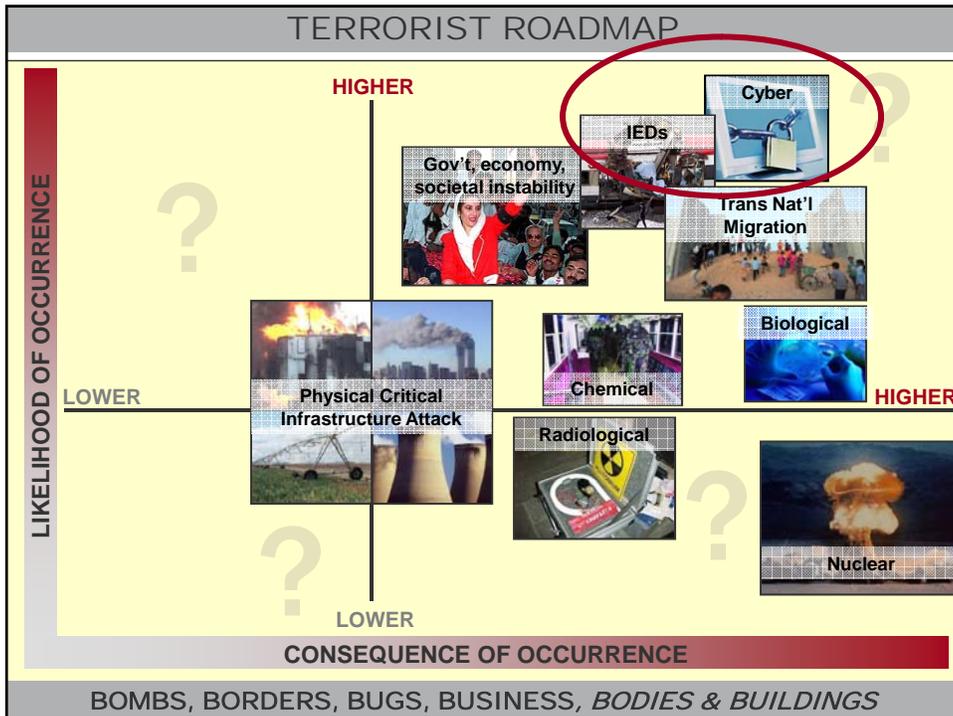


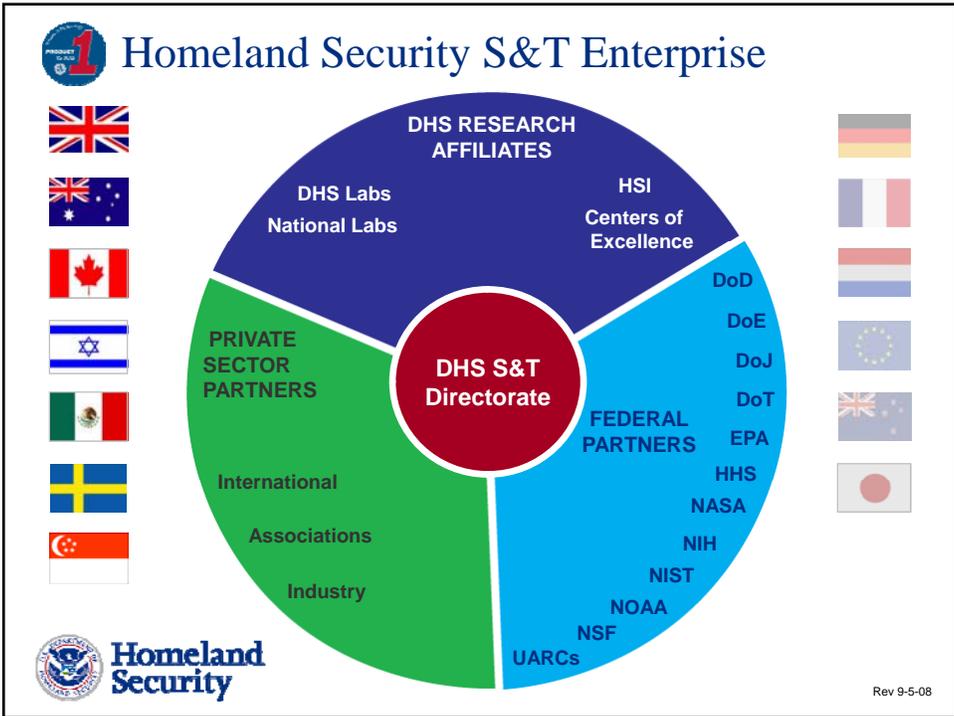
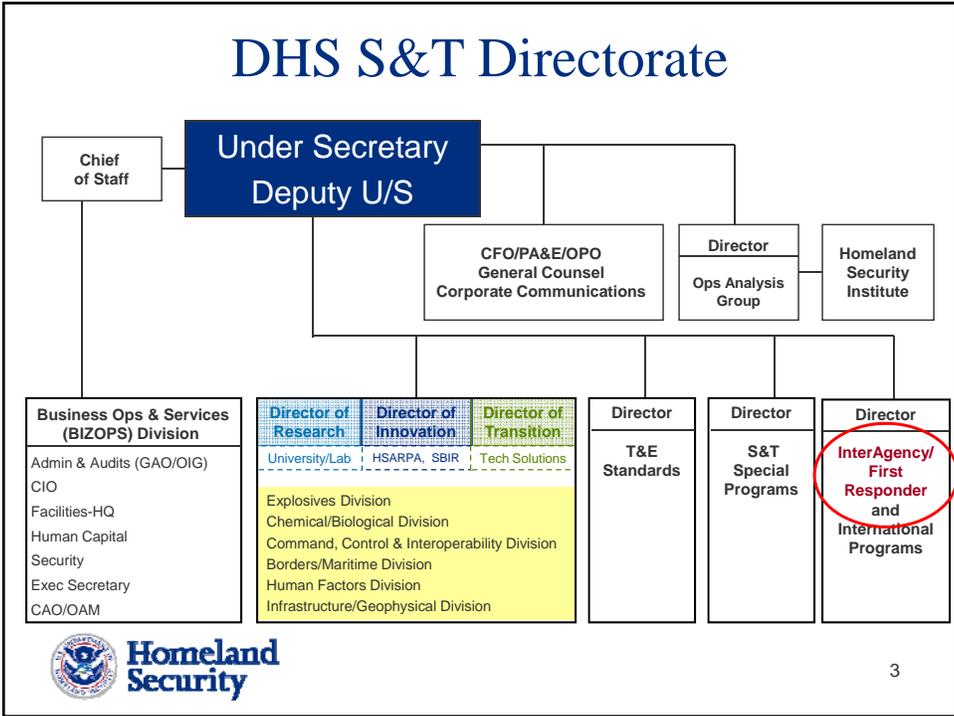
DHS Science & Technology Directorate Overview

Mitchell D. Erickson
 Director, Northeast Operations
 Interagency and First Responder Programs
