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Technology, Advanced Development and Convergence

PRESENTED TO:
Joint CBRN Conference
Ft. Leonard Wood, MO
June 26, 2008

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What We Do

- **Support the Force**
- **Improve Capabilities**
- **Build the Future**

Current Operations

Existing Capabilities

Future Capabilities

Mature/ Maturing Technology

Emerging Science and Technology

JOINT PROJECT MANAGERS

CAPABILITY AREA PROGRAM OFFICERS



BIOLOGICAL DEFENSE
Edgewood, MD
Col Daniel Berry (Air Force)



NBC CONTAMINATION AVOIDANCE
Edgewood, MD
Col Kyle Burke (Army)




BIOLOGICAL DETECTION
NBC CONTAMINATION AVOIDANCE
Dr. Ngai Wong




GUARDIAN
Falls Church, VA
Col Mark Malatesta (Army)



GUARDIAN
Mr. Ryan Madden



COLLECTIVE PROTECTION
Washington, DC
Mr. Stan Enatsky (Navy)



INDIVIDUAL PROTECTION
COLLECTIVE PROTECTION
Dr. Charles Bass




INDIVIDUAL PROTECTION
Quantico, VA
Mr. Will Hartzell (Marines)




DECON
Quantico, VA
Mr. Rudy Olszyk (Marines)



INFORMATION SYSTEMS
San Diego, CA
Mr. Scott White (Navy)



INFORMATION SYSTEMS
Mr. Chuck Fromer



CHEMICAL BIOLOGICAL MEDICAL SYSTEMS
Frederick, MD
Col David Williams (Army)



CHEMICAL BIOLOGICAL MEDICAL SYSTEMS
Dr. Eric Moore



Convergence



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CBRN Portfolio of Systems

Integrated & Robust CBRN System-of-Systems

Warfighter Modeling & Simulation

Masks, Suits, Gloves, Boots

Warning & Reporting

Protective Tents & Shelters

Medical Treatment

Sensors



Platforms

Intelligence

Vaccines & Prophylaxis

Diagnostic Systems

Decontamination Systems

Enabling Logistics & Information Systems

Service and Joint C2 Systems

Attack

Reaction

Decision(s)

Sustained Operations

Post Operations



CBRN Convergence

Net-Centric

**Synchronized
Across Portfolio**

Testable

**Carefully Linked
with External
Systems and
Communities**

**Joint Inter-
operability**

Plug 'n Play

Adaptable

Flexible

**Joint Service
Integration**

Integrated & Robust CBRN System-of-Systems

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Masks, suits, gloves, boots

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Platforms

Decontamination Systems

Diagnostic
Systems

Enabling Logistics & Information Systems

Intelligence

Vaccines &
Prophylaxis

Attack

Service and Joint C2 Systems

Reaction

Decision(s)

Sustained Operations

Post
Operations

**Protecting Warfighters from CBRN environments → enabling
missions with minimal disruptions**

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Convergence in Requirements – Technology Driven

- **Stand-off Detection**
 - Chemical / Biological
 - Fix / Mobile
- **Point Detection**
 - Chemical / Biological
 - Common Bio Modules
- **Information Technologies**
 - Bio Informatics
 - Warning, Reporting, Analysis

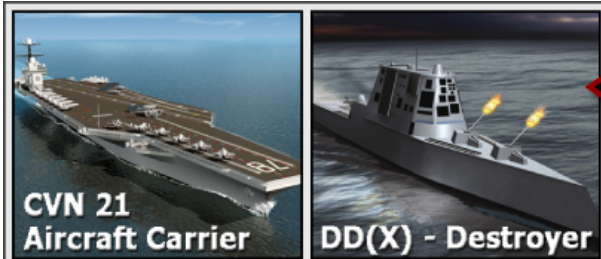


Convergence In Requirements

- **Policy / Operationally Driven**
 - **Civil-Military Integration**
 - **Common Standards / Interoperability**
 - **Medical Systems / Pharmaceuticals**
 - **Detection**
 - **Protection**
 - **Information Systems**
 - **Identification / Analysis**
 - **“All Hazards” Protection, Detection, Analysis**
 - **Agile, Mobile, Lighter Forces**
 - **Major Combat Platform Requirements for CBRN Defenses**



Major Defense Acquisition Program (MDAP) Chemical/ Biological Defense Program Support



CVN 21 Aircraft Carrier

DD(X) - Destroyer



Littoral Combat Ship (LCS)

LHA(R) Amphibious Assault Ship

Working with 17 MDAPS to Date

CBRN REQUIREMENTS

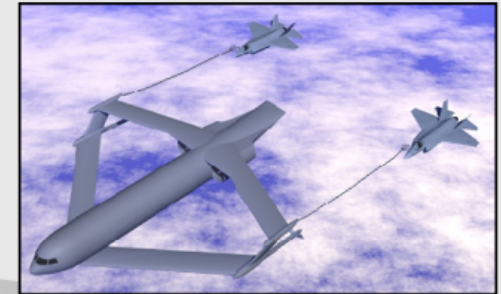
**CBR Detection
Battle Management
Integrated Early Warning
Collective Protection**

