



UNCLASSIFIED

Joint Program Executive Office for Chemical and Biological Defense

PRESENTED TO:

**Joint CBRN Conference
Fort Leonard Wood**

**STEPHEN V. REEVES
Major General, USA
Joint Program Executive Officer
for Chemical and Biological Defense
(703) 681-9600**



Joint Program Executive Office for Chemical and Biological Defense

Mission

The Joint Program Executive Office for Chemical and Biological Defense is Responsible for Research, Development, Acquisition, Fielding, and Life-cycle Support of Chemical, Biological, Radiological, and Nuclear (CBRN) Defense Equipment, Medical Countermeasures, and Installation and Force Protection Supporting the National Military Strategy



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



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



NBC CONTAMINATION AVOIDANCE
Edgewood, MD
COL Don Burnett (Army)




CHBI MI SY
Frederick, MD
COL David Williams (Army)



CHEMICAL BIOLOGICAL MEDICAL SYSTEMS
Frederick, MD
COL Stephen Berte (Army)



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



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

JPMs Leverage Service/Installation Matrix Support



GUARDIAN
Falls Church, VA
COL Mark Malatesta (Army)



D
Quantico, VA
Mr. Will Hartzell (USMC)



DECON
Quantico, VA
Lt Col Dale Takenaka (USAF)



INDIVIDUAL PROTECTION
Quantico, VA
Mr. Jim Nelson (Marines)

JPEO-CBD JOINT PROJECT MANAGERS



What We Do Every Day

- **Support Current Operations**
- **Improve Current Systems**
- **Build the Future**



What Have We Done for You Lately

Fielding 30 Chem Bio Defense Systems in FY06-07



Major New Fieldings: FY06-07

- Joint Service Chemical Environment Survivability Mask
- Joint Service General Purpose Mask
- Joint Service Decon System - Small Scale
- Joint Service Personnel Decontamination System RSDL
- Joint Biological Agent Identification & Diagnostics System
- Joint Service Mask Leakage Tester
- Joint Effects Model Block I
- Joint Service Light Nuclear, Biological, Chemical, Reconnaissance System

**Sixteen (16)
Planned
New/upgraded
Capabilities**



Joint Effects Model (JEM)



Joint Biological Agent Identification & Diagnostics System (JBAIDS)



Joint Service Chemical Environment Survivability Mask (JCSEM)



Joint Service General Purpose Mask (JSGPM)



Joint Service Transportable Decon System-Small Scale (JSTDS-SS)



Joint Service Light Nuclear, Biological, Chemical, Reconnaissance System (JSLNBCRS)



Joint Service Chemical Environment Survivability Mask (JCESM)

- **Potential Non-combatant Replacement for M-17**
- **Milestone C January 2006**
 - **Low Rate Initial Production (LRIP) Approved 19K Masks**
 - **Unit Cost Under \$100.00**
 - **Funded to Procure 193K Masks**





Individual Protection Fielding for FY06 & 07

4QFY06



Joint Service Chemical Environment Survivability Mask (JCESM)

2QFY06



Joint Service Mask Leakage Tester (JSMLT)

2QFY07



JSLIST Block 2 Glove Upgrade (JB2GU)

3QFY07



Alternative Footwear System (AFS)

2QFY07



Joint Service General Purpose Mask (JSGPM)

1QFY07



Integrated Footwear System (IFS)

3QFY07



Joint Service Aircrew Mask (JSAM)



Chemical Biological Medical System Fielding for FY06 & 07

336 JBAIDS



Air Force

Floats



USMC

Training



ARMY

Depot Spares



Navy

**Joint Biological Agent Identification and
Diagnostics System (JBAIDS)**



Collective Protection Fieldings for FY06 & 07



Collectively Protected Expeditionary Medical Support System (CP EMEDS)



Chemical and Biological Protective Shelter (CBPS)

All Services



Collectively Protected Deployable Medical System (CP DEPMEDS)



Collectively Protected Small Shelter System (CP-SSS)

Not Shown: Shipboard Collective Protected System (CPS)