 Department of Homeland Security
 Science and Technology Directorate
Mitchell.erickson@dhs.gov



TERRORIST ROADMAP





DHS S&T FY09 Investment Portfolio

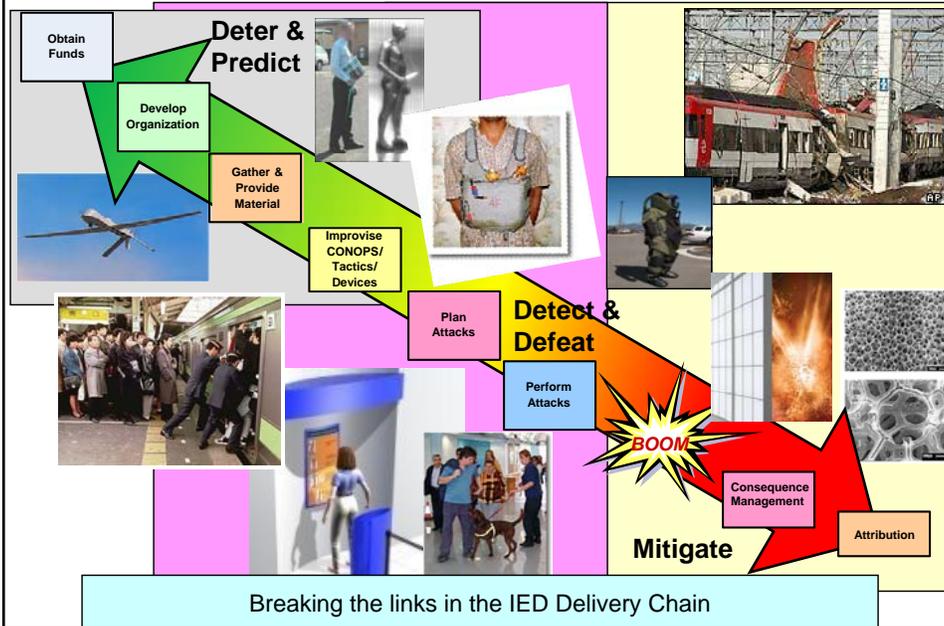
Balance of Risk, Cost, Impact, and Time to Delivery

