Joint Capabilities to Combat Weapons of Mass Destruction

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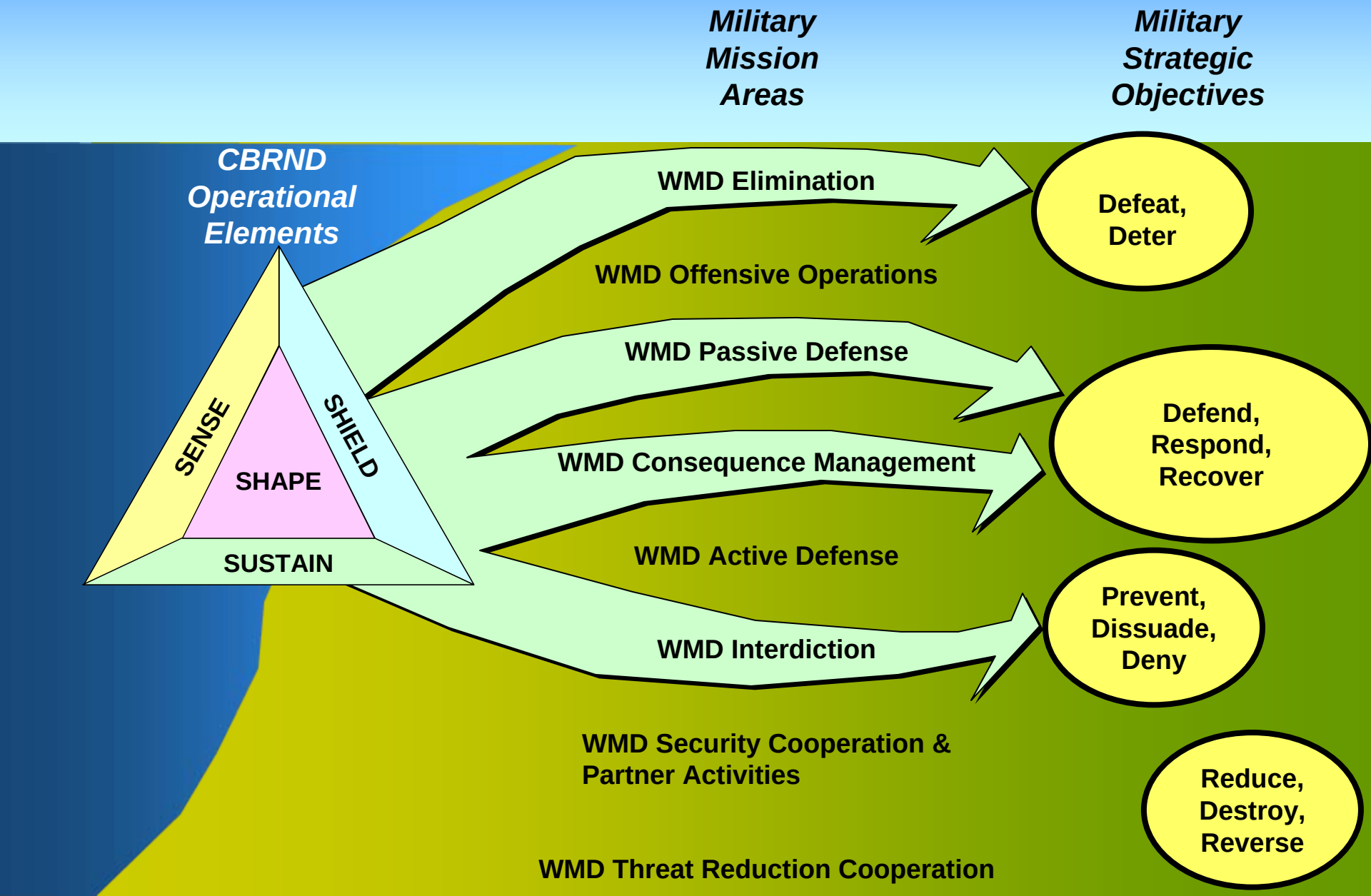
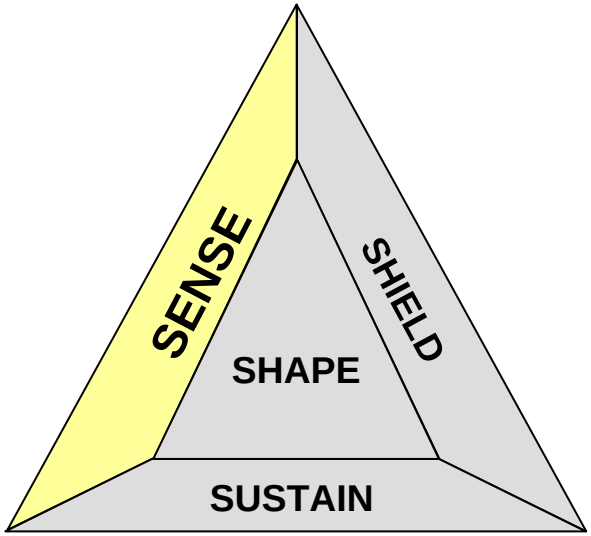
Agenda

