



INDIVIDUAL 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**



INDIVIDUAL PROTECTION





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:**
 - Reducing physiological and logistics burden of IPE
 - Enhancing liquid and solid aerosol protection
 - Improving Toxic Industrial Chemicals/Materials (TIC/TIM) Protection



Program Overview



- **The Joint Project Manager for Individual Protection (JPM-IP) is responsible for the development, procurement, fielding, and overall life cycle management of all Individual Protective equipment programs and reports to the Joint Program Executive Officer for Chem/Bio Defense (JPEO-CBD).**
- **Our ultimate outcome is to deliver the best individual protective ensembles (including respiratory, ocular, and percutaneous protection) and mask test equipment to the warfighter.**



S&T Needs



- **Near Term (FY06 – FY08)**
 - Enhanced TIC filtration
 - Improved solid/liquid aerosol protection in clothing
 - Improved and lower cost flame retardants
- **Mid Term (FY09 – FY11)**
 - Standardized T&E procedures
 - Active and passive individual cooling systems
 - Self-detoxifying protective clothing
 - Enhanced respiratory protection interfaces
 - Fully integrated protective ensembles (respiratory, ocular, percutaneous, ballistic, etc.)
- **Far Term (FY12 & beyond)**
 - Intelligent garments for enhanced moisture vapor transport
 - Network enabled IPE

Warfighter Needs

- **Respiratory/Ocular Protection**
 - Protection Against TICs and TIMs
 - Flame Retardant Materials
 - Improved Seals
 - Use of Self Decontaminating Materials
 - End of Life Indicator
 - Operate at Higher Flow Rates
 - Longer Life, Lighter and Smaller Filters
- **Vision & Comfort**
 - Reduced Lens Distortion
 - Reduced Lens Fogging
 - Minimize Heat Stress



- **Percutaneous**

- **Cooler System (Lightweight, More Breathable Materials, Increased Water Vapor Transport Properties)**
- **Self-Detoxifying Materials**
- **Improve Protection around Areas of Integration**
- **Increased Protection (TIC, TIM, etc.)**
- **Residual Life Indication**
- **Fire Resistant Materials**
- **Form Fitting Garments (Elasticized)**



Footwear

- Boots - Common Combat Footwear with Integral C/B Protection
- Socks - Self Detoxification



Gloves

- Improved Protection (TIC, TIM, etc.)
- Integrated Closure Technology
- Improved Breathability
- Self Detoxification





S&T Technical Challenges



- **Respiratory and ocular protection interfaces**
- **Defined ergonomic and physiological parameters relating to “comfort”**
- **Ultra-thin, high-strength, and tactile barrier materials**
- **Higher capacity, non-carbon, based sorbents**
- **Lightweight/low-power or passive microclimate cooling**
- **Stable, selectively reactive, self-detoxifying materials**
- **Intelligent, controllable, selective permeation materials**
- **Reduced logistics burden, weight, cube, power, cost**
- **Filtration and adsorption of hazardous low-molecular weight chemical vapors**
- **Non-adsorptive and reactive processes for air purification**
- **Residual life indicators**



Program Technical Challenges



- **Develop test methodologies and procedures consistent with materials**
- **Develop effective manufacturing procedures**
 - **Cost**
 - **Production rates**
 - **Consumption rates**
- **Integration into ensemble**
- **Identify peculiar logistic requirements**
 - **Repair**
 - **End of life indicator/determination**
- **Establish Disposal procedures**