<p>Product Transition (0-3 yrs)</p> <ul style="list-style-type: none"> Focused on delivering near-term products/enhancements to acquisition Customer IPT controlled Cost, schedule, capability metrics <p>Goal: 50% FY09: 49%</p>	<p>Innovative Capabilities (2-5 yrs)</p> <ul style="list-style-type: none"> High-risk/High payoff "Game changer/Leap ahead" Prototype, Test and Deploy HSARPA <p>Goal: 10% FY09: 8%</p>
<p>Basic Research (>8 yrs)</p> <ul style="list-style-type: none"> Enables future paradigm changes University fundamental research Gov't lab discovery and invention Homeland Security Institute <p>Goal: 20% FY09: 20%</p>	<p>Other (0-8+ years)</p> <ul style="list-style-type: none"> Test & Evaluation and Standards Laboratory Operations & Construction <p>FY09: 23%</p>

Customer Focused, Output Oriented



Countering the IED Threat



FAST M²– Future Attribute Screening Technologies Mobile Module Demo



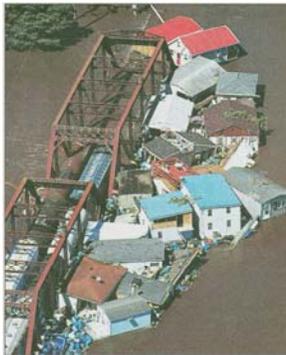
FAST Lab Protocol – Initial sensors gather signal data as Subject proceeds through Primary Screening area and responds to instructions and questions from security personnel.



A bank of monitors and sensor readouts that track Subject's physiological responses alert screeners to possible indicators of malintent

FAST technologies focus strictly on real-time physiological cues and behavior patterns in an attempt to prevent the unknown terrorist from gaining access to their target location.

Rivers Bedevil Iowa Towns



FLOOD COUNTS

Some numbers from the widespread flooding in Iowa:

- Number of deaths: 3
- Evacuees: Roughly 36,000
- Counties declared federal disaster areas: 24
- Sandbags used: 4.8 million
- Acres of corn lost: 1.3 million



SAFECON – Safe Container

Office of Innovation - Homeland Innovative Prototypical Solutions

Quickly Detect and Identify Dangerous Cargo

Integrated Sensor Suite: explosives, chemical agents, biological agents, human cargo, contraband

Scan for WMD, contraband, and human cargo during normal crane transport operations




- Improved Non-Intrusive Inspection (NII) capability
- Improved Sensors for explosives, Chem, and Bio agents



TechSolutions Projects

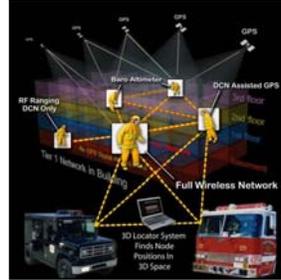
Next Generation Breathing Apparatus



Ocular Scanning Nerve Agents/Toxic Gases



3-D Location



Biometric Identification



Fire Ground Compass



Carrizo Cane – Bio Agent



Concrete Breaching Tool


Homeland Security
 Science and Technology

CIRT
Controlled Impact Rescue Tool

Fire & Rescue Training Academy
 February 20, 2008

First Responder Program



- Conduct regional First Responder liaison and outreach.
- Establish First Responder Coordinators with regional outreach responsibilities.
- Actively participate with national and regional First Responder organizations to provide awareness and a point of contact for First Responder science and technology needs.