**Decontamination
Individual Protection**

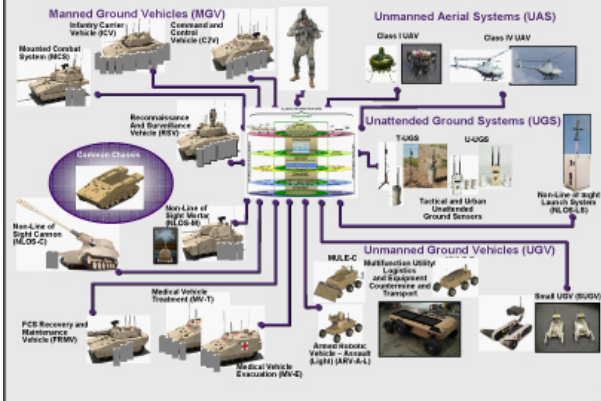
Expeditionary Fighting Vehicle



KC-X

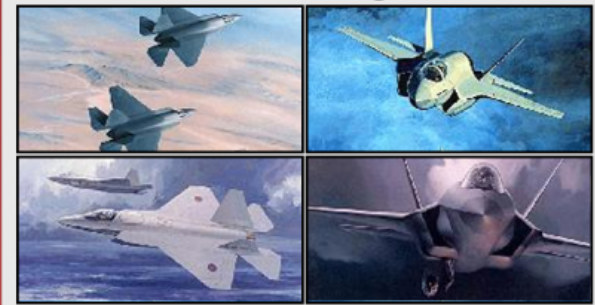


FUTURE COMBAT SYSTEMS



**OTHERS
JMAC, JLTV, MRAP**

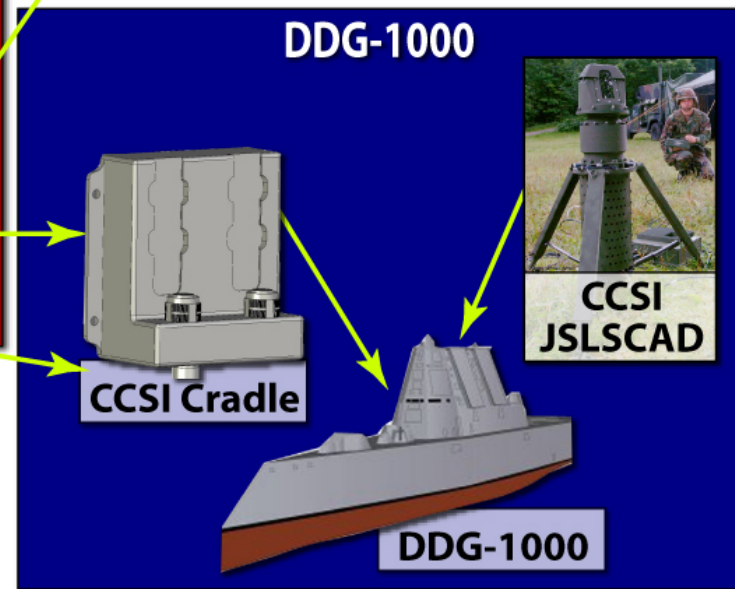
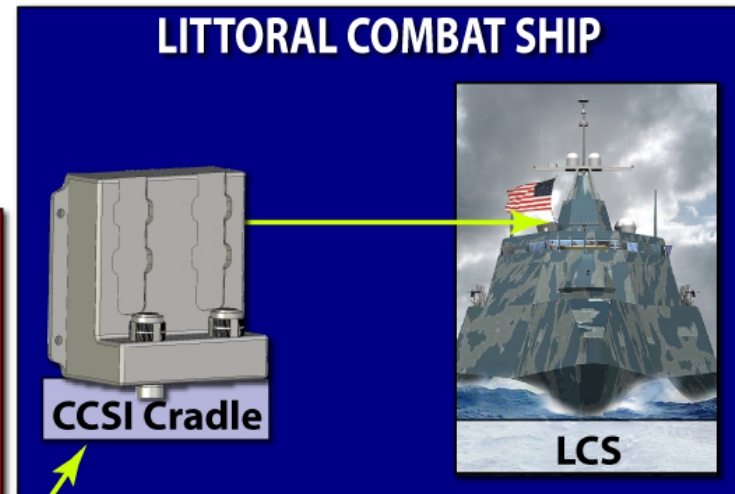
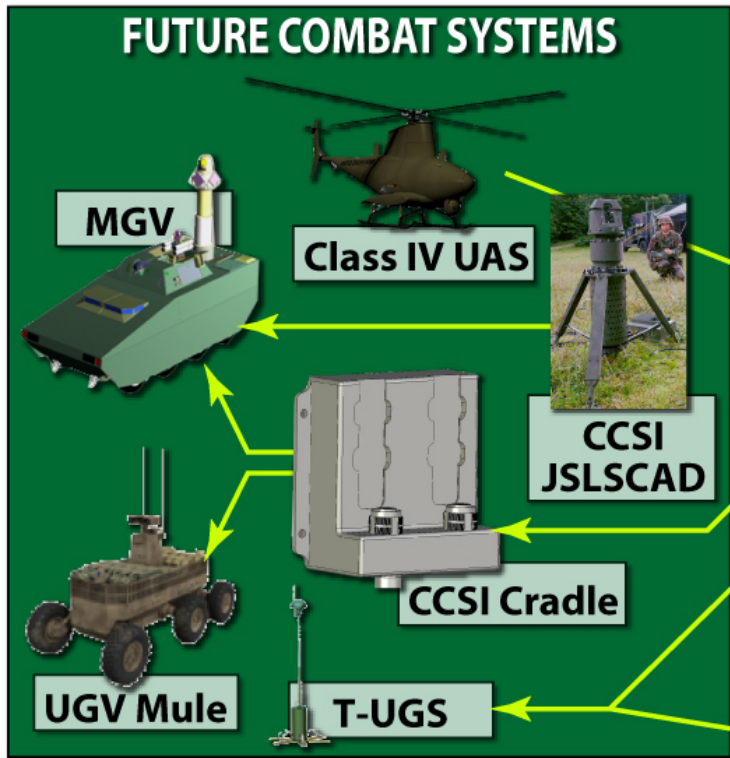
Joint Strike Fighter



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CCSI Being Integrated Into MDAP Platforms





Common CBRN Sensor Interface (CCSI)

- **JPEO-CBD Standard for Sensor Physical and Electronic Interfaces**

- Component Interconnects, Power, External Connectors
- XML Communications, Standard Basic Command Set, Modularity

- **Enables Modularity, Integration and Net Centricity**

- Interchangeable Sensor Components (Power, Comms,...)
- Host Platform Can Identify and Communicate with Any CCSI Sensor Using Common Commands and Reports

