



# COLLECTIVE PROTECTION

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## Advanced Planning Briefing to Industry

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# Outline



- **Overview**
- **S&T and Warfighter Needs**
- **Technical Challenges**
- **Acquisition Strategy/ Funding/ Schedule**
- **Upcoming Business Opportunities**
- **Contacts**



# Science & Technology (S&T) Overview



- **Overall objective:** Develop science and technology that will protect the warfighter from the full range of Chemical and Biological Agents by supporting acquisition programs of record and providing the material developer with innovative and revolutionary alternatives that meet the user's objects. Focus on:
  - Reduce the power, weight, cube and O&M costs
  - Simplify and increase rate for safe ingress/egress
  - Enhancing liquid and solid aerosol protection
  - Improving Toxic Industrial Chemicals/Materials (TIC/TIM) protection



# Program Overview



- **Mission:**

- Research, develop, procure, field and dispose of collective protection equipment and systems that protect personnel and equipment from chemical, biological, radiological and toxic industrial contamination within controlled boundaries in support of the National Military Strategy

- **Collective Protection Provides:**

- Protection by creating toxic free areas to allow the warfighter to operate safely at near-normal levels while in a hazardous environment
- Stand- alone systems or sub-systems that integrate into various platforms:
  - Fixed Assets (Buildings)
  - Mobile Assets (Aircraft, Ships, Vehicles)
  - Transportable Assets (Hard & Soft Shelters)



# Program Overview (Cont'd)



- **Technology Readiness Evaluations FY05-06**
  - **Technology areas of interest**
    - **CB barrier materials & quick-erect structures**
    - **Support equipment for CP**
    - **Whole CP systems**
    - **Air purification**
  - **Industry interest – 65 technical white papers**
  - **Mature technologies – 30 detailed briefings**
  - **Industrial opportunities: 10 new industries**
  - **Technologies tested – 36**
  - **TRLs assigned and testing completed for all areas except air purification**
  - **Air purification testing scheduled for April – December 06**
  - **Testing results provided back to participating industry partners**
    - **TRL feedback to industry – end of April 2006**
    - **TRL for Air purification – 2QFY07**



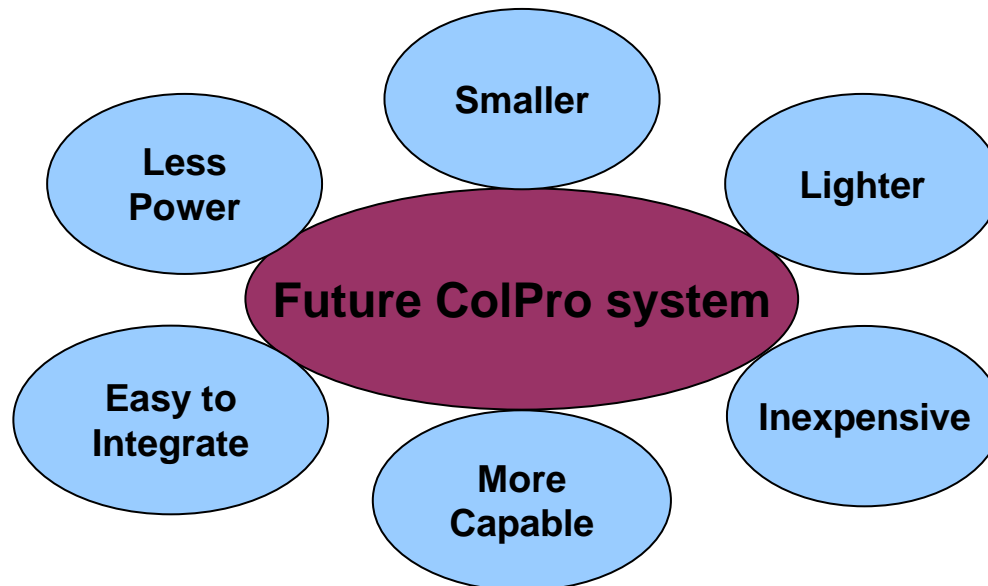
# S&T Needs



- **Near Term ( FY06 – FY08) Objectives**
  - Regenerative and/or reactive filtration
  - Expedient encapsulation
  - Improved closures and barrier materials
  - Collective Protection engineering design model
  - Standardized T&E methodologies
- **Mid Term ( FY09 – FY11) Objectives**
  - Permanent and strippable barrier material treatments
  - Simplified ingress/egress systems
  - Advanced filtration technologies
- **Far Term ( FY12 & beyond) Objectives**
  - Intelligent collective protection shelters

