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S&T Stakeholders Conference

Small Business Innovation Research (SBIR) Program Tutorial

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June 2-5, 2008

PARTNERING FOR A SAFER NATION

Small Business Innovation Research Program (SBIR) Mission

Supporting scientific excellence and technological **innovation** through the investment of federal **research** funds in critical American priorities to build a strong national economy...
one **small business** at a time.



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SBIR Program Description

- Set-aside program for small business concerns to engage in federal R&D -- with potential for commercialization
- 2.5% of the extramural R&D Budget of an Executive Agency or Military Department



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Why SBIR????

Small Business Innovation Development Act of 1982

Congress designated 4 major goals:

- Stimulate technological innovation
- Use small business to meet federal R&D needs
- Foster and encourage participation by minorities and disadvantaged persons in technological innovation
- Increase private-sector commercialization innovations derived from federal R&D



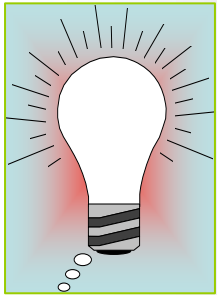
2000 Reauthorization

Major Provisions of Public Law 106-554; Signed 12/21/00

- Program Extension until 9/30/2008
- Output and Outcome Data
 - ✓ Public Database: **basic award information**
 - Tech-Net-- <http://technet.sba.gov>
 - ✓ Government Database: **program evaluation**
 - Phase II awardees -- e.g., new product sale revenues; other investment funding sources

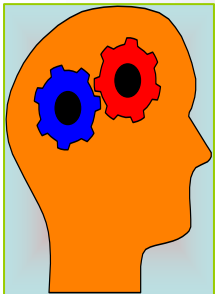


SBIR – A Three Phase Program



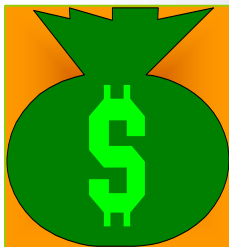
PHASE I

- Feasibility Study
- \$100K (in general) and 6 month effort



PHASE II

- Full Research/R&D
- \$750K and 24 month effort
- Commercialization plan required



PHASE III

- Commercialization Stage
- Use of non-SBIR Funds



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SBIR Program: Eligibility Checkpoints

- Organized for-profit U.S. business
- 500 employees or fewer, including affiliates
- PI's primary employment must be with small business concern at time of award and for duration of project period
- At least 51% U.S.- owned by individuals and independently operated **or** at least 51% owned and controlled by another (one) for-profit business concern that is at least 51% owned and controlled by one or more individuals



SBIR Program Eligibility: Ownership and Control

Got questions?

- Contact the **SBA** Size Specialists
- Request an eligibility determination

<http://www.sba.gov/size/indexcontacts.html>



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Performance of R&D Activities

“All research/R&D must be performed in its entirety in the U.S.”

- Rare cases to conduct testing of specific patient populations outside U.S. is allowable
- Travel to scientific meeting in foreign country is allowable
- Foreign consultants/collaborators allowable, but must perform consulting in U.S.

Fee/Profit

Up to 7% of total direct and F&A costs may be requested for fee

- Must be REQUESTED/JUSTIFIED in application/proposal
- Only SBC eligible; no contracts, consortium or other third party are eligible for fee
- Not direct or indirect cost

***DISCUSS WITH**
CONTRACTING OFFICE



Agency SBIR Differences

Read the Solicitation

- **Number and Timing of Solicitations**
- **R&D Topic Areas -- (Broad vs. Focused)**
- **Dollar Amount of Award (Phase I and II)**
- **Proposal Preparation Instructions**
- **Financial details (e.g., Indirect Cost Rates, Gap Funding)**
- **Receipt Dates**
- **Proposal Review Process**
- **Proposal Success Rates**
- **Type of Award (Contract or Grant)**