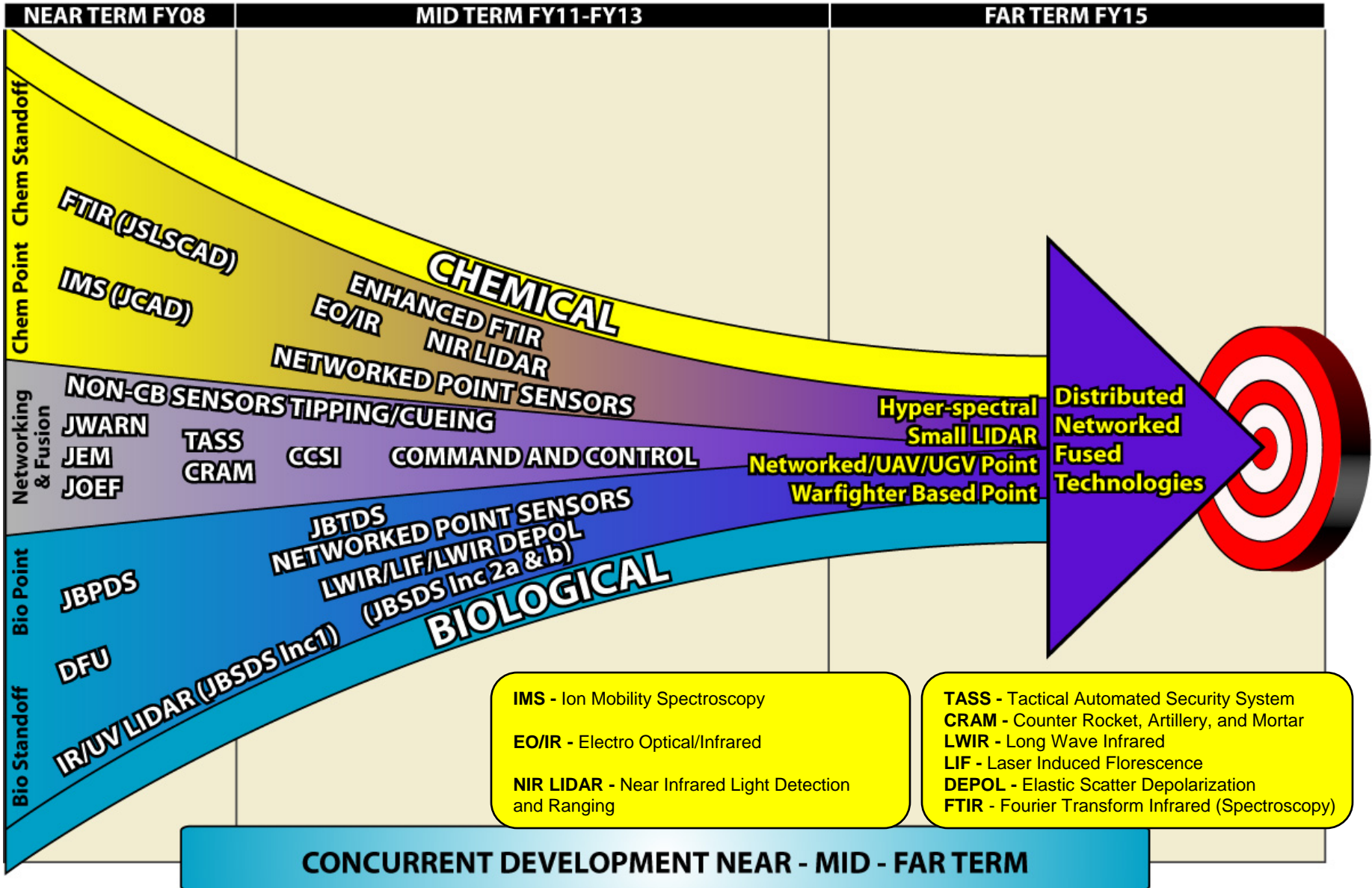
- **Status**

- JPEO-CBD CCSI Standard Released February 15, 2008
- CCSI Standard Posted on JPEO-CBD Web Site
- Draft Physical Standards Being Validated
- Evaluating Aligning with Industry Standards Underway

Version 1.0 is Ready for Use



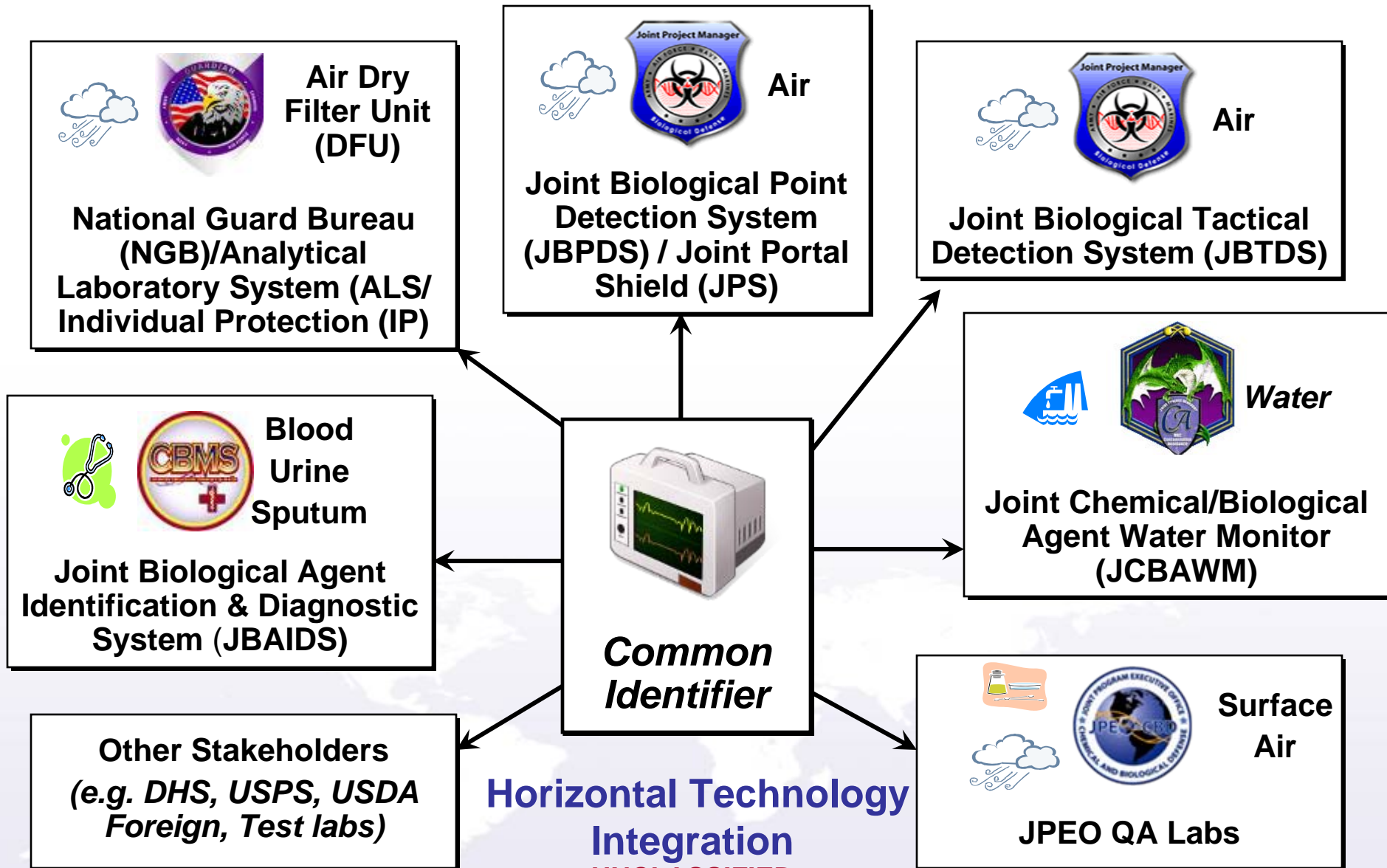
Chem-Bio Stand-Off Detection



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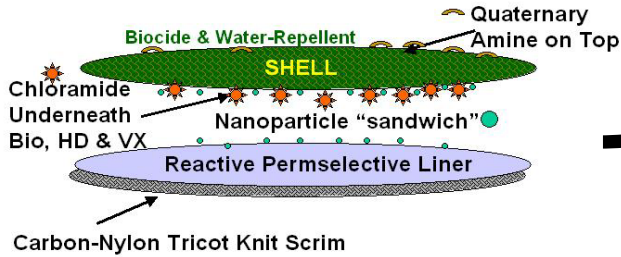