- CBRND Defense Operational Concept
- CBRND Core Capability Areas
- Modernization Emphasis
- JRO Focus Areas
  - CBRN Monitoring & Survey
  - Analytical Response Laboratory
  - WMD Consequence Management
  - Stand Off Detection
  - Developing Joint CbtWMD Leaders

CBRN Defense Operational Concept



Detect, identify, and quantify the hazard



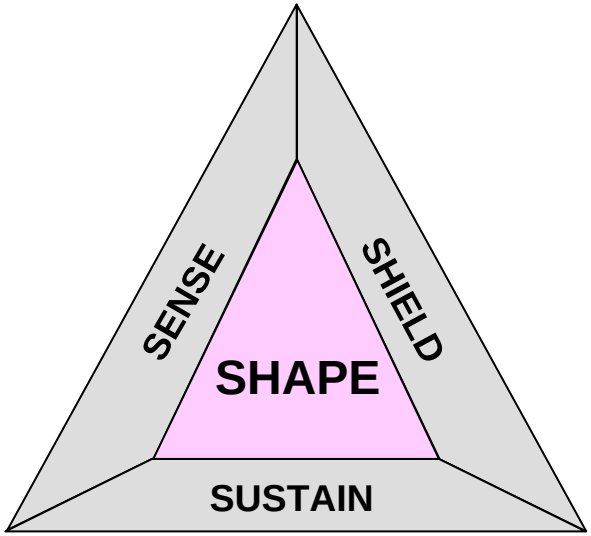
The capability to continuously detect, identify, and quantify CBRN hazards in air, in water, on land, on personnel, and on equipment or facilities.

This capability includes doing this in all physical states (solid, liquid, gas).

Detect, identify, and quantify the hazard

- Chemical Standoff Detection
- Biological Standoff Detection
- Chemical Point Detection
- Biological Point Detection
- Radiological Standoff Detection
- CBRN Reconnaissance
- Field Analytics
- Radiological Point Detection
- Medical Diagnostics

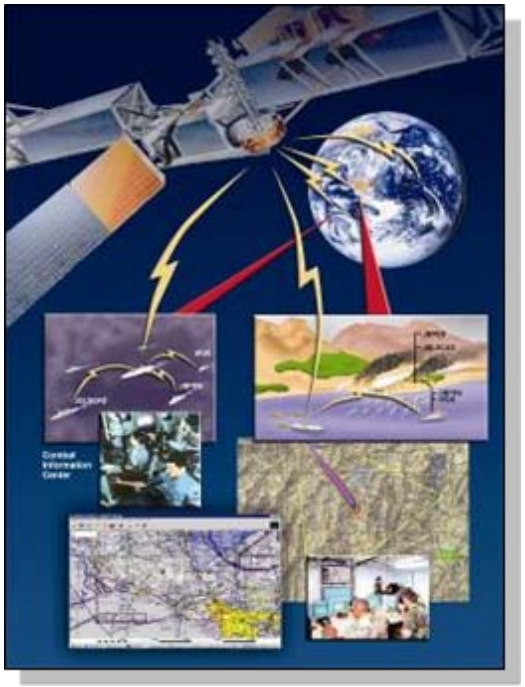
Characterize the hazard



The capability to characterize the CBRN hazard to the force commander.

