Opportunities for the Private Sector

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Science and Technology
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Discussion Guide

- Overview of Department of Homeland Security
- Commercialization initiatives at DHS
- Capstone Integrated Product Teams (IPTs)
- Market Potential is Catalyst for Rapid New Product Development
- Getting on the Same Page
- SECURE Program
- Safety Act Protection
- Tech Clearing House
- SBIR Opportunities
- Getting Involved
- Summary
Homeland Security Mission

- Lead Unified National Effort to Secure America
- Prevent Terrorist Attacks Within the U.S.
- Respond to Threats and Hazards to the Nation
- Ensure Safe and Secure Borders
- Welcome Lawful Immigrants and Visitors
- Promote Free Flow of Commerce
U.S. Department of Homeland Security

“Gang of Seven”

TRANSPORTATION SECURITY ADMINISTRATION
Assistant Secretary/Administrator

U.S. CUSTOMS & BORDER PROTECTION
Commissioner

U.S. CITIZENSHIP & IMMIGRATION SERVICES
Director

U.S. IMMIGRATION & CUSTOMS ENFORCEMENT
Assistant Secretary

U.S. SECRET SERVICE
Director

FEDERAL EMERGENCY MANAGEMENT AGENCY
Administrator

U.S. COAST GUARD
Commandant
Office of the Under Secretary for Science and Technology

Divisions Drive S&T Interactions with Customers
S&T Goals

Consistent with the Homeland Security Act of 2002

- **Accelerate the delivery of enhanced technological capabilities** to meet the requirements and fill capability gaps to support DHS agencies in accomplishing their mission.

- Establish a lean and agile world-class S&T management team to deliver the technological advantage necessary to ensure DHS Agency mission success and prevent technological surprise.

- Provide leadership, research and educational opportunities and resources to develop the necessary intellectual basis to enable a national S&T workforce to secure the homeland.
## DHS S&T Investment Portfolio

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

<table>
<thead>
<tr>
<th>Product Transition (0-3 yrs)</th>
<th>Innovative Capabilities (1-5 yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Focused on delivering near-term products/enhancements to acquisition</td>
<td>• High-risk/High payoff</td>
</tr>
<tr>
<td>• Customer IPT controlled</td>
<td>• “Game changer/Leap ahead”</td>
</tr>
<tr>
<td>• Cost, schedule, capability metrics</td>
<td>• Prototype, Test and Deploy</td>
</tr>
<tr>
<td></td>
<td>• HSARPA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Research (&gt;8 yrs)</th>
<th>Other (0-8+ yrs)</th>
</tr>
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<tbody>
<tr>
<td>• Enables future paradigm changes</td>
<td>• Test &amp; Evaluation and Standards</td>
</tr>
<tr>
<td>• University fundamental research</td>
<td>• Laboratory Operations &amp; Construction</td>
</tr>
<tr>
<td>• Gov’t lab discovery and invention</td>
<td>• Required by Administration (HSPDs)</td>
</tr>
<tr>
<td></td>
<td>• Congressional direction/law</td>
</tr>
</tbody>
</table>

**Customer Focused, Output Oriented**
Three Step Approach:
Keep it Simple and Make it Easy

1. Develop Detailed Requirements And Relay Conservative Market Potential

2. Establish Strategic Partnerships
   - Business Case Information
   - Open Competition
   - Detailed Mutual Responsibilities

3. Deliver Products!
Two Models for Product Realization

**Big-A Acquisition**
1. Requirements derived by Government
2. RFP and then cost-plus contract(s) with developer(s) (which incentivizes long intervals)
3. Focus on technical performance
4. Production price is secondary (often ignored)
5. Product price is cost-plus
6. Product reaches users via Government deployment

**Pure Commercialization**
1. Requirements derived by Private Sector
2. Product development funded by the developer (which incentivizes short intervals)
3. Technical performance secondary (often reduced in favor of price)
4. Focus on price point
5. Product price is market-based
6. Product reaches users via marketing and sales channels

Is there a “Middle Ground”?