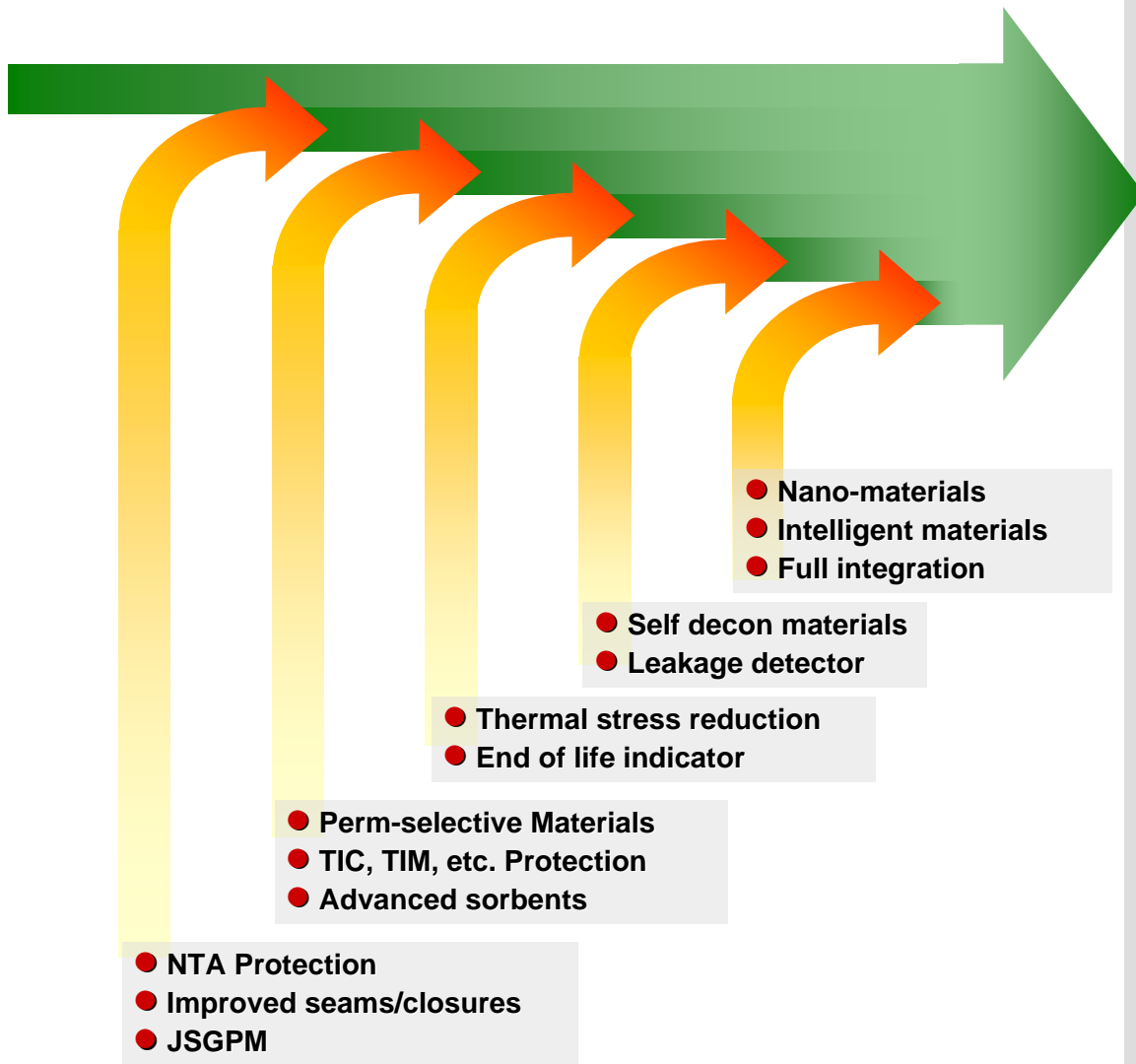


S&T Capability Strategy



- **Overall: Maintain a far-term focus:**
 - **Develop IPE as a fully integrated system**
 - **Invest in revolutionary technologies**
 - **Exploit short-term success to improve the fielded capabilities**
- **Test and Evaluation: Develop methodologies to improve IPE test range capabilities over the near term**

Program Acquisition Strategy



Joint Chemical Ensemble

Next generation protective ensemble:

- Cool & Lightweight
- CB Protective
- Standard duty uniform
- Increased mission duration
- Reduced logistics burden
- Fully integrated w/ mask, boots, gloves, helmet, body armor & weapons
- Reduced doffing hazard



S&T Funding (\$M)



YEAR/ RTDE	FY07	FY08	FY09	FY10	FY11	TOTAL FY07-11
6.2	10311	8504	10142	10090	7089	<u>46136</u>
6.3	8797	8853	7650	7794	7896	<u>40990</u>
TOTAL BUDGET	<u>19108</u>	<u>17357</u>	<u>17792</u>	<u>17884</u>	<u>14985</u>	<u>87126</u>