Other Fieldings for FY06/07

FY 07



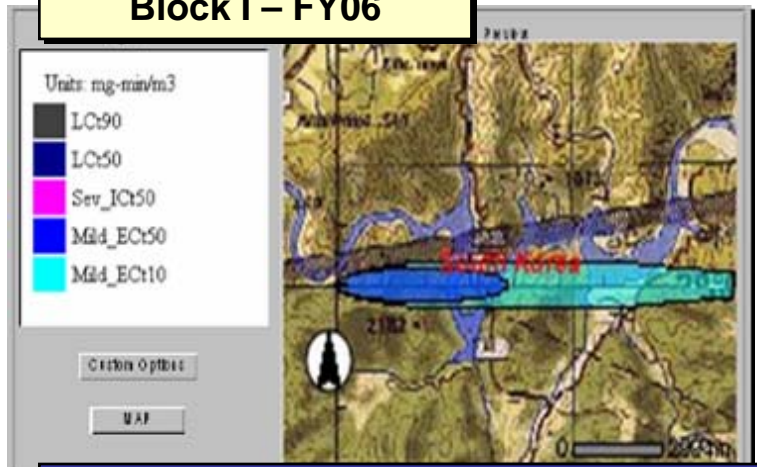
Joint Service Transportable Decon System – Small Scale (JSTDS-SS)

November 2006



Joint Service Personnel Decontamination System RSDL (JSPDS)

Block I – FY06



Joint Effects Model (JEM)

Block II – FY07



Joint Warning and Reporting Network (JWARN)



Delivering SOCOM Capabilities





Supporting GWOT





Life Cycle Management: RESET

RESET: Equipment Deployed in OEF/ OIF Identified as Requiring Depot/ Contractor Repair

- **Leveraging Service O&M**
- **Coordinating Required Contractor Support**
- **Synchronizing Repairs With MWO's and Technology Insertion**

Example Systems:

- **M17/ M12 Decon Apparatus**
- **M21 Remote Standoff Chemical Agent Alarm**
- **M22 Automatic Chemical Agent Detector and Alarm**
- **FOX NBC Reconnaissance Vehicle**
- **Chemical Biological Protective Shelter**



Fox NBC Reconnaissance Vehicle Survivability Upgrade

- **Meets Operation Iraqi Freedom Urgent Need**
 - Improved RPG Protection: Slat armor
 - Improved IED Fragmentation Protection
 - Up-gun to M2 Machine Gun
 - Common Remotely Operated Weapon System (CROWS)
 - VIC III Communications Installed at the Same Time





Up-Armor Protection for the Warfighter

Department of the Army Guidance:

“...armor all tactical wheeled vehicles (TWVs) deployed in support of OIF/OEF...”

Three CBRN Systems Redesigned:

Chem-Bio Protective Shelter (CBPS) Biological Integrated Detection System (BIDS) M56, Coyote, Smoke Generator



Up-Armor Solutions

Current

Future



Chem-Bio Protective Shelter (CBPS)



Medium Tactical Vehicle



Biological Integrated Detection System (BIDS)



LTVM with Trailer



M56 Coyote, Smoke Generator

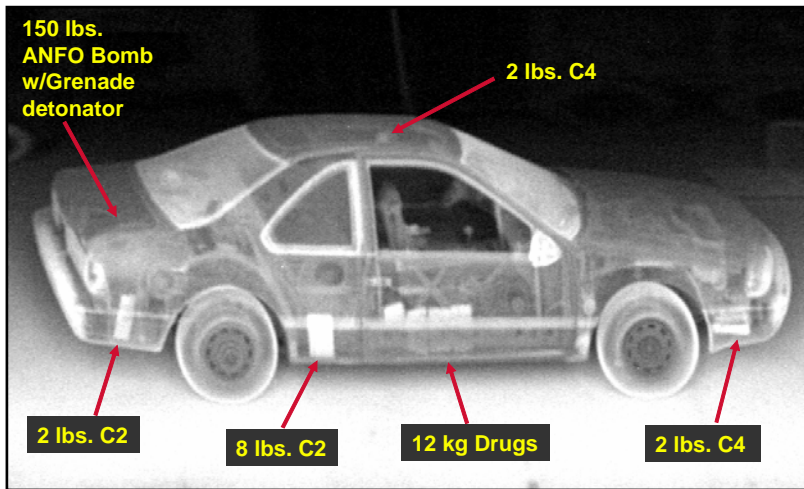


Up-Armored HMVWW



Z-Backscatter Van

- **Mobil X-Ray System in Commercial Van**
 - Scan for Explosives, Weapons, Drugs / Contraband
 - Two-person Crew; Remote Operation at 0.5 Km Standoff