Performance is King

Relationship between end users and product developer is usually remote

Performance/Price is King

Relationship between end users and product developer is crucial

Source: Senior Executive Brief to Secretary Chertoff, Deputy Secretary Schneider and Leaders of G-7
A new model for Commercialization…

1. Development of Operational Requirements Document (ORD)
2. Assess addressable market(s)
3. Publish ORD and market assessment on public DHS web portal, soliciting interest from potential partners
4. Execute no-cost agreement (CRADA-like) with multiple Private Sector entities, transferring technology (if necessary)
5. Develop supporting grants and standards as necessary
6. Assess T&E after product is developed
7. New Commercial off the Shelf (COTS) product marketed by Private Sector with DHS support

Differences from the Acquisition model:

- Primary criteria for partner selection is market penetration, agility, and performance/price ratio
- Product development is not funded by DHS
- Government involvement is limited to inherently governmental functions (e.g., Grants and Standards)

Source: Senior Executive Brief to Secretary Chertoff, Deputy Secretary Schneider and Leaders of G-7
Commercialization Process

**PHASE I**
- Capstone IPT
- Assess Capability Gap
- Formulate EHCs

**PHASE II**
- CG/EHC
- Develop Operational Requirements & CONOPS
- Perform Technology/System Feasibility Study

**PHASE III**
- Sponsor and S&T
- Technology Scan/Market Survey
- Publish ORD, System Studies & PAM on website
- Mkt. Comm./PR Efforts

**PHASE IV**
- Outreach Program Activities
- Assess & Choose Strategic Private Sector Partners
- Technology Transfer/Grants (if required)
- Responses from Private Industry

**PHASE V**
- Sponsor and S&T
- Executed Agreement with Private Sector and DHS
- New COTS product marketed by Private Sector with DHS support:
  - SAFETY Act
  - Standards
  - Public Relations
  - Marketing Communications

"Commercialization” – The process of developing markets and producing and delivering products or services for sale.

Legend:
- EHC – Enabling Homeland Capability
- CG – Capability Gap
- ORD – Operational Requirements Document
- CONOPS – Concept of Operations
- PAM – Potential Available Market
- COTS – Commercial Off The Shelf

Source: Senior Executive Brief to Secretary Chertoff, Deputy Secretary Schneider and Leaders of G-7
### Private Sector Outreach Process

**Requirements Development through Product Release**

<table>
<thead>
<tr>
<th>PHASES</th>
<th>ACTIVITIES</th>
</tr>
</thead>
</table>
| Requirements Development | • Prioritized capability gaps from Capstone IPTs  
| | • Identification of representatives of end users and end customers  
| | • Operational and technical requirements  
| | • Validation of price points  
| | • Technology Commercialization Agreement (TCA) between DHS S&T and its DHS customer  
| | • Project plan |
| Market Assessment & Strategy | • Market survey  
| | • Technology scan  
| | • Communications plan and implementation (public relations and marketing communications)  
| | • Technology Commercialization Plan (TCP)  
| | • Test and Evaluation Master Plan (TEMP)  
| | • Standards assessment and/or development by S&T  
| | • Grant program development by DHS customer |
| Open Competition | • SECURE Program  
| | • CRADAs  
| | • BAAs  
| | • RFPs  
| | • RFQs  
| | • RFI  
| | • MoUs / MoAs  
| | • Technology transfer licenses  
| | • OTAs  
| | • Influence the private sector |
| Product Development | • New Product Development (NPD) process implemented by private sector partner(s)  
| | • Project reviews  
| | • Test and Evaluation |
| Product Release, Marketing and/or Deployment | • Transition to manufacture  
| | • QC/QA  
| | • Deployment (to Federal users) or Marketing (to independent users)  
| | • Measure product effectiveness |

**Legend:** Black text = Government activities  
Grey text = Private-sector activities
Contact with the Private Sector

Initial Contact with Private Sector* → Private Sector requests more information → “Full Response Package” sent to requestors, usually within same day

Invited Speeches/Presentations
Congressional Referrals
Conference Attendance
Seminar Hosting
Published Articles
Word of Mouth
DHS Website

Company Overview and Marketing Materials Received and Communicated through S&T

• “Opportunities for the Private Sector”
• Developing Operational Requirements
  • “High Priority Technology Needs”
  • SECURE Program CONOPS
• Example Company Overview Document
• Operational Requirements Document Template