DHS S&T Laboratories



Environmental Measurements Laboratory



National Biodefense Analysis and Countermeasures Center (NBACC)

Transportation Security Laboratory



Plum Island Animal Disease Center



... DHS S&T has four labs and access to 10 DOE National Labs



Centers of Excellence Alignment



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Homeland Security Centers of Excellence-- Northeast

Center for Explosives Detection, Mitigation, and Response

- Northeastern University, Boston
- University of Rhode Island, Kingston

Center for Maritime, Island and Port Security,

- Stevens Institute of Technology, Hoboken, N.J.

Center for Transportation Security

- University of Connecticut, Storrs
- Rutgers U, New Brunswick, NJ
- Long Island University, Brooklyn, NY

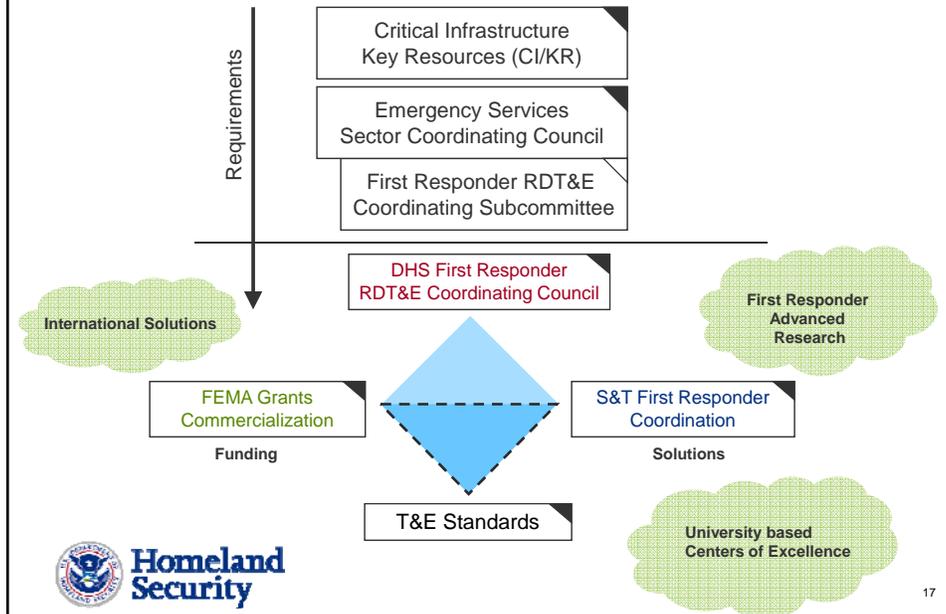
Institute for Discrete Sciences (IDS)/Center for Dynamic Data Analysis (DyDAn)

- Rutgers U, New Brunswick, NJ



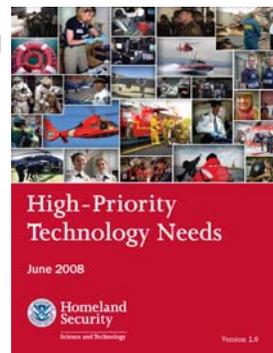
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First Responder Capstone IPT



High Priority Technology Needs

- S&T investments are tied directly to the technology needs of our customers, represented by leadership of DHS components, and *their* customers on the front lines of homeland security
- Requirements are updated on annual cycle aligned with DHS funding and acquisition processes
- **New!** Updated High Priority Technology Needs brochure identifies 94 technology needs of DHS components and their customers
- Brochure is posted online:
http://www.dhs.gov/xlibrary/assets/High_Priority_Technology_Needs.pdf



Customer Focused...Output Oriented

Doing Business with DHS S&T

Broad Agency Announcements (BAA)

Current Solicitation Topics

- Long Range BAA – addresses needs of 6 S&T divisions
- Explosives Detection
- Communications and Maritime Safety
- Unified Incident Command & Decision Support, Ph. 2 – Prototype Design and Pilot Development