# Warfighter Needs

- **Safe operational areas or zones that:**
  - Prevent the infiltration of contaminated environment
    - Allow for shirt-sleeve operations
  - Provide clean, breathable air
  - Allow easy / fast ingress/egress without compromising protection
- **Flexible systems that are:**





# S&T Technical Challenges



- **Dynamic test methodologies**
- **Highly efficient ingress/egress technologies**
- **Ultra-thin and high-strength barrier materials**
- **Higher capacity, non-carbon, based sorbents**
- **Stable, selectively reactive, self-detoxifying materials**
- **Filtration and adsorption of hazardous low-molecular weight chemical vapors**
- **Non-adsorptive and reactive processes for air purification**
- **Residual life indicators**





# Program Technical Challenges



- **Integrating with platforms that require CP**
  - New initiatives: Expeditionary Fighting Vehicle, Future Combat System, Littoral Combat Ship
  - Designing for modularity and component flexibility
  - Minimize footprint burden to platforms
- **Protect against:**
  - Toxic industrial chemicals / toxic industrial materials
  - New threat agents
- **Maintain overpressure for ingress/egress in vehicles**
- **ColPro for aircraft**
- **Reducing / eliminating consumables**
- **Reducing consumable costs**



# S&T Capability Strategy



- **Overall: Support Joint Expeditionary Collective Protection (JECP):**
  - Execute near term transitions for insertion into increment 2
  - Continue invest in revolutionary technologies; exploit short-term success to improve JECP
  - Explore far-term novel concepts that support a systems-of-systems approach
- **Test and Evaluation: Develop methodologies to support transition of new technologies and field JECP**



# Program Acquisition Strategy



- **Joint Expeditionary Collective Protection**
  - Emphasis on supportability with reduced size, weight and power
  - Reduce risk through early technology demonstrations
  - Incremental operational tests and fielding phases
- **Major Defense Acquisition Programs**
  - Expeditionary Fighting Vehicle
  - Littoral Combat Ship
  - Future Combat System
- **Modernization support of fielded CP systems**
  - Abrams Main Battle Tank
  - Heavy Expanded Mobility Tactical Truck
  - Navy Amphibious ships



# S&T Funding



<b>\$M</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY06- FY11</b>
<b>6.2</b>	<b>10.6</b>	<b>10.3</b>	<b>8.5</b>	<b>10.1</b>	<b>10.0</b>	<b>7.1</b>	<b><u>56.6</u></b>
<b>6.3</b>	<b>8.5</b>	<b>8.8</b>	<b>8.9</b>	<b>7.7</b>	<b>7.8</b>	<b>7.9</b>	<b><u>49.6</u></b>
<b>TOTAL BUDGET</b>	<b><u>19.1</u></b>	<b><u>19.1</u></b>	<b><u>17.4</u></b>	<b><u>17.8</u></b>	<b><u>17.8</u></b>	<b><u>15.0</u></b>	<b><u>106.2</u></b>

**Total Protection S&T Funds (IP and CP)**



# Program Funding

<b>\$M</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY06- FY11</b>
<b>6.4</b>	<b>7.4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7.4</b>
<b>6.5</b>	<b>0</b>	<b>10.0</b>	<b>19.9</b>	<b>26.7</b>	<b>18.9</b>	<b>17.3</b>	<b>92.8</b>
<b>PROC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5.0</b>	<b>6.3</b>	<b>8.2</b>	<b>19.5</b>
<b>TOTAL</b>	<b>7.4</b>	<b>10.0</b>	<b>19.9</b>	<b>31.7</b>	<b>24.2</b>	<b>25.5</b>	<b>119.7</b>