*Private Sector includes Venture Capitalist and Angel Investor Communities
10 Reasons to Partner with DHS Science & Technology

Reasons Color Legend:
- Economics-based
- Public Relations-based
- Business Development-based
- Strategic Marketing-based
- Technical Resources-based

1. Access to Sizeable DHS Market and Ancillary Markets
2. Leverage the Financial Strength/Stability of DHS and offset R&D costs through participation in mutually beneficial cost-sharing Programs
3. Utilize the SAFETY Act to gain liability protection and access DHS’ array of PR and Market Communications services
4. Effectively reach the First Responders Market through FEMA-sponsored grant programs, the AEL (Approved Equipment List), other sponsored equipment lists and fast-track programs
5. Team with Science & Technology Personnel to leverage a vast Network of Laboratory Facilities for Technology and Product Development
6. Gain access to Test and Evaluation (T&E) Facilities for Product Development and actively participate in the generation of Standards, T&E methods and Regulations used at the tribal, local, state, and federal levels
7. Meet and establish Partnerships with others in the University, Business, and National Lab Communities
8. Potentially generate Licensing revenue and capture potential Derivative Product revenue
9. Leverage SBIRs, HITS and HIPS to gain experience with homeland security applications
10. Make a Real Difference by Developing Products to Defend the Homeland for Generations to come as well as gain recognition as a Corporate Citizen contributing to the Security of our Homeland
S&T Transition Capstone IPTs
Members and Function

- Industry Board of Directors Model
- Consensus-driven Process

End Result:
Prioritized Investments in S&T
DHS Requirements/Capability Capstone IPTs

DHS S&T Product – “Enabling Homeland Capabilities” (EHCs)
Cargo Security
Representative Technology Needs

- Enhanced screening and examination by non-intrusive inspection
- Increased information fusion, anomaly detection, Automatic Target Recognition capability
- Detect and identify WMD materials and contraband
- Capability to screen 100% of air cargo
- Test the feasibility of seal security; detection of intrusion
- Track domestic high-threat cargo
- Harden air cargo conveyances and containers
- Positive ID of cargo and detection of intrusion or unauthorized access

Establishment of Project IPTs: Detailed Specifications/Requirements

- Members:
  - S&T Program Manager(s)
  - Operating Component’s Program Manager(s)
  - End-User(s)
  - Supplier/Provider

- Meet at Least Monthly
- Report to Capstone IPT Quarterly
Transition Approaches

Capstone IPTs
Identify
Capability
Gaps/Mission
Needs

TRANSITION PATH
DHS Component Acquisition
Provide Solutions
Validate Grants & Equip
Provide Solutions
Enables Procurement

First Responder
Private Sector
Field Agents

Widely Distributed Product

Homeland Security
The Component develops operational requirements consistent with organizational missions.

**Operational Requirements**

**Technical Requirements**

**Requirements Hierarchy (TSA example)**

- **High Level (qualitative)**
  - DHS Mission – Strategic Goals ("Prevent terrorist attacks")
  - TSA Mission ("Protect traveling public")
  - Mission Need/Capability Gap ("Reduce threats to traveling public")
  - Operational Requirement ("Capability to detect firearms")

- **Low Level (quantitative)**
  - Performance Requirement ("Metal detection & classification")
  - Functional Specification ("Detect metal > 50 gm")
  - Design Specification ("MTBF > 2000 hours")
  - Material Specification ("Use type FR-4 epoxy resin")

The Program Manager and Acquisition / Engineering community develop technical requirements and specifications.

Each lower-level requirement must be traceable to a higher-level requirement.

Source: Senior Executive Brief to Secretary Chertoff, Deputy Secretary Schneider and Leaders of G-7
Does this look familiar?!

