT&E Designation

- What metrics would show the capability or effectiveness of your Technology?
- How do **you** know the Technology is functioning correctly?
- What preliminary laboratory or component testing have you conducted to get your Technology to the prototype stage?

Designation

- How has the Technology evolved through development, testing, and deployment?
- How have you addressed any failures or faults found during the deployment of the Technology?
- Have you changed your plans, processes or procedures based on tests or pilot programs?
- How do you train users? Do you keep training records?



Homeland
Security

Science and Technology

Joining the Conversation

- File a pre-application.
- Check out our website for speaking engagements and future webinars.
- Contact the SAFETY Act Help Desk with your questions.
- Schedule a pre-submission consultation through the Help Desk.



**Homeland
Security**

Science and Technology

Keep in Touch and Get Help

- Online: www.safetyact.gov
 - FAQs
 - Help Topics
 - SAFETY Act 101 For Small Businesses
 - Step-by-Step User Guide
 - SAFETY Act 101 Briefing
 - SAFETY Act Fact Sheet
 - Help Desk: Online form is available for questions requiring an individual response under Contact Us > Help Ticket links
- Email: SAFETYActHelpDesk@dhs.gov
- Toll-Free: 1-866-788-9318



**Homeland
Security**

Science and Technology



Homeland Security

Science and Technology