| | DOD | NASA | DOT | EPA | DOE | DHS | DOC | NSF | USDA | DoED | NIH |
|---|---|-----------------------|------|-------------------|---------------|---------------------------|------|-------------------|------|------|-------------------|
| Award Type <i>Contract Grant</i> | C | C | C | C | G | C | C | G | G | G/C | G/C |
| Award Amount <i>Phase I</i> | 70K-100K ^a Options ^c | 70K SBIR 100K STTR | 100K | 70K | 100K 9 mos | 100K 150K ^d | 75k | 100K | 80K | 100K | 100k ^b |
| Award Amount <i>Phase II</i> | 750K | 600K | 720K | 225K ^c | 750K | 750K 1M ^d | 300k | 500K ^c | 325K | 750K | 750K ^b |
| Review Process | I | I | I | I | E | I | I | E | E | I | E |
| Research Topics | S | S | S | S | S | S | S | B | B | S | B |
| Gap Funding | Y | N | N | N | Y | N | N | Y | Y | N | Y |
| Communication | R | R | R | R | R | R | R | O | O | O | O |

C - Contract

I - Internal Review

S - Specific

R - Restricted

G - Grant

E - External Review

B - Broad

O - Open

^a Varies among DOD subcomponents.

^b Deviations permitted with justification

^c Some agencies offer Ph II options

^d DHS Domestic Nuclear Detection Office

***Agency Differences
ALWAYS CHECK
WITH AGENCIES***

DHS... a single, integrated agency

- Directorates
 - Management
 - **Science and Technology (S&T)**
 - National Protection & Programs
- Offices
 - Policy
 - Health Affairs
 - Intelligence and Analysis
 - Operations Coordination
 - **Domestic Nuclear Detection Office (DNDO)**
 - Federal Law Enforcement Training Center
- Major Component Agencies
 - Transportation Security Administration
 - U.S. Customs and Border Protection
 - U.S. Citizenship and Immigration Services
 - U.S. Immigration and Customs Enforcement
 - U.S. Secret Service
 - Federal Emergency Management Agency
 - U.S. Coast Guard



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Organization charts available at:

http://www.dhs.gov/xlibrary/assets/DHS_OrgChart.pdf

DHS SBIR Program Points of Contact

- Two contributing organizations:
 - Science and Technology (S&T) Directorate
 - Points of Contact: Vinny Schaper, vincent.schaper@dhs.gov
Lisa Sobolewski, elissa.sobolewski@dhs.gov
 - Domestic Nuclear Detection Office (DNDO)
 - Point of Contact: Dave Saunders, dave.saunders@dhs.gov

Remainder of presentation focuses
on the DHS S&T SBIR Program



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FROM SCIENCE...SECURITY

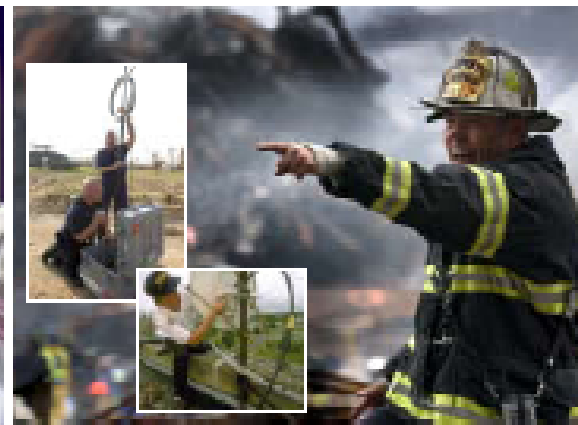
Explosives



Chemical/Biological



Command, Control, &
Interoperability



Borders/Maritime



Human Factors



Infrastructure/Geophysical



FROM TECHNOLOGY...TRUST

DHS S&T SBIR Strategy

- Engage all program managers (PMs) within S&T Directorate
- SBIR topics are:
 - Authored by DHS PMs based on DHS need
 - Medium width (not point solutions, not open topics) and have near-term commercialization potential
- Award multiple Phase I and Phase II projects
- Reduce or eliminate the gap between Phase I and Phase II
- Provide active involvement to reach Phase III
 - Encourage teaming and collaboration
 - Involve ultimate user

SBIR/STTR Participating Agencies (\$2.3B FY 07)

- DOD SBIR/STTR
- HHS SBIR/STTR
- NASA SBIR/STTR
- DOE SBIR/STTR
- NSF SBIR/STTR
- **DHS SBIR**
- USDA SBIR
- DOC SBIR
- ED SBIR
- EPA SBIR
- DOT SBIR