How the customer explained it
How the Project Leader understood it
How the Analyst designed it
How the Programmer wrote it
How the Business Consultant described it

How the project was documented
What operations installed
How the customer was billed
How it was supported
What the customer really needed

Author Unknown
Getting on the “Same Page”

- Historical Perspective
- Language is Key
- Communication is Paramount
Technology Readiness Levels (TRLs): Overview

TRLs are NASA-generated and Used Extensively by DoD

| Basic principles observed and reported | 1 |
| Technology concept and/or application formulated | 2 |
| Analytical and experimental critical function and/or characteristic | 3 |
| Component and/or breadboard validation in laboratory environment | 4 |
| Component and/or breadboard validation in relevant environment | 5 |
| System/subsystem model or prototype demonstration in a relevant environment | 6 |
| System prototype demonstration in a operational environment | 7 |
| Actual system completed and 'flight qualified' through test and demonstration | 8 |
| Actual system 'flight proven' through successful mission operations | 9 |

Basic

Applied

Advanced

TECHNOLOGY MATURITY
TRL Correlation: DHS and Private Sector

[Diagram showing the correlation between TRL (Technology Readiness Level) and the transition process from basic research to innovation and finally to products. The diagram illustrates the progression from TRL 1-3 through TRL 4-6 and TRL 7-9, highlighting the transition from basic research to innovation to prototype and finally to products.]
Market Potential Template

DHS

Ancillary Markets

First Responders

CBP
- Field Operations
- Border Patrol
- Int’l Trade
- Air & Marine

Secret Service
- Investigations
- Protective Operations
- Protective Research

Coast Guard
- Atlantic & Pacific Area Mission Execution Units
- Atlantic & Pacific Area Mission Support Units
- Atlantic & Pacific Area Mission Maintenance and Logistics Command

TSA
- Security Operations
- Transportation Security Administration
- Federal Air Marshal Service

FEMA
- Logistics Management
- Disaster Management
- Disaster Operations
- Grant Programs
- National Preparedness
- US Fire Administration and Nat’l Fire Academy
- Nat’l Continuity Programs
- Mitigation

ICE
- Detention and Removal
- Int’l Affairs
- Intelligence
- Investigations
- Student and Exchange Visitor Programs
- Federal Protective Service
- Nat’l Incident Response Unit

USCIS
- Refugee, Asylum and Int’l Operations
- Nat’l Security and Records Verification
- Investigations
- Domestic Operations

S&T
- Explosives
- Chemical/Biological
- Command, Control, and Interoperability
- Borders/Maritime
- Human Factors
- Infrastructure and Geophysical

Others
- OHA
- DNDO
- Etc.

Other (Government)
- $; __Units
- $; __Units
- $; __Units
- $; __Units
- $; __Units
- $; __Units

DoE
- $; __Units

DoJ
- $; __Units

DoD
- $; __Units

NASA
- $; __Units

Other (Non-Govt.)
- $; __Units

Police
- $; __Units

Fire
- $; __Units

EMT
- $; __Units

Other
- $; __Units
Conservative Estimate: Number of First Responders in the US

- Homeland Security Presidential Directive 8
- Steve Golubic (FEMA)

Total: > 25.3 Million Individuals

Front Line > 2.3 Million
Support to Front Line > 23 Million
Call to Action: Mutual Benefits
Create “Win-Win-Win” Relationships

1. Learn Current DHS Needs

2. Inform DHS of Products/Capabilities
   - Request DHS – S&T Full Response Package at thomas.cellucci@dhs.gov

3. Interact with DHS
   - Establish Mutually-beneficial Relationship
## SECURE Program

**“Mutually-Beneficial Goals Achieved Through Rigorous Process”**

<table>
<thead>
<tr>
<th>Goals</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S</strong>ystem</td>
<td>Alignment to DHS Detailed Requirements</td>
</tr>
<tr>
<td><strong>E</strong>fficacy</td>
<td>Private Sector Product Development</td>
</tr>
<tr>
<td>through</td>
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<tr>
<td><strong>C</strong>ommercialization</td>
<td></td>
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<tr>
<td><strong>U</strong>tilization</td>
<td>Product Launch, Sales and Marketing</td>
</tr>
<tr>
<td><strong>R</strong>elevance</td>
<td>Customer-Focused Capstone IPT Process</td>
</tr>
<tr>
<td><strong>E</strong>valuation</td>
<td>Third-party Test &amp; Evaluation with DHS Validation</td>
</tr>
</tbody>
</table>
SECURE Program
Concept of Operations