Examples of Past Topics

- CELL ALL – Ubiquitous chem/bio sensing
- First Responder Reliable Link (First NET)
- Cyber Security R&D
- Biometric Detector
- Home Made Explosives

Visit *FedBizOpps*: www.fbo.gov



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DHS S&T SBIR Program

DHS S&T has an Active SBIR Program for Small High Tech Businesses

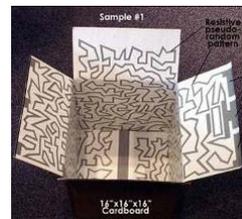
- Two Solicitations issued annually address multiple technical requirements that cut across six DHS S&T divisions
- Small business expertise sought in 18 technical topic areas through DHS SBIR solicitations issued to date for FY 2007-2008
- Small businesses have contributed valuable expertise in 64 topic areas through the DHS SBIR program since 2004
- Phase I Proposals Received to Date: 1,923
- Phase I Contract Awarded to Date: 293

Visit www.sbir.dhs.gov



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Examples of Prototypes Scheduled for FY 08 Completion



Secure Carton Integrated Electronics Remote System for enhanced port and border security



Handheld LIXID Inspection Device for Coast Guard and private sector

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Mitch Erickson
Director, Northeast Operations
Interagency and First Responder Programs
Department of Homeland Security
Science and Technology Directorate
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E-mail a request...

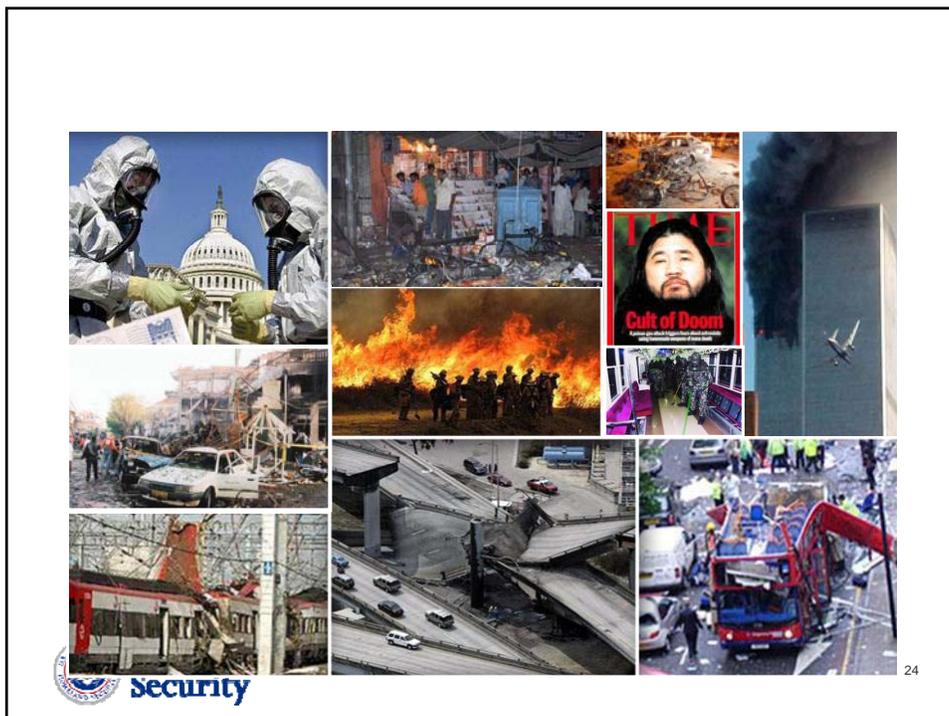
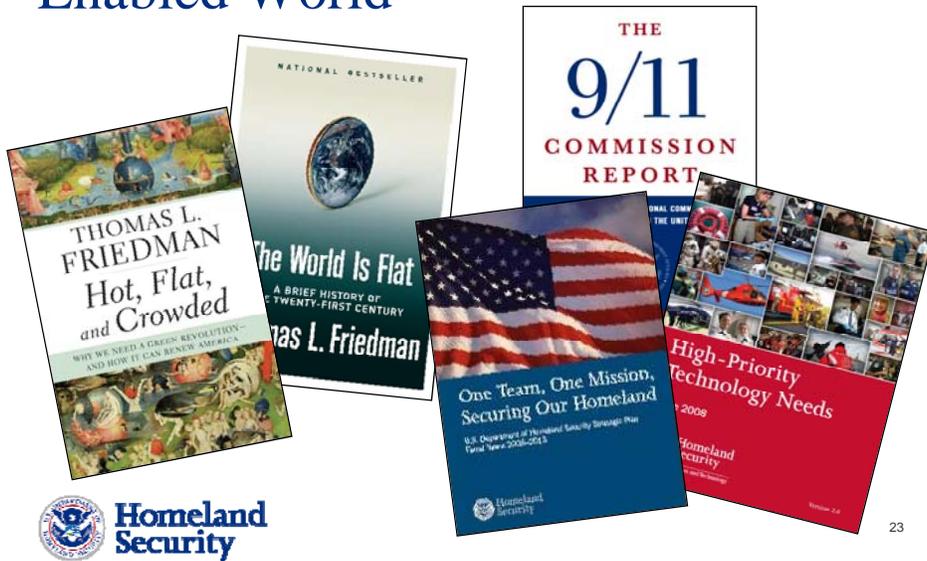
- Copies of this presentation
- "Doing Business with DHS S&T"
- Link to High Priority Technology Needs