Biological Systems Convergence – Detection/Medical

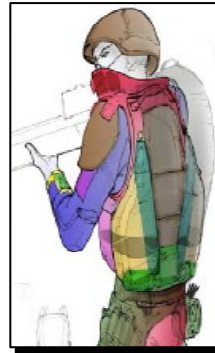




Individual CBRN Protection Vision: Integrating Nano and Bio Technologies



Integrated Fabrics



Layered Protection

Integrated Design

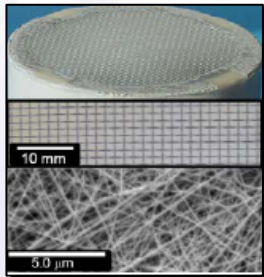
Lower Burden



Human Performance



Joint Chemical Ensemble



Air Purification



*Respirator Design
Modular Concepts*

Advanced Threat

Intelligent Materials



Collective Protection



Advanced Technologies



JPEO-CBD
CHEMICAL AND BIOLOGICAL DEFENSE

MDAP Support Cell with JPM-CP

Chemical Biological Radiological
Collective Protection
Joint Program

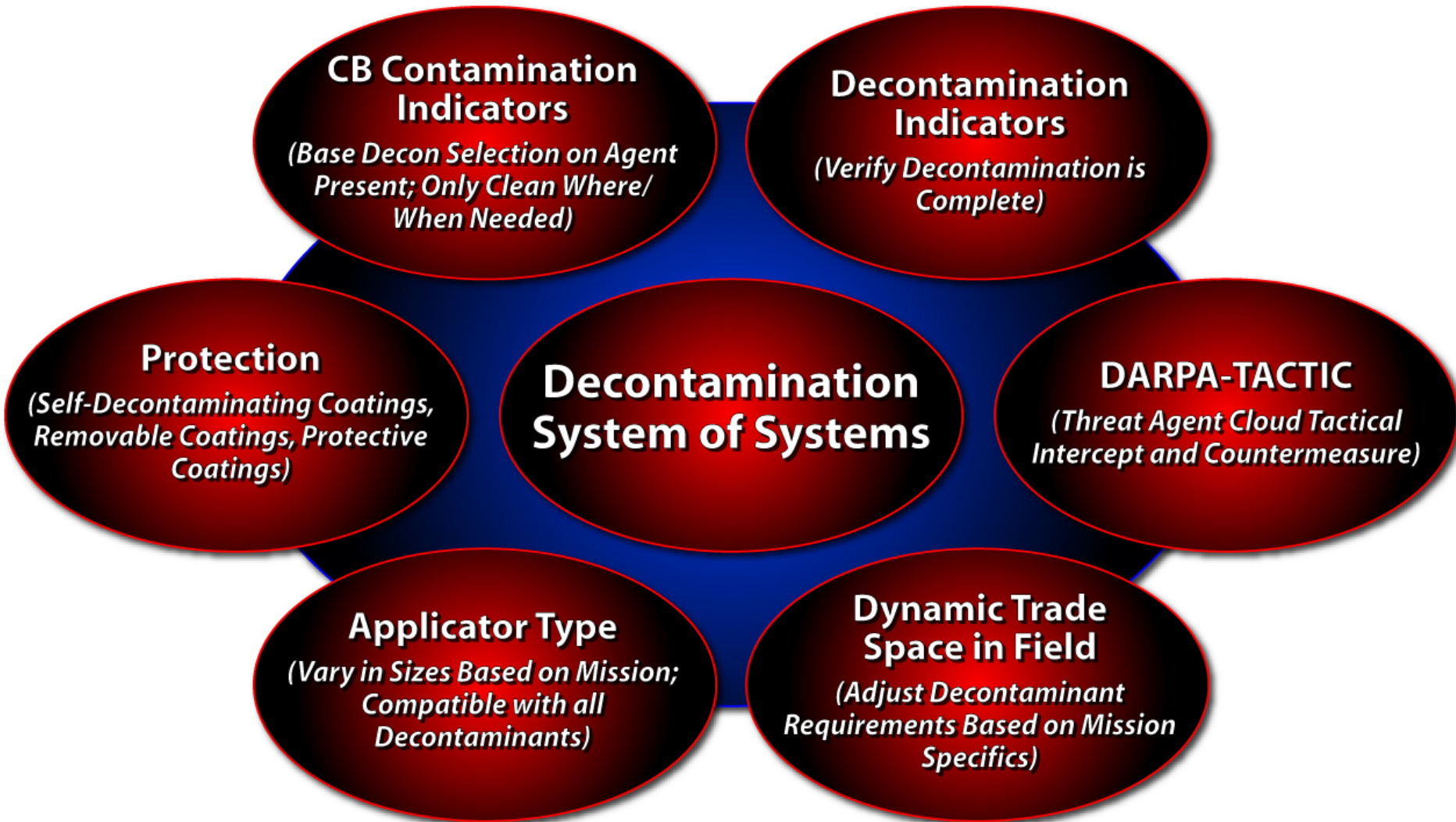


TRANSITION TECHNOLOGY

Cross-Platform Applications



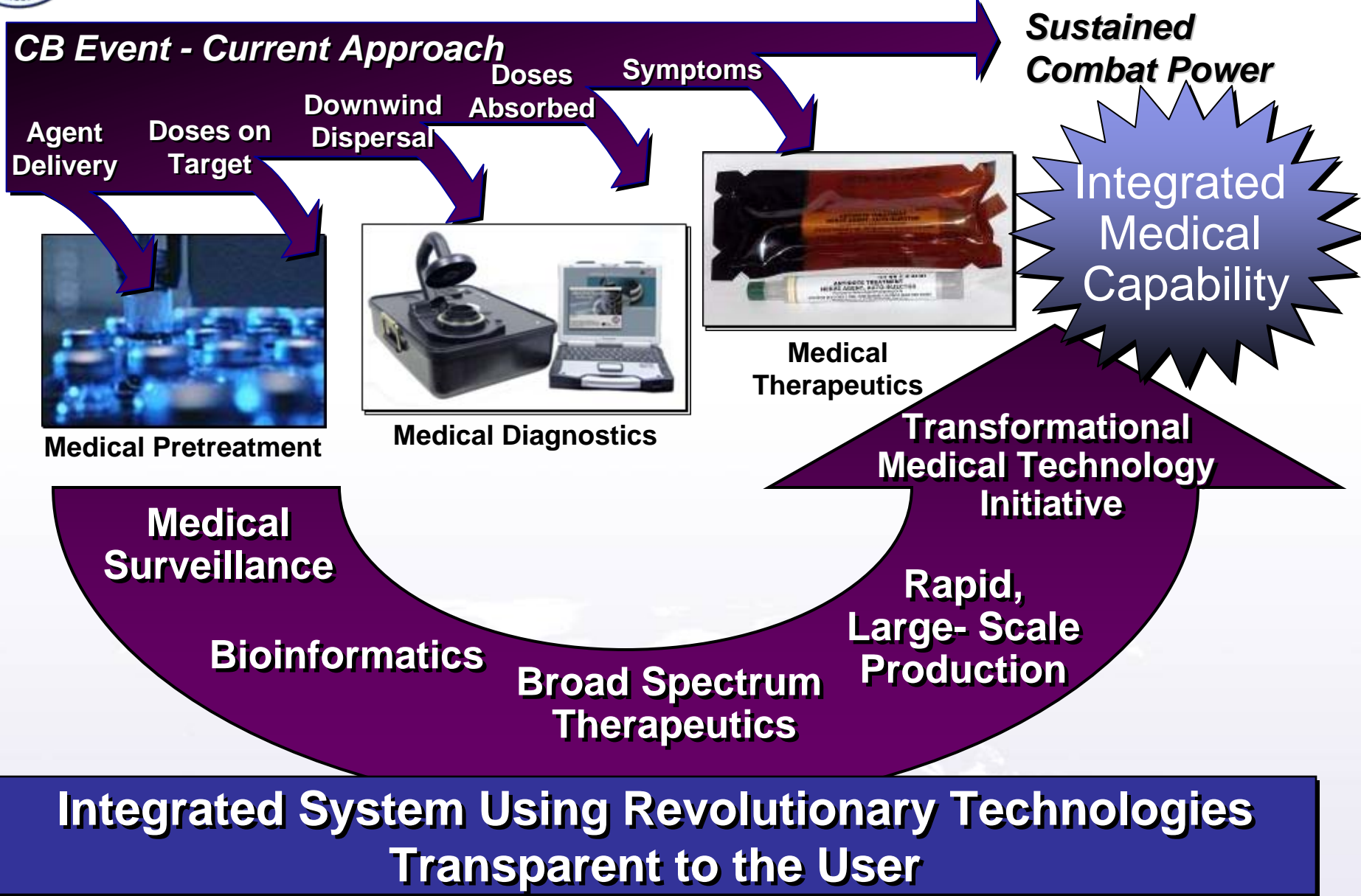
Decontamination



Decon System of Systems



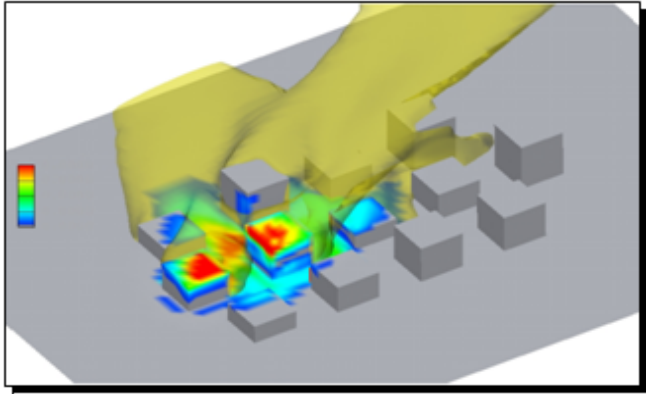
Medical System Integration





Joint CBRN Integrated Information System

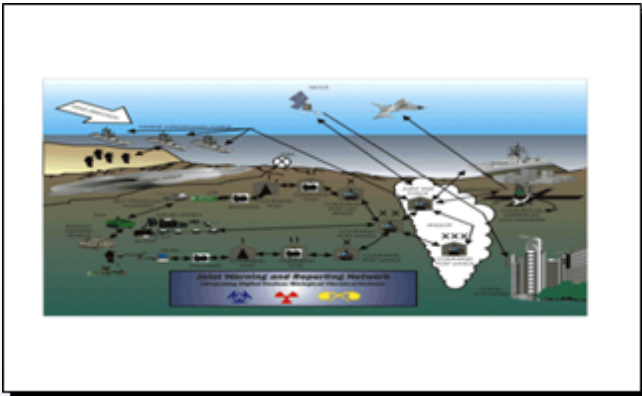
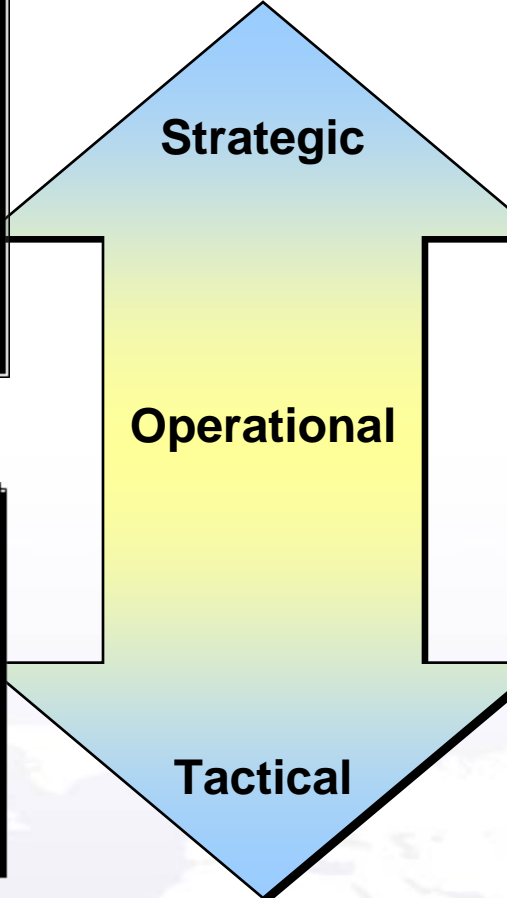
Awareness



Joint Effects Model (JEM)



Information Systems Interoperability



Joint Warning and Reporting Network (JWARN)



Joint Operational Effects Federation (JOEF)