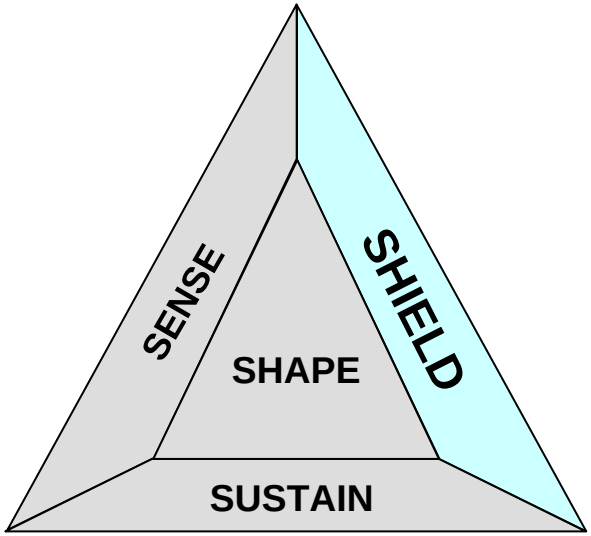
There are four CBRND core capabilities designated for the Shape area, and all DOTMLPF improvements to CBRND Shape can be categorized under one or more of these core capabilities.

Characterize the hazard



- Integrated Early Warning
- Battle or Operating Environment Management Systems
- Battle or Operating Environment Management Analysis
- Methods of Control
- Medical Surveillance

Protect the force

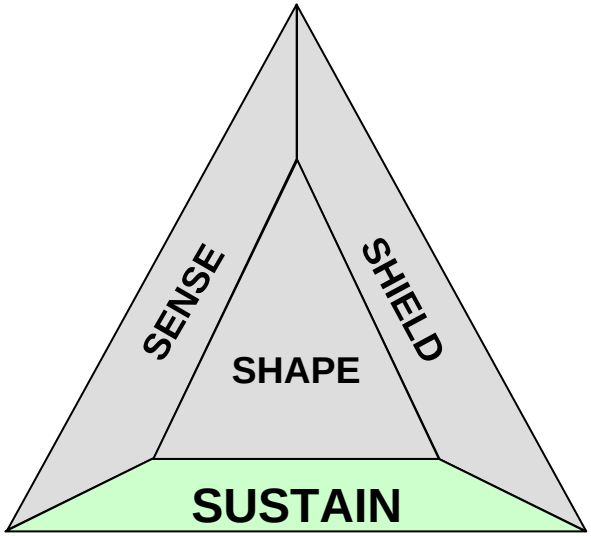


The capability to protect the force from degradation caused by CBRN hazards by preventing or reducing exposures, applying prophylaxis to prevent or mitigate negative physiological effects, and protecting critical equipment.

Protect the force

- Chemical Prophylaxis
- Biological Prophylaxis
- Radiological Prophylaxis
- Respiratory and Ocular Protection
- Percutaneous Protection
- Fixed Site Collective Protection
- Expeditionary Collective Protection

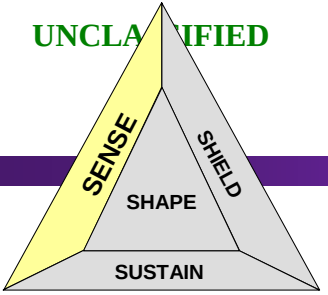
Restore operational capability



The capability to conduct decontamination and medical actions that enable the quick restoration of combat power, maintain/recover essential functions that are free from the effects of CBRN hazards, and facilitate the return to pre-incident operational capability as soon as possible.