Backup Materials



Security in a Connected, Internet-Enabled World

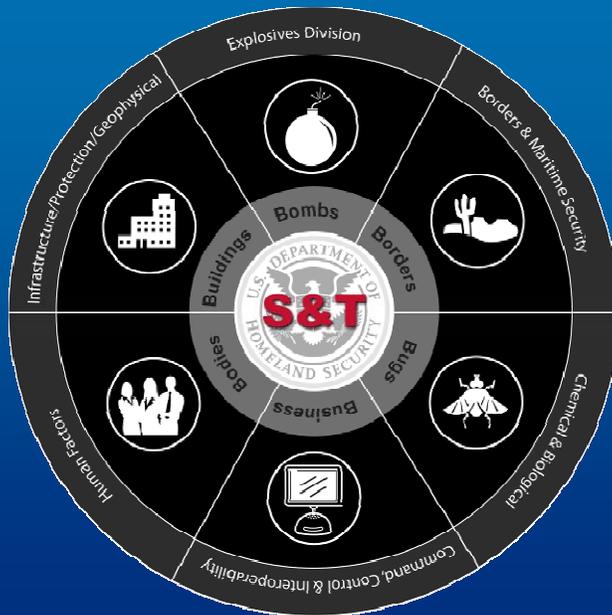


Preparing for the Unexpected in the 21st Century

Acts of Mother Nature



S&T Division Alignment with the Six B's





Innovation/HSARPA
FY 2008 Demonstration Timeline

Liquid Explosives Screening
August 8



Advance screening capabilities to better detect liquid threat substances so the flying public will not have to remove liquids from baggage