Sensors

CBRN Data Services on Service-Oriented Architecture



CBRN Information Systems: The "Systems Integration" Challenge

PAST

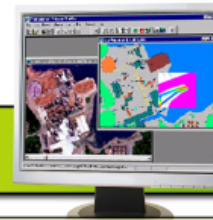
FUTURE



Standalone



GCCS Client/ Server

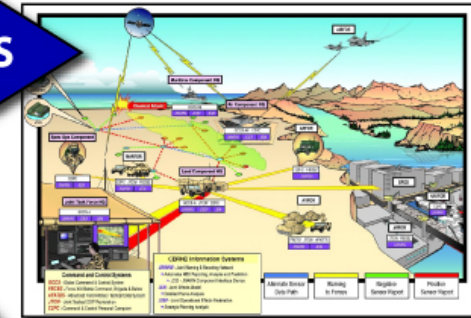


Web-Enabled NECC



JCID-on-a-Chip

JMCIS GCCS-A/AF/M GCCS-JOINT NCES



Stove-Piped Applications

JEM INC 1 JEM INC 2 JEM INC 3
 JWARN INC 1 JWARN INC 2 JWARN INC 3
 JOEF INC 1 JOEF INC 2 JOEF INC 3



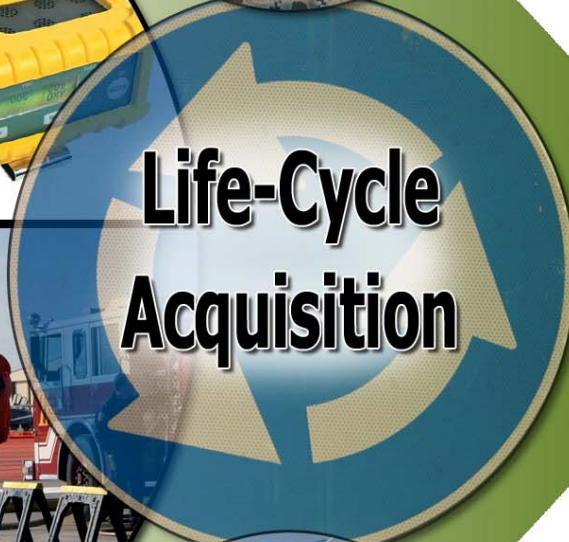
**Integrated
 Net-Enabled
 Web-Based Apps
 XML Data Exchange
 The Network is the PC**

New Technology Drives New Software Delivering *Greater Capabilities* to the Warfighter

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PM Consequence Management – COTS Convergence

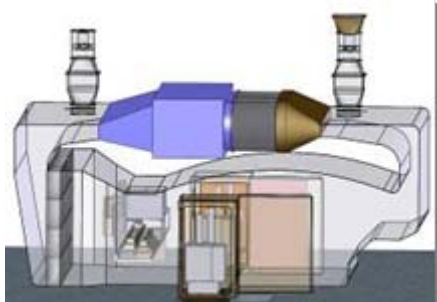


Focal Point for Commercial Off-The-Shelf Equipment

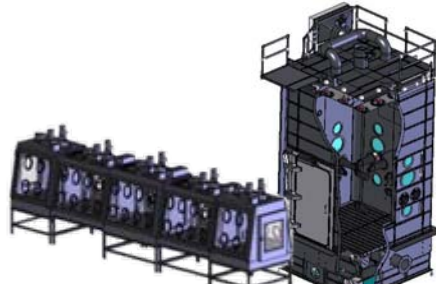
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T&E Convergence: Product Director Test Equipment, Strategy, and Support (PDTESS)



**Whole System Live Agent Test
FY09-FY11**



**Non-traditional Agent Test Facility
FY08-FY11**



**Backgrounds and Interferents
FY12**



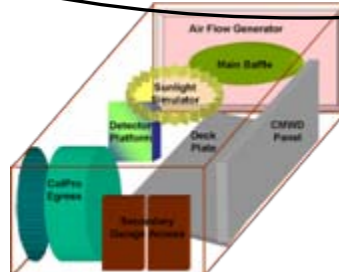
Proposed Location For Biological Stand-off Facility – DPG Baker Laboratory

**Biological Stand-off Facility
FY10-14**

Chemical Biological Equipment, Point Detection, Stand-off Detection, Individual Protection, Collective Protection



