Joint Science and Technology Office

Chemical and Biological Defense Program

Beyond SBIR Phase II: Bringing Technological Edge to the Warfighter

COL Benjamin Hagar
Joint Science & Technology Office
Defense Threat Reduction Agency
Chemical/Biological Technologies Directorate

21 August 2007
Agenda

• Who are we – CBDP Program Overview
• CBD SBIR Program
• Phase III & Beyond – Maximizing Your Opportunities
We are the S&T arm of the CBDP
We live in two worlds...as a part of DTRA
...and as a part of the Chemical and Biological Defense Program team

- Combatant Commanders
- Services

OSD provides oversight

Joint Requirements Office (JRO)

Required Capabilities

Prioritized Needs

Test & Evaluation

JFOCS

S&T Gaps

Mature Technologies

Joint Program Executive Office (JPEO)

Solutions

6.1-6.4

6.4-6.5, Procurement

UNCLASSIFIED
Our S&T mission

DTRA Chem Bio Technologies Directorate manages and integrates the development, demonstration, and transition of timely and effective chemical and biological defense solutions for the Department of Defense, while serving as the focal point for science and technology expertise. The DTRA Chem Bio Technologies Directorate provides the most innovative capabilities by collaborating with mission partners, other government agencies, industry and academia.
Our S&T capability areas support the major CB operational concepts.

**Sense**
- CBRN Detection
  - Point
  - Stand-off
  - Reconnaissance
  - Medical Diagnostics

**Sustain**
- Decontamination
  - Individual
  - Equipment
  - Fixed Site
- Medical Treatments
  - Chemical
  - Biological
  - Radiological
- Medical Diagnostics

**Shape**
- Battle Analysis
  - Battle Management
  - Modeling
  - Simulation - Training
  - Integrated Early Warning
  - Medical Surveillance

**Shield**
- Individual Protection
  - Percutaneous
  - Respiratory
  - Ocular
- Collective Protection
  - Mobile
  - Transportable
  - Fixed
- Prophylaxis
  - Biological
  - Chemical
  - Radiological
- Pretreatments

**C4ISR**
- Detection
- Protection & Hazard Mitigation
- Therapeutics
- Diagnostics
- Mod-Sim & Battlespace Awareness
Our CBDP projects target the Joint Priority List

<table>
<thead>
<tr>
<th>Capability</th>
<th>No. Efforts</th>
<th>($K)</th>
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<tbody>
<tr>
<td>(1) Respiratory and Ocular Protection</td>
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<td>(2) Integrated Early Warning</td>
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<td>(3) NBC Reconnaissance</td>
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<td>(4) Biological Standoff Detection</td>
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<td>(5) Percutaneous Protection</td>
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<td>(6) Chemical Standoff Detection</td>
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<td>(8) Biological Point Detection</td>
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<td>(12) Medical Surveillance (M&amp;S)</td>
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<td>(13) Radiological Standoff Detection</td>
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<td>(14) Battle Mgmt Systems</td>
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<th>Capability</th>
<th>No. Effort</th>
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<td>(15) Transportable Collective Protect.</td>
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<td>(16) Medical Diagnosis</td>
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<td>(17) Equipment Decontamination</td>
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<td>(18) Radiological Point Detection</td>
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<td>(19) Battle Analysis</td>
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<td>(20) Medical Therapeutics Biological</td>
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<td>(21) Medical Therapeutics Chemical</td>
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<td>(22) Human Factors and Interfaces</td>
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<td>(23) Mobile Collective Protection</td>
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<td>(24) Medical Therapeutics Radiological</td>
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<td>(25) Sensitive Equipment Decon</td>
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<td>(26) Radiological Prophylaxis</td>
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<td>(27) Fixed Site Collective Protection</td>
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<td>(28) Modeling and Simulation Support</td>
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<td>(29) Fixed Site Decontamination</td>
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NOTE: (#) equates to the Joint Priority List rankings

- Physical S&T Area
- Medical S&T Area
- Adv Develop Area
New S&T is solicited from many sources
...to include the small business community

- Total CB SBIR funds invested with small businesses during FY05-FY07 exceeds $25M.
- 58 Phase I and 32 Phase II contract awards have been made to 54 small businesses during the past three years.
- Small businesses in 26 states have received awards from JSTO-CBD to conduct research and development projects.
- Conduct one Phase I solicitation, annually; invite Phase II proposals annually based on Phase I outcome.
CBD SBIR Process

**Phase I**
- Feasibility Study
  - $70K, 6 months
  - (+ $30K option upon Phase II selection)

**Phase II**
- Prototype Development
  - $750K, 2 years

**Phase II = $850K Total SBIR**

**Phase I + Phase II = $850K Total SBIR**

**All projects are funded via contract**

**Problem Transition Area:**
- The Valley of Death

**Phase III**
- Commercialization
  - no SBIR Funds
Overcoming the Phase II transition hurdle – help us help you

• Know your customer – they are your best proponent
• Know the organization’s mission needs & technical requirements
• Know the end-user(s) & the ConOps
  • As early as Phase I, the deployment and use scenarios of the technology must be considered
• Substantiate performance with test & evaluation – data speaks volumes!
  • Provides credibility to your Science & Technology
Technology Transition: Phase II vs. Phase III

• Phase II
  • Technology Readiness Level is one element used to identify prototype utility at conclusion of Phase II
  • Accelerate development cycle: complete Phase II in less than 24-months

• Phase III
  • No SBIR Funds
  • Must fund from either: CDP ‘core’ funds through JSTO or JPEO budget activities; other U.S. Government sources; or non-Government sources
Conclusions

“New ideas pass through three periods:

✓ It can't be done.
✓ It probably can be done, but it's not worth doing.
✓ I knew it was a good idea all along!”

— Arthur C. Clarke