Homeland Security

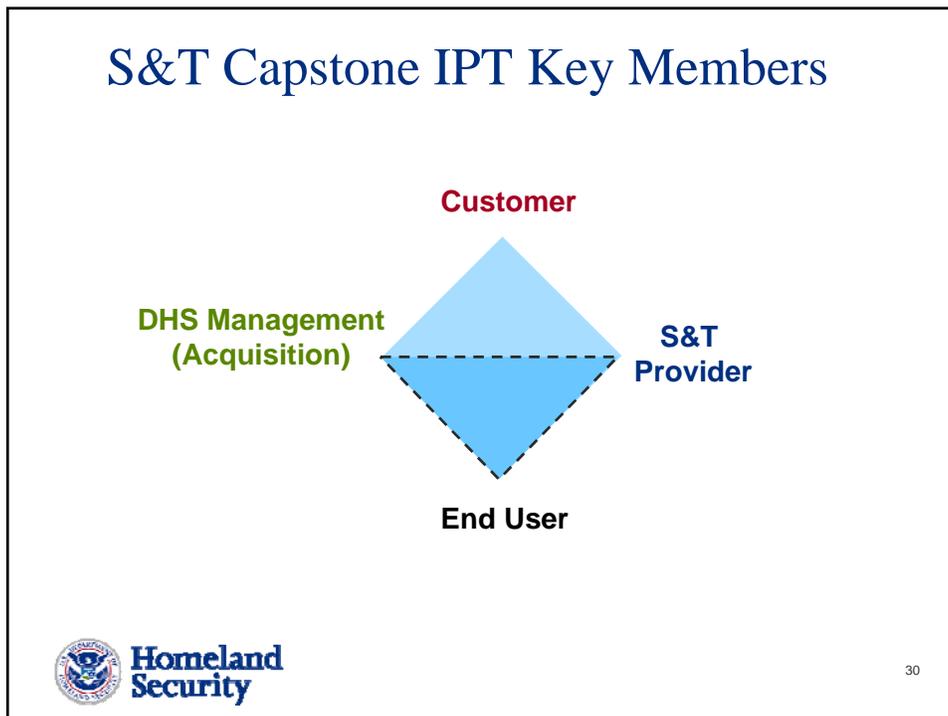
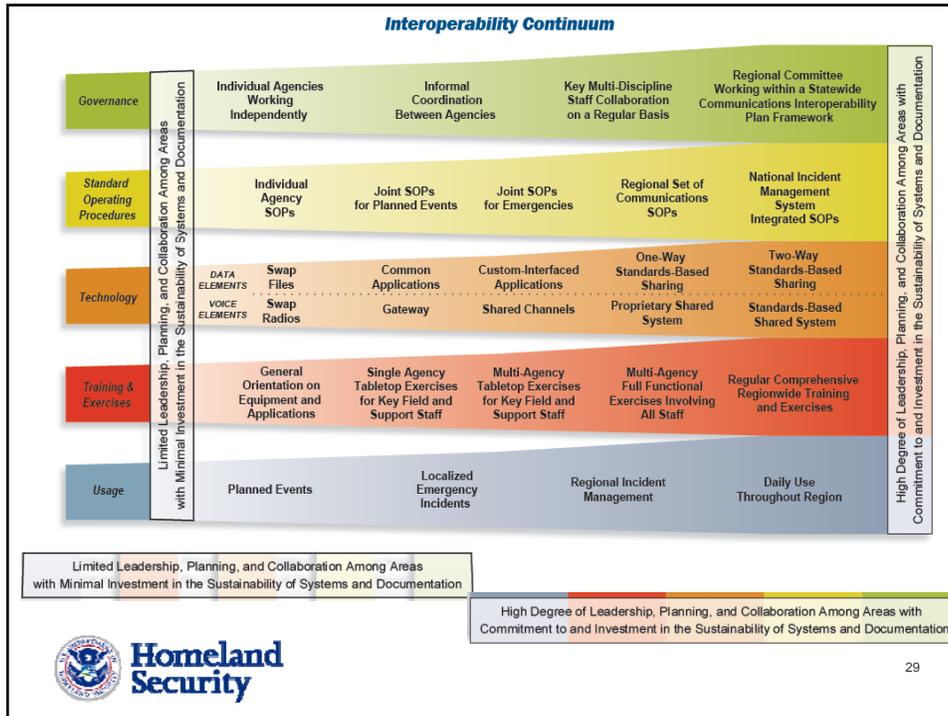
Resilient Tunnel
August 10