Joint Acquisition CBRN Knowledge System (JACKS)

- **CBD Equipment**
 - **Characteristics**
 - **Advisory Messages**
 - **Shelf Life**
 - **Safety Messages**
 - **Training**
 - **Quality Control**
 - **Access to JTAVRW**

J.A.C.K.S.
Joint Acquisition Chemical Biological Radiological Nuclear Knowledge System

Directed By: JPEOCBD
Joint Program Executive Office
Chemical and Biological Defense

Joint Program Executive Office for Chemical Biological Defense
Joint Acquisition Chemical Biological Radiological Nuclear (CBRN) Knowledge System

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Common Access Card**

Sign In at:

<https://jacks.jpeocbd.osd.mil>



JPEO-CBD Web Site

- Organization & Contact Info
- Product Fact Sheets & Brochures
- CBD Quarterly Magazine
- New Equipment Training
- Safety Messages
- Regionalization Position Info
- Reports (*Hotline, Surge, etc.*)
- Non Standard Equipment Process
- News & Events
- Hot Topics
- Links
- Photo Gallery
- Contact Us

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

-or-

https://secureweb.hqda.pentagon.mil/jpeocbd_secure



Software Support Activity (SSA)

A Single Activity to:

- **Support Integration Interoperability Using a Common CBRN Architecture**
- **Define CBRN Standards and Protocols**
- **Verification, Validation and Accreditation**
- **Ensures CBRN Software Compliance with DoD Standards**



Help Desk Call Center
877 328-0371 or DSN 524-4684

Help Desk Web Access
<https://sskc.spawar.navy.mil/>



Synchronizing Near Term Needs





Synchronization

- Synchronize and Integrate the Interdependent Program Segments in a Dynamic Systems of Systems, Networked Environment
- Networked Systems, Technology and Standards Evolve
 - There will Never be a Stable Environment/ Requirements, Even in Full-Rate Production
- Total Life Cycle Management, Including Logistics, Training, Industrial Base, Readiness Improvements are an Integrated Part of Our Planning, Resourcing and Execution



Synchronizing With Major Programs

TODAY



JBPDS



Chem/Bio
Mass Spec



JCAD/
ACADA



JSLSCAD



JWARN/
JEM/JOEF



Radiacs

**Independent Capability
and NBC System
Components**

CBDP SYSTEMS INTEGRATION



BIDS



Recon Platforms

**Integrated
Subsystem
Network
Force Levels**

FUTURE FORCE



Littoral Ships



FCS



EFV



Joint Strike Fighter



Other Platforms



The Future of CB Defense

Net-Centric

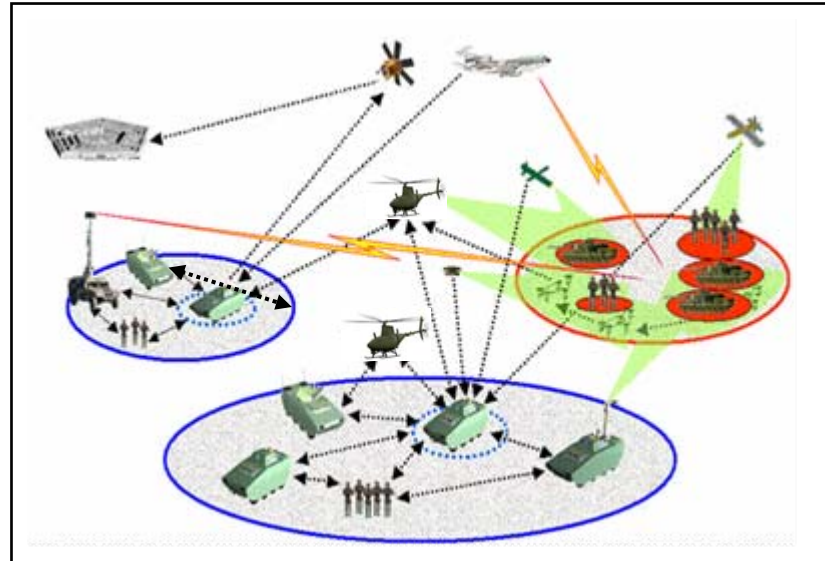
Modular / Tailorable





Future of CB Defense

- **Net-Centric CB Defense Architecture**
 - A family of Integrated Systems (Sensors, Information Systems, Protection Systems, Consequence Management Tools)
 - Continual or On-demand Access to Data Through Various Ports and Peripherals on the network
 - Shared Awareness, Increased Speed of Command, and Self Synchronization
 - Interoperable and Seamless Capability that Provides Exponentially Increased Military Benefit to Those Systems/Soldiers that Otherwise Operate Independently