Application – Seeking products/technologies aligned with posted DHS requirements
Selection – Products/Technologies TRL-5 or above, scored on internal DHS metrics
Agreement – One-page CRADA-like document. Outlines milestones and exit criteria
Publication of Results – Independent Third-Party T&E conducted on TRL-9 product/service. Results verified by DHS, posted on DHS web-portal

Benefits:
• Successful products/technologies share in the imprimatur of DHS
• DHS Operating Components and First Responders make informed decisions on products/technologies aligned to their stated requirements
• DHS spends less on acquisition programs → Taxpayers win.
## SECURE Program
### Benefit Analysis “Win-Win-Win”

<table>
<thead>
<tr>
<th>Taxpayers</th>
<th>Private Sector</th>
<th>Public Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Citizens are better protected by DHS personnel using mission critical products</td>
<td>1. Save significant time and money on market and business development activities</td>
<td>1. Improved understanding and communication of needs</td>
</tr>
<tr>
<td>2. Tax savings realized through Private Sector investment in DHS</td>
<td>2. Firms can genuinely contribute to the security of the Nation</td>
<td>2. Cost-effective and rapid product development process saves resources</td>
</tr>
<tr>
<td>3. Positive economic growth for American economy</td>
<td>3. Successful products share in the “imprimatur of DHS”; providing assurance that products really work</td>
<td>3. Monies can be allocated to perform greater number of essential tasks</td>
</tr>
<tr>
<td>4. Possible product “spin-offs” can aid other commercial markets</td>
<td>4. Significant business opportunities with sizeable DHS and DHS ancillary markets</td>
<td>4. End users receive products aligned to specific needs</td>
</tr>
<tr>
<td>5. Customers ultimately benefit from COTS produced within the Free Market System – more cost effective and efficient product development</td>
<td>5. Commercialization opportunities for small, medium and large business</td>
<td>5. End users can make informed purchasing decisions with tight budgets</td>
</tr>
</tbody>
</table>
http://www.dhs.gov/xopnbiz/opportunities/

Open for Business

Contract Opportunities

Small Business Assistance

SECURE Program
Federal Business Opportunities

Sites where the Office of Procurement Operations (OPO) posts opportunities for prospective suppliers to offer solutions to DHS – S&T’s needs:

- [www.HSARPAbaa.com](http://www.HSARPAbaa.com)
- [www.SBIR.dhs.gov](http://www.SBIR.dhs.gov)

take advantage of...

- **Vendor Notification Service**: Sign up to receive procurement announcements and solicitations/BAA amendment releases, and general procurement announcements. [http://www.fedbizopps.gov](http://www.fedbizopps.gov)

- **S&T’s HSARPA website**: Register to join the HSARPA mailing list to receive various meeting and solicitation announcements. Link to Representative High Priority Technology Areas, where DHS areas of interest can be found. [http://www.hsarpabaa.com](http://www.hsarpabaa.com)

- **Truly Innovative and Unique Solution**: Refer to Part 15.6 of the Federal Acquisition Regulation (FAR) which provides specific criteria that must be met before an unsolicited proposal can be submitted to Kathy Ferrell. [http://www.acquisition.gov/far/current/html/Subpart%2015_6.html](http://www.acquisition.gov/far/current/html/Subpart%2015_6.html)

**Contact Information:**
Kathy Ferrell  
Department of Homeland Security  
Office of the Chief Procurement Officer  
245 Murray Dr., Bldg. 410  
Washington, DC 20528  
unsolicited.proposal@dhs.gov  
202-447-5576
Show Us the Difference…

Hall’s Competitive Model

Differentiation = (A+B)C/(D+E)

As a function of:
- Market
- Application
- Technology
More Opportunities with DHS
Science and Technology
SAFETY Act
Support Anti-Terrorism by Fostering Effective Technologies Act of 2002

• Enables the development and deployment of qualified anti-terrorism technologies
• Provides important legal liability protections for manufacturers and sellers of effective technologies
• Removes barriers to industry investments in new and unique technologies
• Creates market incentives for industry to invest in measures to enhance our homeland security
• The SAFETY Act liability protections apply to a vast range of technologies, including:
  • Products
  • Services
  • Software and other forms of intellectual property (IP)

Examples of eligible technologies:
• Threat and vulnerability assessment services
• Detection Systems
• Blast Mitigation Materials
• Screening Services
• Sensors and Sensor Integration
• Vaccines
• Metal Detectors
• Decision Support Software
• Security Services
• Data Mining Software

Protecting You, Protecting U.S.
Criteria as stated in the SAFETY Act

• Is it an Anti-Terrorism Technology?
• Is it effective and available?
• Does it possess large potential third party liability risk exposure?
• Does Seller need SAFETY Act?
• Does it perform as intended?
• Does it conform to Seller’s specifications?
• Is it safe for use as intended?