FY04 SBIR \$19.6M

FY05 SBIR \$23.0M

FY06 SBIR \$31.8M

FY06 STTR \$ 3.2M

FY07 SBIR \$25.2M

S&T \$18.4M

DNDO \$ 6.8M

FY08 SBIR

S&T ~\$12.5M



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DHS S&T SBIR – A Three-Phase Program

| | SBIR |
|---|---|
| Phase I: Scientific and Technical Feasibility | <i>NTE* 6 months</i> \$100K (33% may be outsourced) |
| Phase II: Concept Development | <i>NTE 24 months</i> \$750K (50% may be outsourced) |
| Phase III: Product Development | Private or non-SBIR government funding |



* Not To Exceed

DHS S&T SBIR Program

- Two solicitations per year
 - Posted in Federal Business Opportunities at www.fedbizopps.gov and on www.sbir.dhs.gov
 - 15-day pre-solicitation posting
 - 30-day proposal submission period
- Awards
 - Multiple contract awards based on evaluation, funds available, and programmatic considerations
 - Typically three Phase I awards per topic area
 - Historically, 1/3 of the Phase I awards go on to Phase II
- Electronic Processing
 - Proposals submitted/evaluated via web site at www.sbir.dhs.gov
 - Electronic notification of proposal receipt/results
 - Submission of reports via web site at www.sbir.dhs.gov



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DHS S&T SBIR Evaluation Criteria

- The soundness, technical merit, and innovation of proposed approach and its incremental progress toward topic or subtopic solution
- The qualifications of the proposed principal investigators, supporting staff, and consultants
 - Qualifications include not only the ability to perform research and development but also ability to commercialize results
- The potential for commercial (government or private sector) application and benefits expected to accrue from this commercialization

DHS S&T SBIR Evaluation Process

- Proposals processed and made available to appropriate DHS technical program manager for evaluation and recommendation
 - PM may seek technical advice from qualified Federal Government employees and/or non-Federal Government employees
- Each proposal evaluated, on a competition basis, on its merit and relevance to the specific SBIR topic area, rather than against other proposals
- Evaluators use an adjectival rating system:
 - Excellent Strongly Recommended for Funding
 - Very good Recommended for Funding
 - Good Fund Availability
 - Fair Fund Availability
 - Unacceptable Not Recommended for Funding



DHS SBIR Statistics

| | FY04 \$19M | | FY05 \$23M | | FY06 \$35M (includes STTR) | | FY07 \$25.2M | | FY08 \$12.5M (S&T Dir Only) | | |
|--|---------------|-----|---------------|-----|----------------------------------|-----|-----------------|-----|-----------------------------------|-----|--|
| Solicitation | 4.1 | 4.2 | 5.1 | 5.2 | 6.1 | 6.2 | 7.1 | 7.2 | 8.1 | 8.2 | |
| Number of Topics | 8 | 6 | 6 | 6 | 10 | 6 | 10 | 7 | 5 | TBD | |
| 1,927 Phase I Submissions | 368 | 157 | 215 | 208 | 194 | 178 | 236 | 184 | 187 | TBD | |
| 307 Phase I Awards | 66 | 31 | 32 | 30 | 45 | 28 | 38 | 23 | 14 | TBD | |
| 81 Phase II Awards | 21 | 13 | 11 | 17 | 19 | TBD | | | | | |
| Cost Match | 2 | 1 | | | | | | | | | |
| Funding Provided to Other Agency Phase II Awards | 3 | | 1 | | 3 | | 1 | | TBD | | |
| Phase III Awards | 2 | | 2 | | | | | | | | |