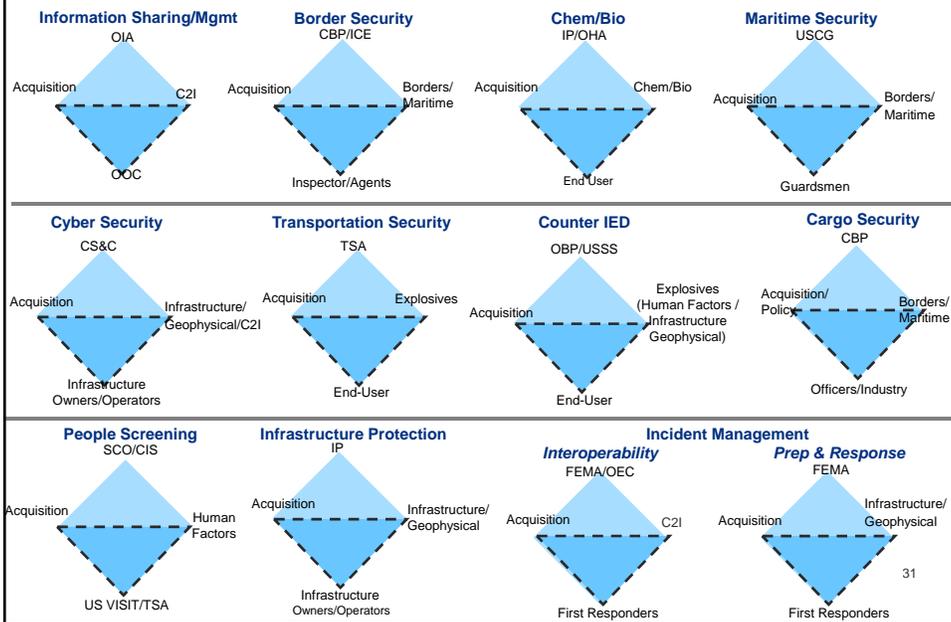
Develop capability to contain a fire or surge of water in a tunnel using giant inflatable plugs to quickly isolate and contain impacted areas

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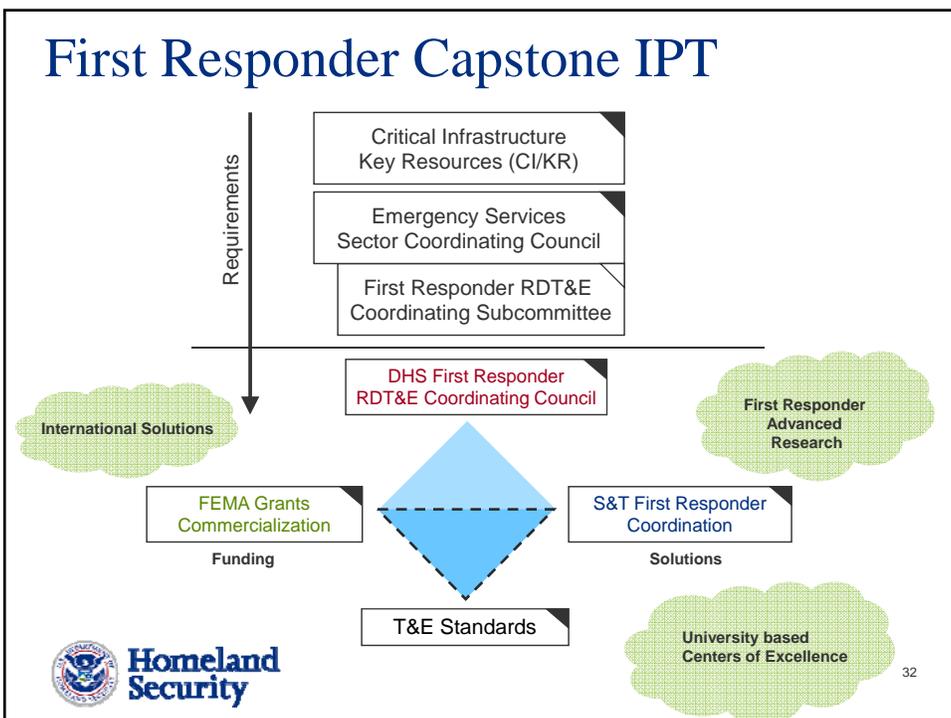




DHS Requirements/Capstone Integrated Product Teams



First Responder Capstone IPT





S&T Outreach

2008 Schedule

- **S&T Stakeholders West**, Los Angeles, January 14-17
- **ChemBio Conference**, January 28-February 2
- **Second Annual DHS University Network Summit**, Washington, DC, March 19-21
- **S&T Stakeholders East**, Washington, DC, June 2-5
- **S&T Stakeholders PacAsia**, Hawaii, October 7-10

2009 Plans

- **S&T Stakeholders West**, Bellevue, WA, February 23-26
- **Global Security Asia**, Singapore, March 17-19
- **S&T Stakeholders East**, Washington, DC, May
- **S&T Stakeholders Eurasia**, Sweden, Fall



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