Addition SAFETY Act information…
Online: www.safetyact.gov  Email: helpdesk@safetyact.gov
Toll-Free: 1-866-788-9318
## Award Criteria

<table>
<thead>
<tr>
<th>Developmental Testing and Evaluation (DT&amp;E)</th>
<th>Designation</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs more proof, has potential</td>
<td>Demonstrated effectiveness, i.e. Developmental testing (with confidence of repeatability)</td>
<td>Consistently proven effectiveness, i.e. operational performance (with high confidence of enduring effectiveness)</td>
</tr>
<tr>
<td><strong>Effectiveness Evaluation Conclusion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liability cap</td>
<td>Liability cap</td>
<td>Government Contractor Defense (GCD)</td>
</tr>
<tr>
<td>• only for identified test event(s) and for limited duration (=3yrs)</td>
<td>• for any and all deployments in 5-8 year term</td>
<td>• for any and all deployments in 5-8 years term</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• EDS not yet TSL Certified</td>
<td>• Radiological detector with laboratory success Opt-out screeners, only similar projects completed</td>
<td>• EDS TSL Certified</td>
</tr>
<tr>
<td>• Novel incident pattern matching service</td>
<td></td>
<td>• Well-documented infrastructure protection service with history of excellent performance and meeting DoE standards</td>
</tr>
</tbody>
</table>

EDS=Explosive Detection System   TSL=Transportation Security Laboratory (TSA)
The DHS S&T SBIR Program was initiated in 2004. For the DHS S&T SBIR Program, two solicitations are issued per year. Generally, they will be issued in November and May.

Solicitation topics are developed by Program Managers in each of the Science and Technology (S&T) Divisions, and from time to time, by the Offices of Innovation and Basic Research. The annual solicitations consist of topics that are relevant to the Chemical and Biological, Borders and Maritime Security, Human Factors, Explosives, Infrastructure and Geophysical, and Command, Control and Interoperability Divisions.

Similar to the R&D programs of the S&T Directorate, the SBIR topics generally address the needs of the seven DHS Operational Units, i.e., U.S. Coast Guard, U.S. Transportation Security Administration, U.S. Customs and Border Protection, Federal Emergency Management Agency, U.S. Citizenship and Immigration Services, U.S. Immigration and Customs Enforcement, and U.S. Secret Service, as well as First Responders.

For the Phase II SBIR effort, the DHS S&T SBIR Program has a Cost Match feature for SBIR projects that attract matching cash from an outside investor. The purpose is to focus SBIR funding on those projects that are most likely to be developed into viable new products that DHS and others will buy and that will thereby make a major contribution to homeland security and/or economic capabilities. Click here for more information about the Cost Match feature.

The DHS S&T SBIR Program has several processes in place to accelerate the Phase I and Phase II award process to further satisfy operational requirements and commercial application.

- Phase I awards are typically made within 90 days of selection.
- Invited Phase II projects will be reviewed and awards will be made incrementally, as quickly as possible under the Jump Start feature, to maintain the momentum of the Phase I effort. The Phase II proposal invitation process expeditiously identifies those Phase I awardees deserving of Phase II awards.

To learn more about the SBIR Program, please visit http://www.sba.gov/sbir/indexsbir-atr.html.
Tech Clearinghouse Mission

To rapidly disseminate technical information concerning existing and desired products and services to/between Federal, State, Local, and Tribal Government and the Private Sector in order to encourage technological innovation and facilitate the mission of the Department of Homeland Security.