Total Protection S&T Funds



Program Funding (\$M)

YEAR	FY06	FY07	FY08	FY09	FY10	FY11	TOTAL FY06-11
RDT&E	19.7	19.7	15.3	14.9	11.9	14.9	<u>96.6</u>
PROCUREMENT	95.9	76.7	81.4	78.6	77.6	51.2	<u>461.5</u>
TOTAL BUDGET	<u>115.6</u>	<u>96.4</u>	<u>96.8</u>	<u>93.6</u>	<u>89.6</u>	<u>66.1</u>	<u>558.1</u>

Total Protection RDT&E and Procurement Funds

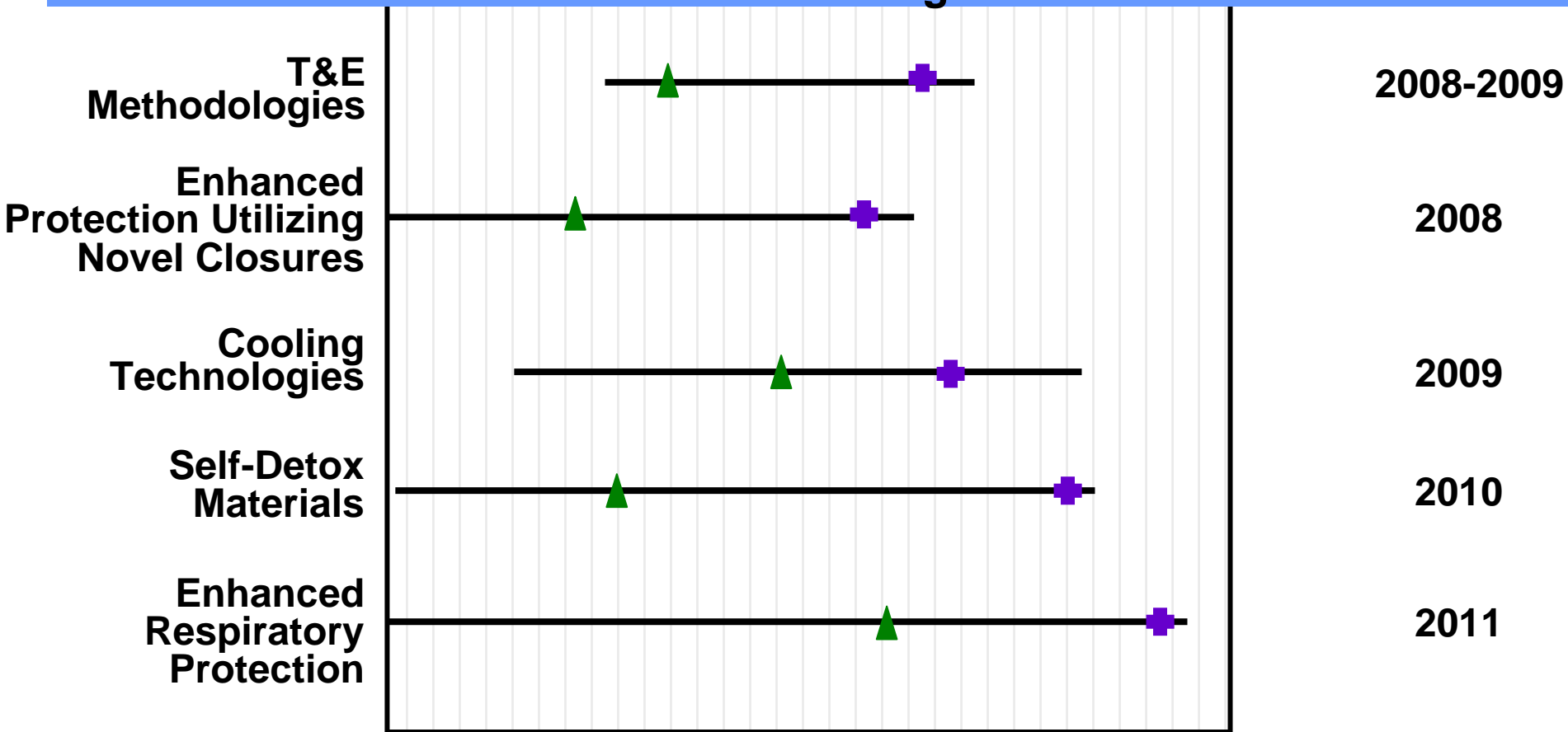


S&T Schedule

FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11

Proposed
Transition

DoD Funded Programs



LEGEND:

▲ Technology Transition
■ Transition Agreement (TTA)



Program Schedule



FY05 FY06 FY07 FY08 FY09 FY10 FY11

JSGPM

JSCESM

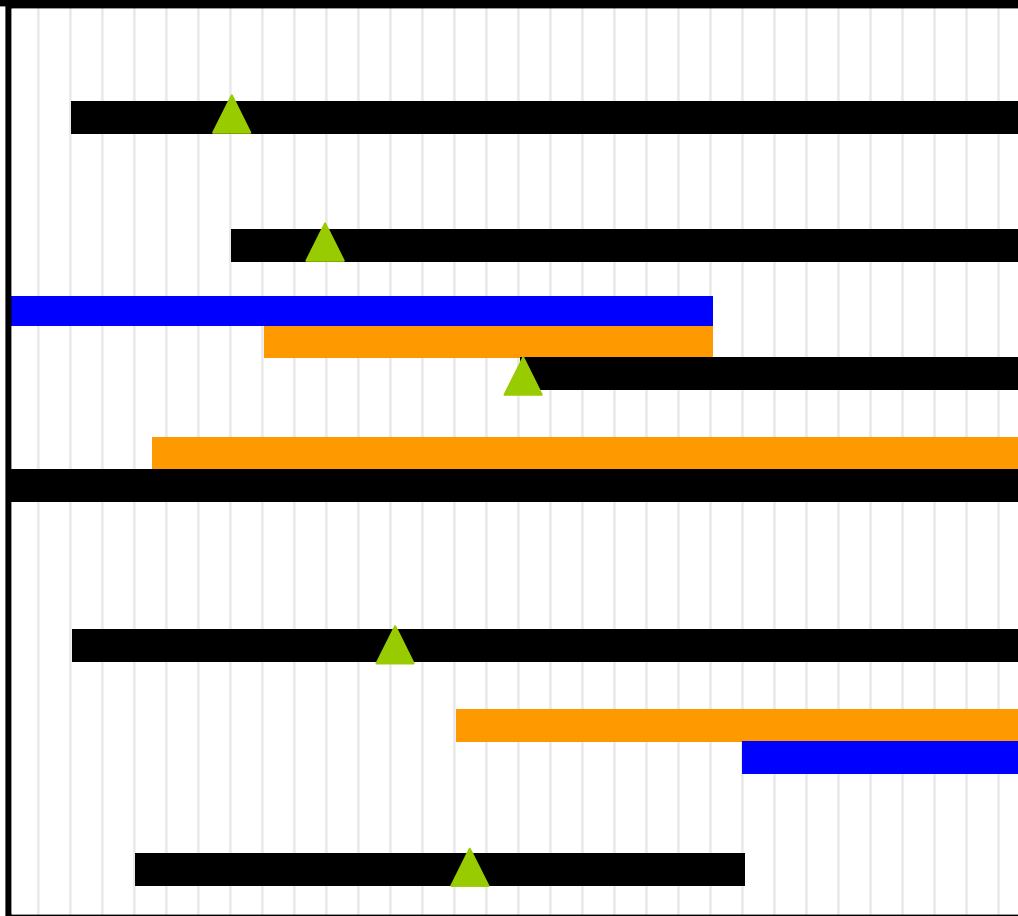
JSAM

JSLIST

JPACE

JCE

JSMLT



LEGEND: ■ RDT&E ■ DT/OT ■ Procurement ▲ IOC



S&T Business Opportunities



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



Upcoming Business Opportunities



▪ **Joint Chemical Ensemble (JCE)**

FY08/09



S&T Points of Contact



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