**Chemical Biological Agent Resistance Test
FY09-FY10**



**Shipboard Simulator and Chamber
FY12-FY15**



**Non-traditional Agent Individual Protection Ensemble Mannequin System
FY14-FY15**



**Unit Mission Model
FY12-FY14**

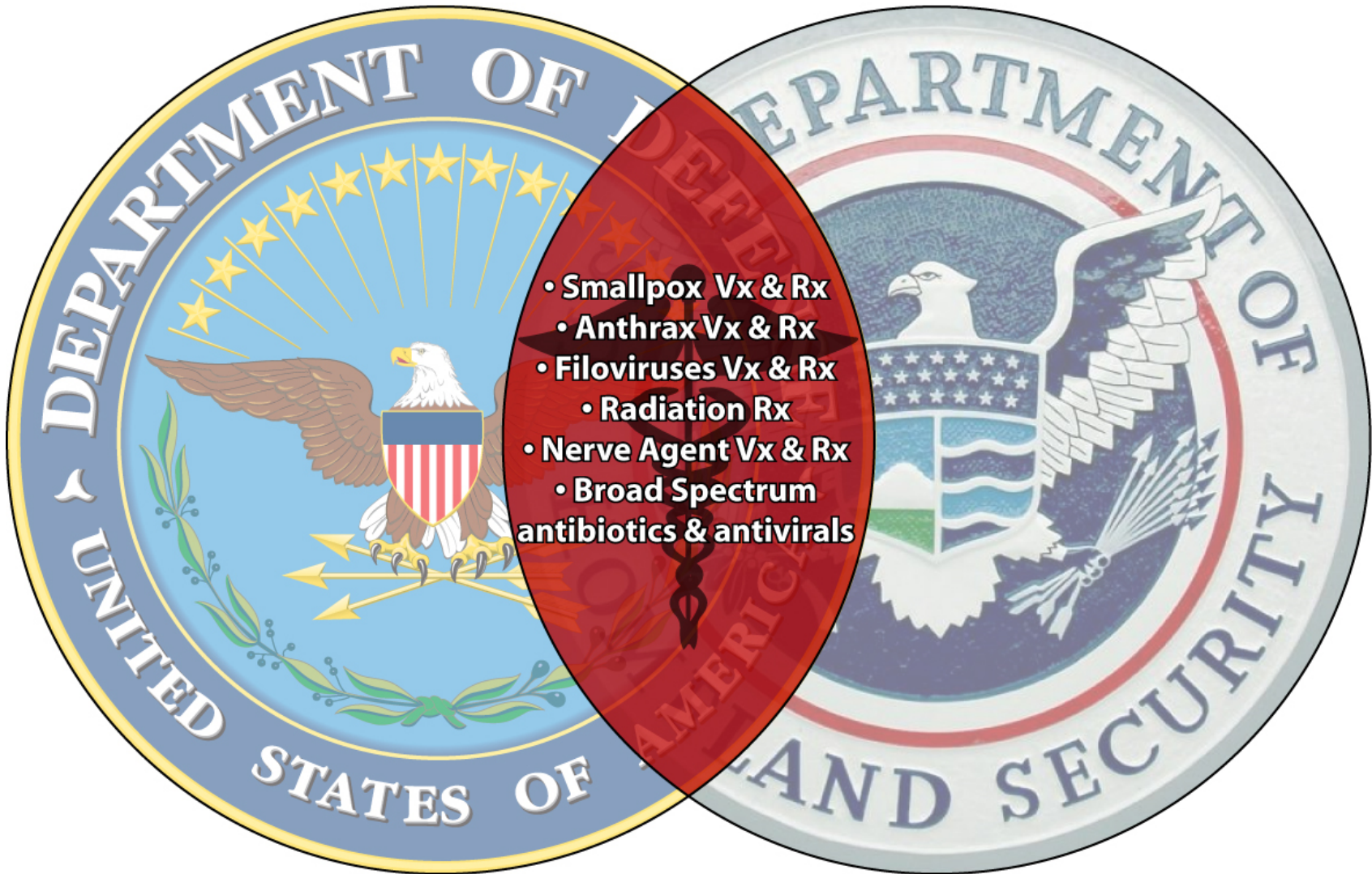


Investment Convergence



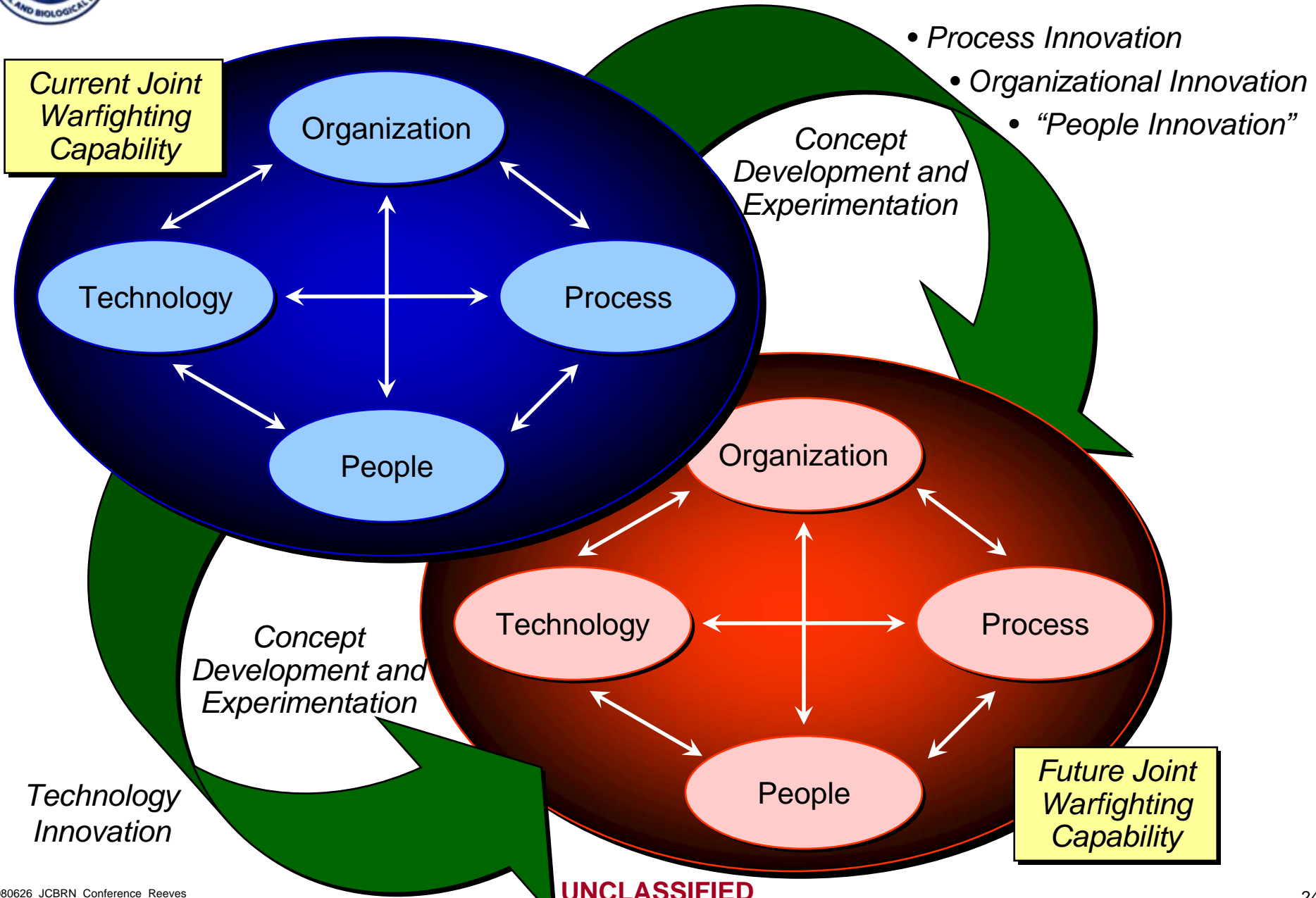


Investment Convergence





Co-Evolution of Capability



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Operations Update



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Major New FY08 Fieldings



Chemically and Biologically Protected Shelter (CBPS)



Collectively Protected Field Hospitals (CPFH)



Joint Chemical Agent Detector (JCAD)



Analytical Laboratory System (ALS)



Joint Service NBC Recon System (JNBCRS)



Family of Tactical Obstruction Devices (FOTOD)



Joint Protective Aircrew Ensemble (JPACE)



Joint Chem Bio Radiological Water Monitor (JCBRAWM)



Stryker NBC Recon Vehicle (NBCRV)



Major New FY08 Fieldings (Cont'd)



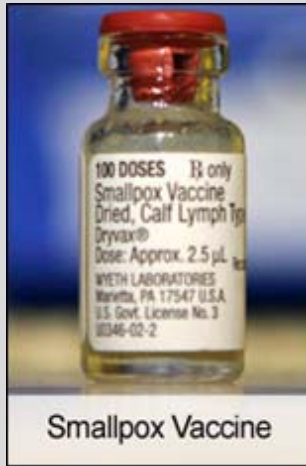
Joint Service General Purpose Mask M50 (JSGPM)