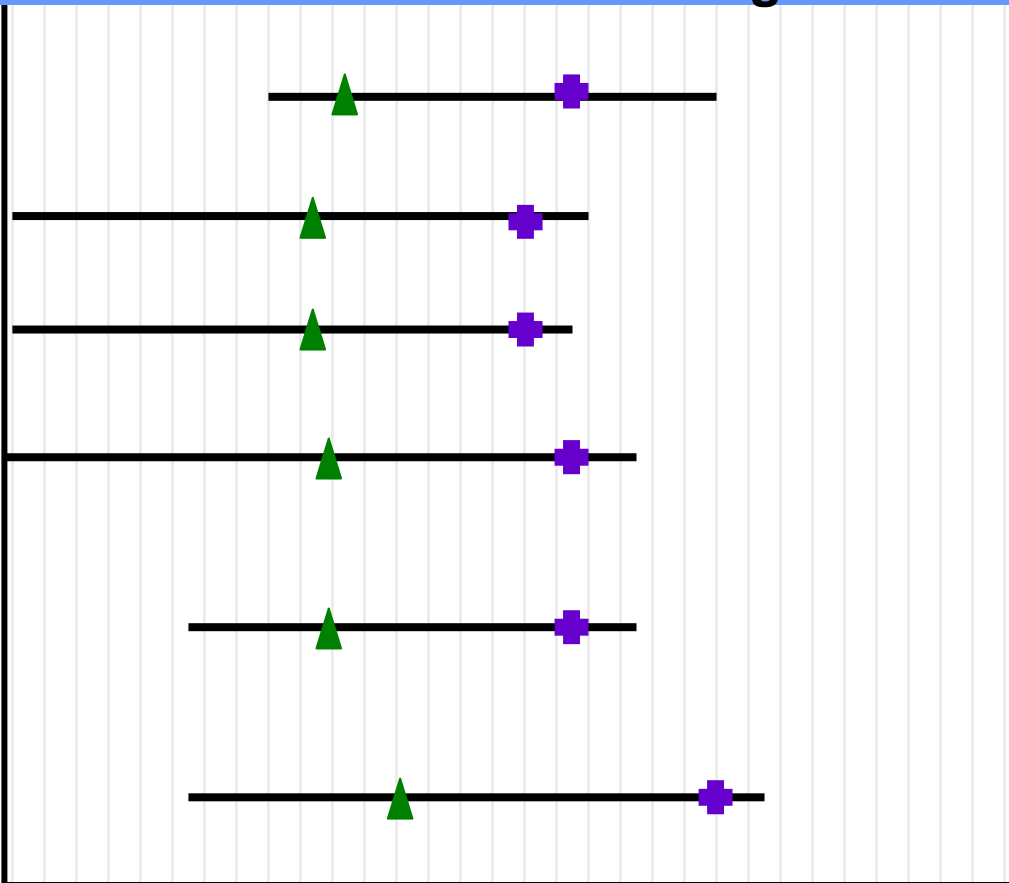


# S&T Schedule

FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 Proposed Transition

## DoD Funded Programs

T&E  
Methodologies



2008

2007

2007

2007

2007

2009

**LEGEND:**



Technology Transition Agreement (TTA)



Transition Agreement



# Program Schedule



**FY06    FY07    FY08    FY09    FY10    FY11**

**JECP Increment I RDT&E**



**IOT&E**



**Production**



**JECP Increment II RDT&E**





# S&T Upcoming Business Opportunities



Opportunity	Time-Frame
<b>CB Defense Physical Science and Technology (annual) BAA</b> – For FY2008 New Start Projects	<b>Dec 2006</b>
<b>CB Defence Small Business Innovation Research (SBIR)</b> – <a href="http://www.acq.osd.mil/sadbu/sbir/homepg.htm">http://www.acq.osd.mil/sadbu/sbir/homepg.htm</a>	<b>Nov 2006</b>
<b>Chem-Bio Defense Initiative Fund (CBDIF)</b> – BAA	<b>3QFY06</b>





# Upcoming Business Opportunities



Program	Description	Year
JECP	<ul style="list-style-type: none"><li>• <b>Technology Development Phase Procurements:</b></li><li>• <b>Tent and structure kit:</b><ul style="list-style-type: none"><li>– Two prototype airbeam airlocks</li><li>– Two articulating frame prototype airlocks</li><li>– Up to three prototype airbeam liners</li></ul></li><li>• <b>Stand alone system:</b><ul style="list-style-type: none"><li>– Airbeam type CP shelter system</li><li>– Articulating from type CP shelter system</li><li>– Folding frame type CP shelter system</li><li>– Integrate selected TRE components into a complete prototype CP shelter system</li></ul></li></ul>	3QFY06
JECP	Initial increment - RFP for prime contractor	1QFY07
JECP	Second increment - RFP for prime contractor	1QFY08



# S&T Points of Contact



- **Capability Area Project Officer for Protection**
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# Program Points of Contact



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