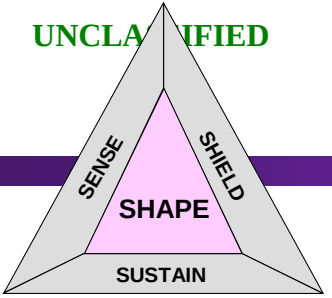
Restore operational capability

- Personnel Decontamination
- Fixed Site Decontamination and Restoration
- Equipment Decontamination
- Biological Therapeutics
- Chemical Therapeutics
- Radiological Therapeutics
- Hazardous Waste Control
- Remains Disposition



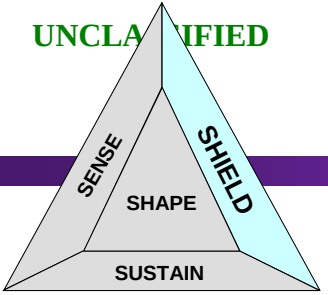
Sense Modernization

- Improve detection capability for **NTA's, TIMs**, lowest levels.
- Determine correct **detector density and placement**.
- Reduce **size/weight/power** needs, reduce **false positives** while increasing **range and sensitivity**.
- **Integrate sensor suite**.
- Enable laboratories to **process** large quantities of samples and **analyze** for CBRN hazards simultaneously.



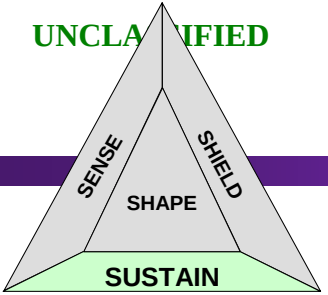
Shape Modernization

- Expand **network connectivity** for CBRN-related data flow.
- Develop algorithms which **accurately predict and assess hazards** that support integrated medical and non-medical analysis.
- Automate **planning tools/decision aids** to assess CBRN hazard affects and impacts directly to personnel, equipment, and terrain.
- Improve medical **surveillance** to provide **early** biological attack **warning** interfacing military and civilian systems.



Shield Modernization

- Ensue personnel (including casualties), military working animals, equipment, and facilities are **protected** against WMD agents, including TIMs and NTAs with **minimal or no degradation**.
- Utilize Food and Drug Administration (FDA)-approved **medical countermeasures** that provide **broad-spectrum** protection from CBRN agents and have an operationally **acceptable incidence of adverse reactions.**
- **Integrate** collective protection in all critical systems that support operating in an unencumbered environment.



Sustain Modernization

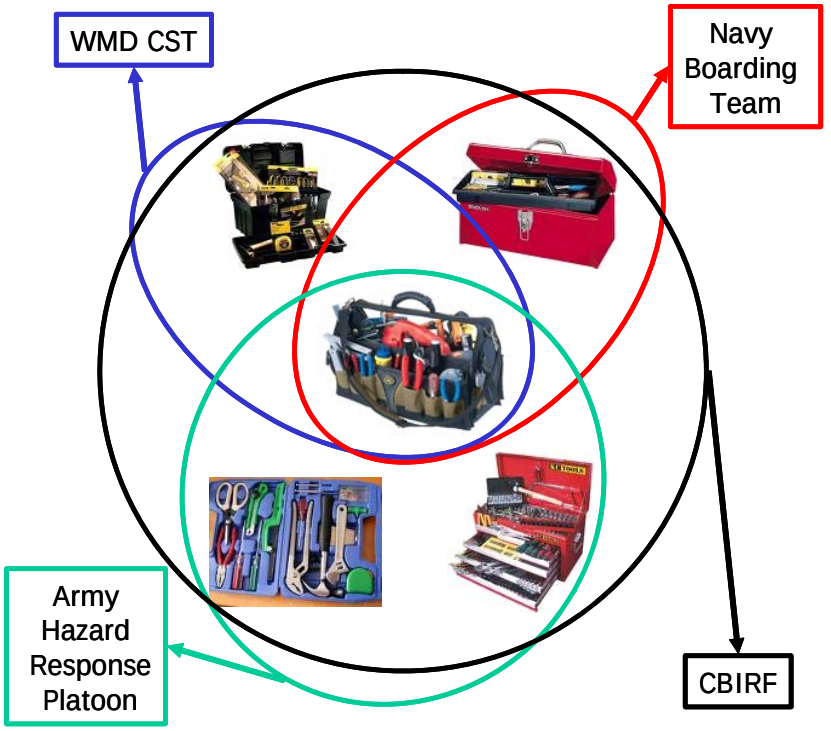
- Provide decontamination products against all CBRN threats with **reduced personnel hazards**, including better mass casualty decontamination capabilities.
- Develop improved decontaminants with less detection equipment **interference** that are **environmentally safe**, and are **non-hazardous** to sensitive equipment and electronics.
- Fully integrate expanded FDA-approved **identification and diagnostic** capabilities into command, control, computers, communication, and information intelligence systems.