Joint Service Personnel Decon System (JSPDS)



Joint Service Chemical Environment Survivability Mask (JCESM)



Smallpox Vaccine



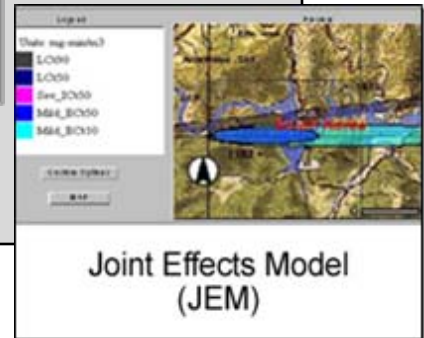
Integrated Footwear System (IFS)



Joint Warning and Reporting Network (JWARN)



JSLIST Chemical/Biological Coverall for Combat Vehicle Crewman (JC3)



Joint Effects Model (JEM)



Major Future Fieldings (FY09 & Beyond)



Integrated Commercial Intrusion Detection Systems (ICIDS)



Joint Material Decon System (JMDS)



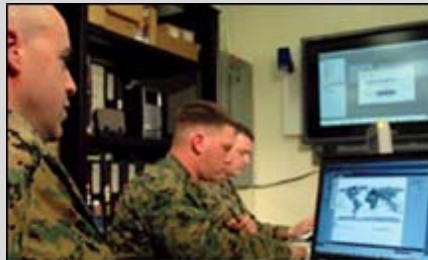
Joint Chemical Agent Detector (JCAD)



Joint Expeditionary Collective Protection (JECP)



Joint Service Aircrew Mask Rotary Wing/Fixed Wing



Joint Operational Effects Federation (JOEF) Program



Advanced Anticonvulsant Systems (AAS)



Joint Biological Tactical Detection System (JBTDS)



Joint Biological Standoff Detection System (JBSDS)



Bioscavenger - Increments 1 and 2



Plague Vaccine



Botulinum Multivalent Recombinant Vaccine (rBV A/B)

- NEW FEATURES:**
- Improved User Interface
 - Better Navigation
 - More Efficient Layout
 - JPEO-CBD Quarterly Magazine
 - Subscribe
 - CBRN COTS Equipment Information
 - Search Multiple Sources
 - Internal
 - External
 - Deficiency Reporting (PQDR)

J.A.C.K.S.
Joint Acquisition CBRN Knowledge System

Contacts My Profile Logout Help

Suggest a Change

JACKS Equipment Training Shelf Life Publications Restricted Help/IRC

JACKS Application Console

CBRN-Information Resource Center (CBRN-IRC)
← 24/7 Global Support

Hot
Attention:

- Need to order JSLIST training suits? [Click here](#)
- DF 200 Notice
- Chemical Defense: Chlorine INFO Paper
- Chemical Defense: TICs INFO Paper

Available through the CBRN Equipment Quick Search
← Click the magnifying glass to get started!

JACKS CBRN Equipment Quick Search
Click Here to Begin...

CBRN Equipment Quick Search
CBRN information consolidated into one easy-to-use interface.

Shell Life

Shell Life Status Tool
Search current shelf-life extension information for CBRN shelf-life items.

DDD/FDA Shelf Life Extension Program
Information on shelf life extension of critical CBRN medical material.

Publications

Advisory Message Quick Search
View authorized CBRN messages intended for all DoD services and relevant agencies

Chem-Bio Defense Quarterly Magazine
View current and past issues of the Chem-Bio Defense Quarterly Magazine.

Fact Sheet Finder
Fact Sheets produced by the JPMs that provide detailed information on CBRN equipment.

Field and Tech Manuals (FTMs & TMs)
US Army Publishing Agency (USAPA) Doctrine and Training Publications and USAMC Logistics Support Activity (LOGSA) Electronic Technical Manuals.

Hazmat Document Quick Search
Search hazardous material documents/material safety data sheets (MSDS) obtained directly from the Hazardous Materials Information Resource System (HMIRS).

Specifications & Standards Quick Search
Search CBRN specifications and standardization documents obtained directly from the Acquisition Streamlining and Standardization Information System (AS3IST).

Training Resources

New Equipment Training (NET)
Access various types of training materials for new Chemical and Biological Defense equipment.

Lessons Learned
A collection of government and military websites offering lessons learned.

Training Links
A collection of government and military websites offering educational material.

Training Equipment
Information on requesting Training Equipment including the forms and contact information for using the Defense Accountability, Reutilization and Disposal (DARD) process.

My Profile

My Profile
Allows users to view their current user information and subscribe to various JACKS Alerts. JACKS Alerts are email notifications that contain important information for the entire CBRN community.

Restricted Access Tools

International Working Area
The Australia, Canada, United Kingdom, and United States (AUSCANUKUS) chem/bio collaboration tool.

JACKS-IB
The JACKS Industrial Base (IB) Tool

JPEO-CBD IDE
The JPEO-CBD Integrated Digital Environment for Document Management

JPEO-CBD Portal
The JPEO-CBD Portal

JPEO-CBD Survey Tool
The JPEO-CBD Survey Tool

JACKS-RW
The JACKS Reporting Warehouse

NSERP
Non-Standard Equipment Review Panel

Responder Knowledge Base

SAVER
System Assessment and Validation for Emergency Responders



Contractor Logistics Support (CLS)

- **Effective December 3, 2007 SINGLE CLS Contract for:**
 - **Fox Nuclear Biological Chemical Reconnaissance System (NBCRS)**
 - **Joint Portal Shield (JPS)**
 - **M31A1 Biological Integrated Detection System (BIDS)**
 - **Joint Biological Point Detection System (JBPDS) – Interim Logistics Support**
 - **Joint Biological Standoff Detection System (JBSDS) – Interim Logistics Support**
- **Benefits:**
 - **Single Contracting Officer Technical Representative (COTR) at Unit Level**
 - **Single Contractor for CLS**
 - **Reduced CLS Customers**



Building the Future

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Outlook

- **Address Full Spectrum Threats**
- **Continue Interagency Collaboration**
 - S&T
 - Advanced Development
 - Procurement
 - Standards (Physical/Medical)
- **Continue Civil-Military Integration**
- **Implement Technical Architecture**
- **Maintain Technological Advantage**



New Technologies for Full Spectrum Threat

- Threat is Real and Expanding
- Our Responses Must be Adaptive and Innovative
 - Modular
 - Integrated Designs
 - Broad-based Protection
 - Broad-spectrum Capabilities

The BEST Technology and Equipment

At the RIGHT PLACE

At the RIGHT TIME

At the RIGHT COST

MG Steve Reeves

<http://www.jpeocbd.osd.mil>

JPEO-CBD

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