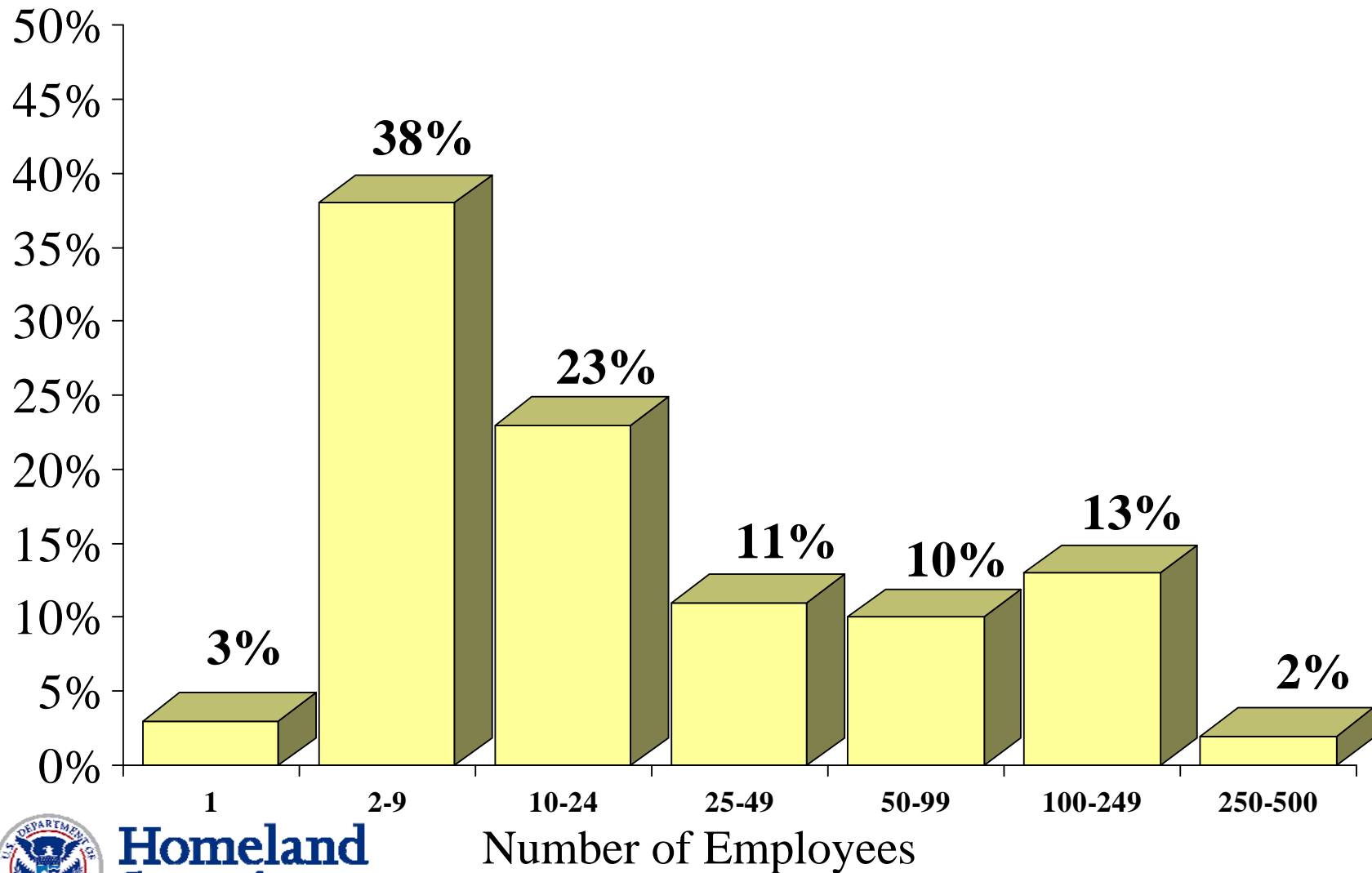
Overall Award Averages

Phase I: 16 %

Phase II: 40 %



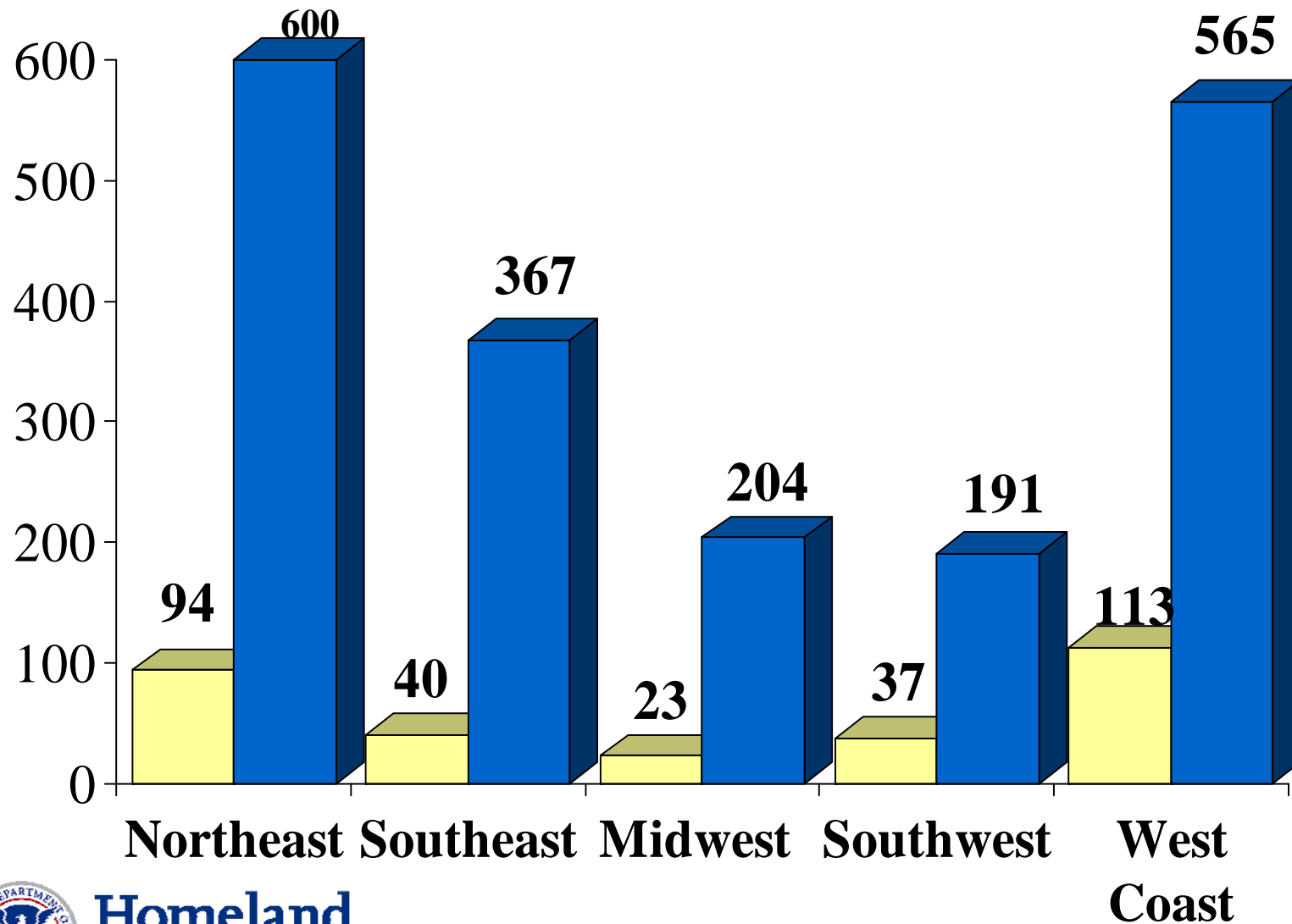
Who Participates in the DHS SBIR Program?



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Number of Employees

DHS SBIR/STTR Phase 1 Awards Versus Submissions by U.S. Regions



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Jump Start to Phase II

- Only for meritorious Phase I projects with clear potential for Phase II
- Invitation (at the discretion of DHS PM) for Phase II proposal submission before the completion of Phase I
 - Invitation no earlier than 2/3 of period of performance (i.e., not earlier than month 4)
- Invitation basis:
 - Performance toward Phase I technical objectives
 - Monthly and/or final reports
 - Site visits
 - Plans for Phase II
- Phase II proposals evaluated and awarded incrementally

Decreases/eliminates funding gap between phases and accelerates development of technology



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Jump Start Statistics

| | FY04 \$19M | | FY05 \$23M | | FY06 \$35M (incl. STTR) | |
|-----------------------|---------------|-----|---------------|-----|-------------------------------|-----|
| Solicitation | 4.1 | 4.2 | 5.1 | 5.2 | 6.1 | 6.2 |
| Invited Phase IIs | 30 | 18 | 15 | 19 | 29 | 8 |
| Selected Phase IIs | 21 | 13 | 11 | 17 | 19 | TBD |
| Pre-Contract Approval | 5 | 5 | | | | |