- Establishes Central Federal Technology Clearinghouse
- Issues Announcements for Innovative Solutions
- Establishes S&T Technical Assessment Team
- Provides guidance for the evaluation, purchase, and implementation of homeland security enhancing technologies
- Provides users with information to develop or deploy technologies that would enhance homeland security
- Enables technology transfer

Improved Knowledge Sound Acquisition Decisions
The mission of TechSolutions is to rapidly address technology gaps identified by Federal, State, Local, and Tribal first responders

- Field prototypical solutions in 12 months
- Cost should be commensurate with proposal but less than $1M per project
- Solution should meet 80% of identified requirements
- Provide a mechanism for Emergency Responders to relay their capability gaps
  - Capability gaps are gathered using a web site (www.dhs.gov/techsolutions)
- Gaps are addressed using existing technology, spiral development, and rapid prototyping
- Emergency Responders partner with DHS from start to finish

Rapid Technology Development
Target: Solutions Fielded within 1 year, at <$1M
TechSolutions Investments

Seatbelt Safety for Emergency Vehicles

Next Generation Breathing Apparatus

Fire Ground Compass

Under Consideration

Vehicle Mounted Chem/Bio Sensor Detection
## Getting Involved: S&T Contacts

<table>
<thead>
<tr>
<th>Division</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jim Tuttle</td>
<td>S&amp;<a href="mailto:T-Explosives@dhs.gov">T-Explosives@dhs.gov</a></td>
</tr>
<tr>
<td>Beth George</td>
<td>S&amp;<a href="mailto:T-ChemBio@dhs.gov">T-ChemBio@dhs.gov</a></td>
</tr>
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<td>David Boyd</td>
<td>S&amp;<a href="mailto:T-C2I@dhs.gov">T-C2I@dhs.gov</a></td>
</tr>
<tr>
<td>Anh Duong</td>
<td>S&amp;<a href="mailto:T-BordersMaritime@dhs.gov">T-BordersMaritime@dhs.gov</a></td>
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<td>Sharla Rausch</td>
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<tr>
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<tr>
<td>Rich Kikla</td>
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Summary

Detailed Requirements
Sizeable Market Potential
Delivered Products – PERIOD!

How Can You Afford NOT to Partner with DHS S&T?

Questions/Comments:
Thomas A. Cellucci, Ph.D., MBA
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U.S. Department of Homeland Security: Science and Technology Directorate’s Chief Commercialization Officer

Thomas A. Cellucci, PhD, MBA was recently appointed Chief Commercialization Officer for the Department of Homeland Security’s Science and Technology (S&T) Directorate. The Chief Commercialization Officer (CCO) is responsible for initiatives that identify, evaluate and commercialize technology for the specific goal of rapidly developing and deploying products and services that meet the specific operational requirements of the Department of Homeland Security’s Operating Components and its end users. The CCO also develops and drives the implementation of DHS-S&T’s outreach with the private sector to establish and foster mutually-beneficial working relationships to facilitate cost-effective and efficient product/service development efforts.

Cellucci is an accomplished serial entrepreneur, seasoned senior executive and Board member possessing extensive corporate and VC experience across a number of worldwide industries. Profitably growing high technology firms at the start-up, mid-range and large corporate level has been his trademark. In 1999, he founded a highly successful management consulting firm--Cellucci Associates, Inc. -- that raises capital and provides strategic business services to top-tier global high technology firms. He serves on both public and private Boards and has authored or co-authored over 120 articles on Nanotechnology, Laser physics, Photonics, Environmental disturbance control, MEMS test and measurement, Mistake-proofing enterprise software, and Sales & Marketing. He has also held the rank of Lecturer or Professor at institutions like Princeton University, University of Pennsylvania and Camden Community College. Cellucci also co-authored ANSI Standard Z136.5 “The Safe Use of Lasers in Educational Institutions”.

As a result of his consistent achievement in the commercialization of emerging technologies, Cellucci has received numerous awards and citations from industry, government and business. Cellucci earned a PhD in Physical Chemistry from the University of Pennsylvania, an MBA from Rutgers University and a BS in Chemistry from Fordham University. He has also attended and lectured at executive programs at the Harvard Business School, MIT Sloan School, Kellogg School and others. Dr. Cellucci is regarded as an authority in rapid time-to-market new product development and is a frequent public speaker.