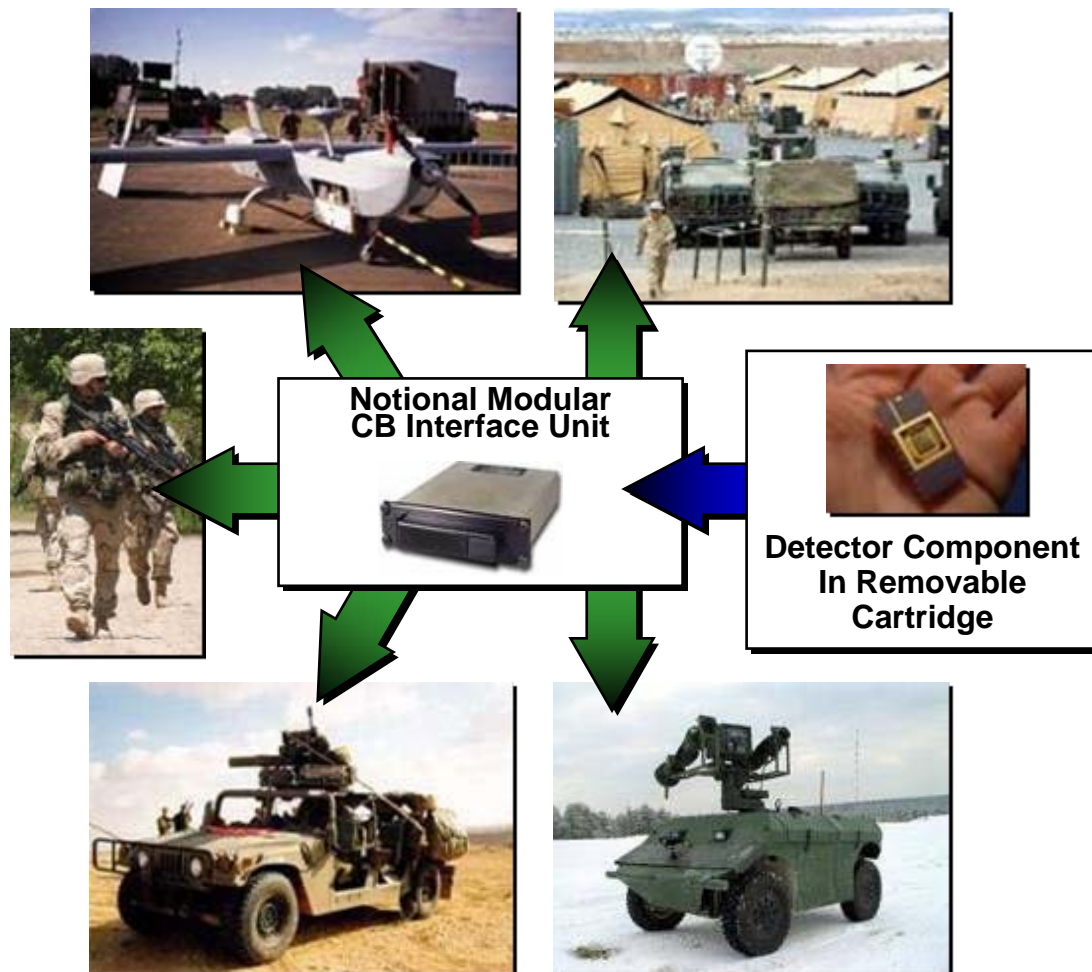




Future of CB Defense

- **Modular and Tailorable Sensor Systems**

- Two Key Parts:
 - Multipurpose, Inter-changeable Detectors
 - Common Interfaces
 - Mechanical
 - Power
 - Communication Signal and Protocols