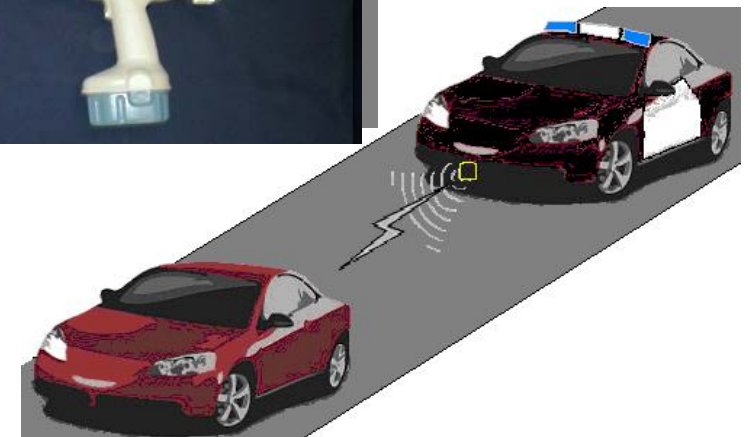
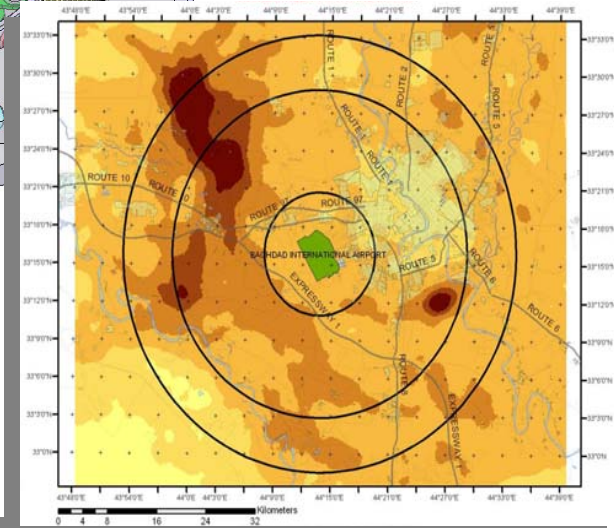
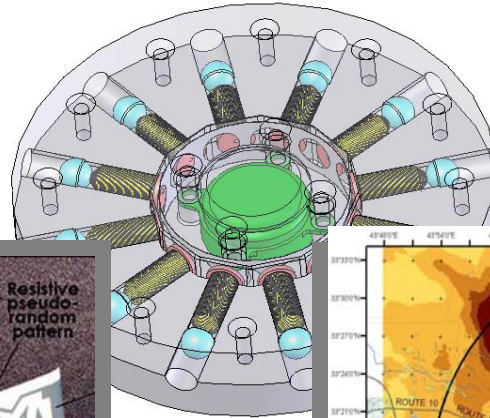
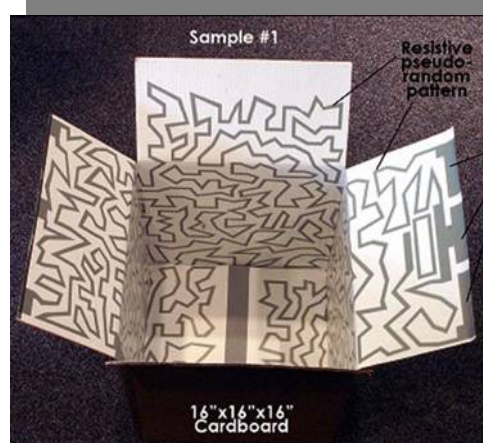
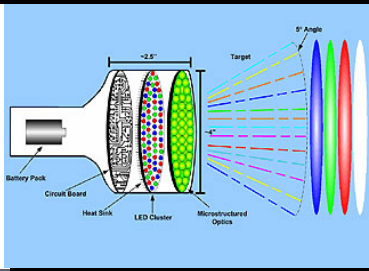
Jump Start Phase II
Award Average
 73 %

Cost Match

- Allows small businesses to seek additional funding for Phase II projects from non-SBIR sources
- Minimum of \$100,000 to maximum of \$500,000 of outside funding
- Matched by DHS SBIR up to \$250,000 in a 1:2 ratio
- Example: \$500,000 of outside funding may generate an additional \$250,000
 - DHS funding = \$750,000 (Phase II funding) + \$250,000 (matched funds)
 - Outside funding = \$500,000
 - Total project funding = \$1,500,000
- Additional funds require additional scope – need to either add R&D on SBIR contract or other development and commercialization activities (or some of both)
- Cost match is a motivator for, and an indicator of, commercial potential



DHS S&T SBIR Projects



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DHS S&T FY08 SBIR Schedule

- 08.1

- Pre-solicitation posted: December 3, 2007
- Solicitation posted: December 19, 2007
- Proposals accepted: December 19, 2007 – February 4, 2008
- Contracts awarded: ~ June 2008

- 08.2

- Pre-solicitation/solicitation posted: 1 May 2008
- Proposals accepted: 1 May – 27 June 2008
- Contracts awarded: ~ September 2008

Solicitations posted on:

www.fedbizopps.gov

and

www.sbir.dhs.gov



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DHS SBIR S&T FY08.2 Topics

- H-SB08.2-001** Engineered Building Materials
- H-SB08.2-002** Innovative Educational Environments to Develop the Necessary Intellectual Basis for a National DHS S&T Workforce
- H-SB08.2-003** High Speed DNA (Deoxyribonucleic Acid) Sequencing for Environmental Sample Biological Threat Detection, Identification, and Support for Attribution
- H-SB08.2-004** Telecommunications Linking System

Revised Instructions for FY08.2

- **Technical Questions Pertaining to FY08.2 Topics**
 - Must be submitted to STSBIR.Program@dhs.gov
 - All questions must be submitted NLT Friday, June 20, 2008
 - If information in response to a question is deemed relevant to all interested sources, it will be made available on a weekly basis only on FedBizOpps under the DHSSBIRFY082 solicitation
- **Proposal Submission**
 - Potential proposers desiring to submit proposals under DHSSBIRFY082 solicitation must send an email to STSBIR.Proposals@dhs.gov by Friday, June 20, 2008 at 4:30 p.m. local Eastern time
 - Potential proposer will receive a confirmation email with a proposal number that must be used when complete proposal is submitted
 - Failure to submit an email request by date and time specified will eliminate potential proposer from responding to solicitation



Revised Instructions for FY08.2 (continued)

- **Important Reminder**

- Closing date and time is 27 June 2008 at 4:30 p.m. local Eastern time
- Complete proposals must be submitted using assigned proposal number
 - Complete proposal = cover sheet, technical proposal, cost proposal
- Complete proposals must be submitted to STSBIR.Proposals@dhs.gov
- Complete proposals must be zipped and encrypted using Winzip or PKZip with 256-bit AES encryption
- Password used to encrypt files must be sent in a separate email to STSBIR.Proposals@dhs.gov and proposal number must be referenced in body of email containing password





[DHS SBIR posts its 8.2 Solicitation on May 1, 2008](#)

Department of Homeland Security Science & Technology SBIR/STTR Program

SBIR Program:

The Department of Homeland Security (DHS), Homeland Security Advanced Research Projects Agency (HSARPA) launched the Small Business Innovation Research (SBIR) program in December 2003. Today, HSARPA administers the DHS SBIR Program for DHS's Science and Technology (S&T) Directorate and the Domestic Nuclear Detection Office (DNDO). Our goal is to increase the participation of innovative and creative small businesses in Federal Research/Research and Development (R/R&D) programs and challenge industry to bring innovative homeland security solutions to reality.



Safety Act

Other Funding Opportunities

Collaboration Opportunities

Topic Recommendations

All Federal agencies with an annual extramural R&D budget exceeding \$100M are required to participate in the SBIR Program. Each fiscal year not less than 2.5 percent of the annual extramural budget is reserved for awards to small businesses for R/R&D through a three-phase process.

STTR Program:

The DHS Small Business Technology Transfer (STTR) program began in early 2006. Under the STTR program, small businesses, universities and research institutions partner for research and development efforts. The program encourages the transfer of intellectual concepts and ideas from research institutions through the entrepreneurship of small business concerns, while the primary goal of this cooperative effort is to develop innovative solutions to challenging DHS scientific and engineering problems.

Useful Web Sites and DHS S&T SBIR Points of Contact

Useful Web Sites

- www.sbir.dhs.gov
- www.hsarpabaa.com
- www.dhs.gov
- www.fedbizopps.gov
- www.sbir.gov

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