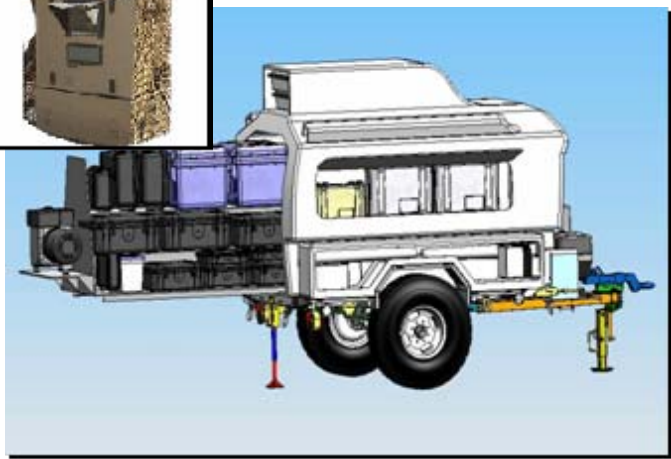


**Plug-n-Play
Capability**



Future of CB Defense

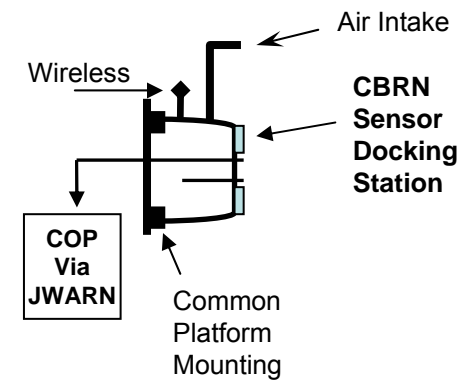
Today



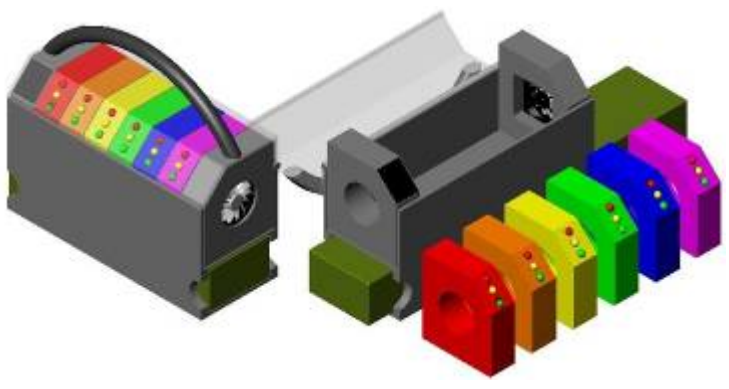
0-3 Years



JCID on a Chip



7-15 Years





Today's Functional Demo



Joint Warning and Reporting Network



LAN

Identifinder



Serial Cables

HOLSTER LAN connection



Wireless card



JWARN on C2PC



ADM300 Sensor Simulator



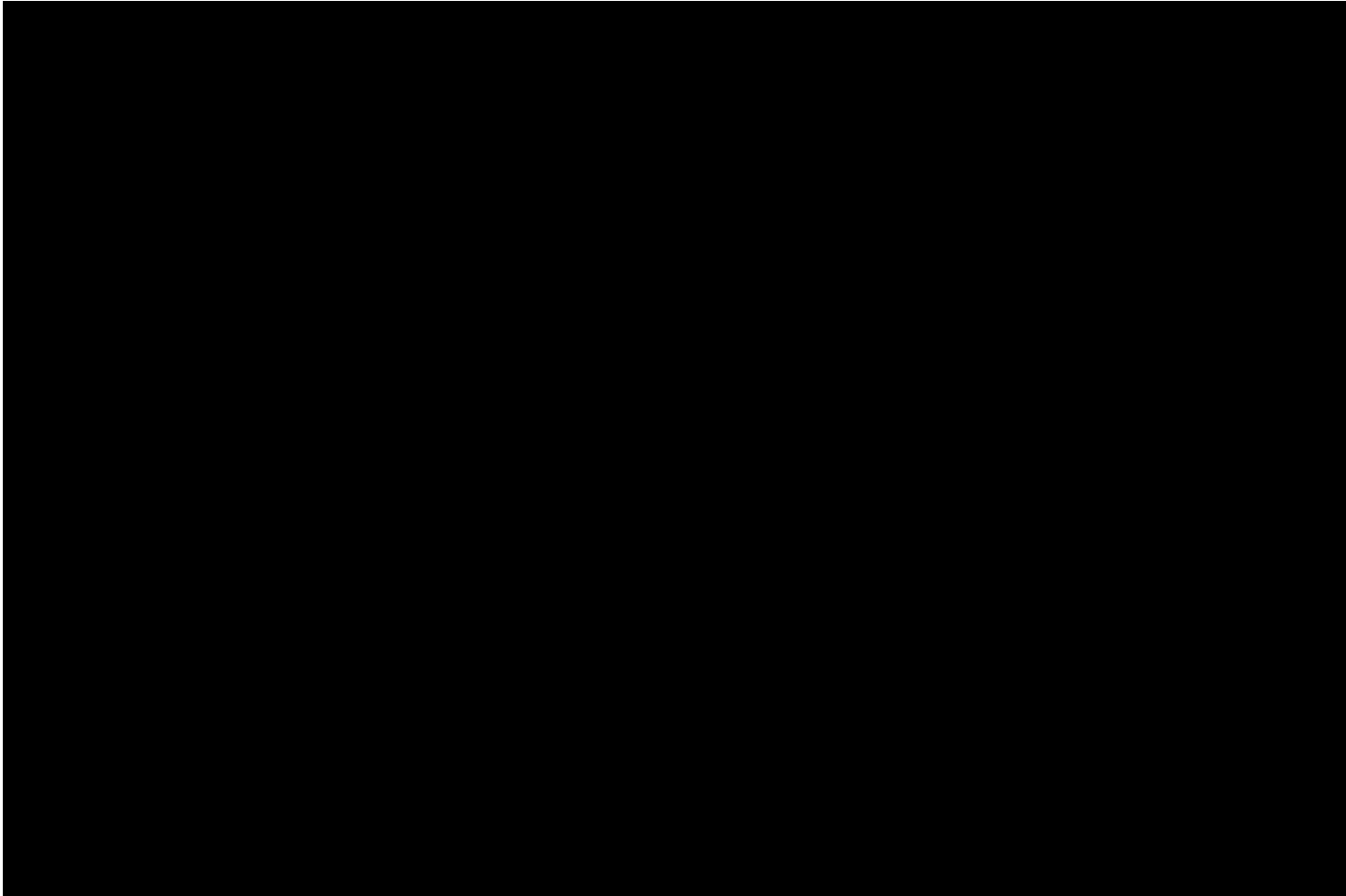
Sensor interface and other CB apps



Wired & Wireless Communication to JWARN



Future of CB Defense





Limited Objective Experiment (LOE) Net-centric/Modular Demonstration

Oct-Nov 2006, Aberdeen Proving Ground, MD

JCID on a chip, PDA,
and/or other comm.
components



*Network Capable
Wireless Capable
GPS Capable*



Sensors
repackaged for
optimal form, fit,
and function



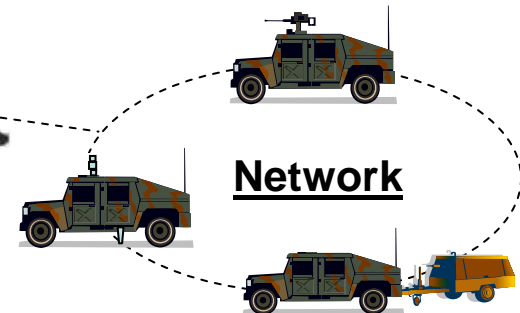
"Holster" Rack
for universal
plug & play
and battery
recharge



Laptop for user
interface, data
access, and sensor
management



Comms to remote station, link
to other vehicles via network



Network



Future of CB Defense

Net-Centricity... Modularity ... Tailorability

We Need Your Input!

What's Good / What's Bad?

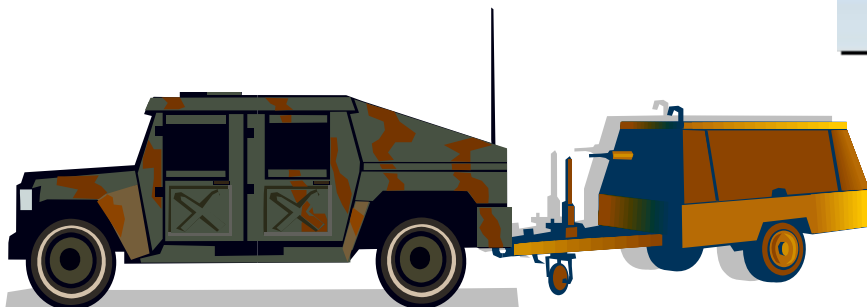
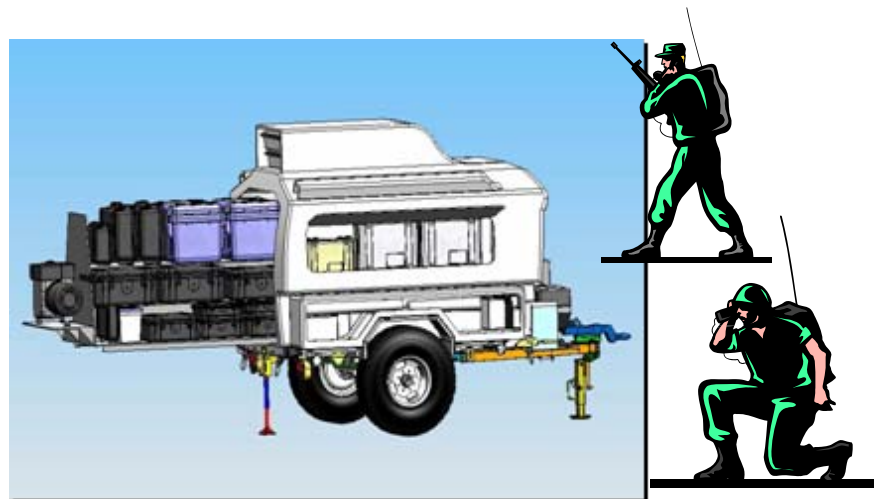
What Common Interfaces Make Sense?

How Do we Drive Technology to Meet Future Concepts?



Joint CBRN Dismountable Reconnaissance System Limited Objective Experiment

Identify Light CBRN Detection and Identification Equipment Sets for Mounted and Dismounted Reconnaissance



Demonstrate Net-Centric/Modular Sensor Concept Capabilities





Joint Expeditionary Collective Protection (JECP) Limited Objective Experiment



**Examine Collective Protection Concepts of Operation
for Expeditionary Forces**



Joint CBRN Aerial Sensing Payload (JCASP) Limited Objective Experiment

**Assess the Utility
of Using CBRN
Sensors on
Unmanned Aerial
Vehicles to
Conduct Recon
Operations**





Sensitive Equipment Decontamination (SED) Limited Objective Experiment

Assessed Prototype Systems and Procedures for Decontaminating Sensitive Equipment





Other Limited Objective Experiments

- **Cold Weather Decontamination Trailer (FY06)**
- **WMD Civil Support Team (CST) Duration (FY06)**
- **Aircrew Duration in Protective Ensemble (FY06-07)**
- **Robotic Decontamination (FY07)**
- **Sensitive Site Exploitation (FY07)**



Warrior as a System

TODAY



JSLIST



JPACE

NEW TECHNOLOGIES

- Embedded Nonparticles
- Self-Detoxifying Materials
- Lightweight Materials
- Improved Comfort (Dehumidification)
- Cooler Materials and Cooling Technology
- Improved Closures
- Residual Life Indicator
- NGA and TIC Protection
- Improved Integration with Mask
- Broad Spectrum Therapeutics
- Needle-Free Vaccine Delivery
- Transdermal Drug Delivery
- Genomic-Centered Therapies
- Proteomics-Based Treatments
- Bioscavenger
- Radioprotectants
- New Vaccines

JOINT CHEMICAL ENSEMBLE "A" Kit "B" Kit



Uniform with Full Helmet



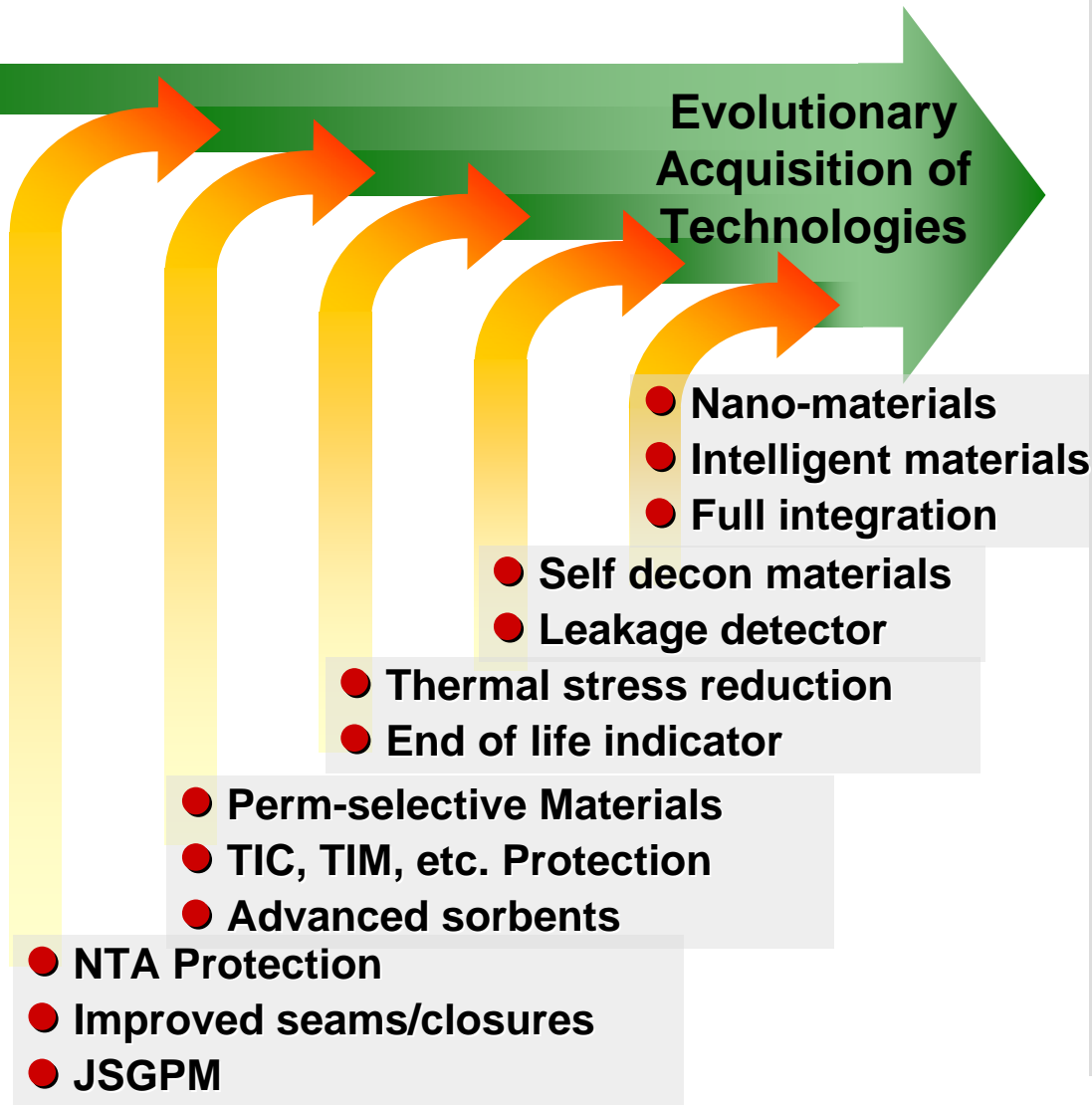
Flight Suit w/ Full Helmet

- Video Monitoring and Surveillance
- Modular High Threat Capability
- Body Temperature Control
- Medical Monitoring
- Transdermal Patch
- Alternative Vaccine Route



Joint Chemical Ensemble

Next Generation Protective Ensemble



Joint Chemical 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



Future Challenges

- **Constrained Financial Resources**
 - **Balancing Near-Term Operational Needs and Preparing for Future Threats**
- **Expanded NBC Capability for Army Brigade Combat Teams**
- **NBC Capabilities for Major Combat Systems**
- **Properly Equipping the Force for Expanding Mission Sets**

Better – Faster – Cheaper

Joint Program Executive Office



Chemical and Biological Defense