JRO Focus Areas

- CBRN Monitoring & Survey
- Analytical Response Laboratory
- WMD Consequence Management
- Stand Off Detection
- Developing Joint CbtWMD Leaders

CBRN Monitoring & Survey

- Common set of components
- Configured into kits
- Supports each Services' mission requiring
  - dismounted CBRN reconnaissance
  - WMD confirmation or denial
  - characterization of a hazardous materiel event or accident
- Acquisition Strategy
  - Commercial-Off-The Shelf (COTS)
  - Government-Off-The Shelf (GOTS), and
  - Non-Developmental Item (NDI)



Analytical Response Laboratory

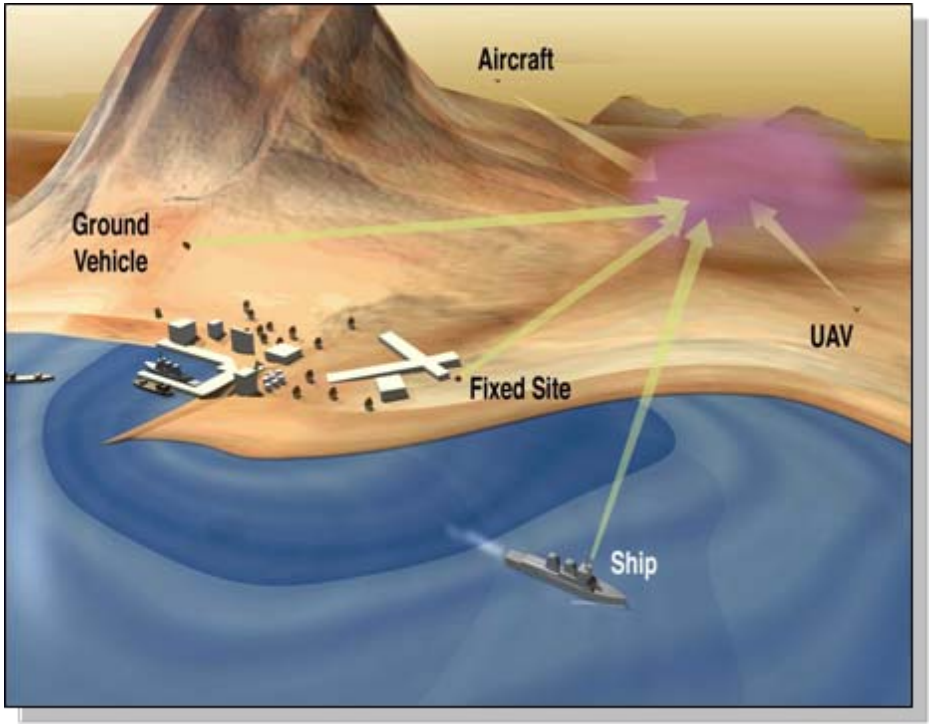
- Current laboratory variants are not sustainable
- Common analytical capabilities across the CWMD portfolio increases confidence, sampling capability, and supports both Homeland Defense & forward deployed CBRN detection capabilities
- Key capabilities will focus on a modular approach
  - Analytical equipment
  - Analytical processes
  - Personnel staffing
  - Expandable laboratory design

WMD Consequence Management

- Standardize and “institutionalize” CM capabilities
  - detection
  - identification
  - decontamination
  - protection
- Treat WMD CM as a “core” mission
- Complete DOTMLPF approach

Stand Off Detection

- Continued high priority capability for warfighters
- Includes CB and Radiological/nuclear – vapor & liquid/solid
- Heightened interest in "pre-event" detection of SNM
- Technical challenges of distance, shielding, power, platform, etc.



Developing Joint CbtWMD Leaders

- Problem - Shortage of senior leaders able to plan and conduct CbtWMD operations in an uncertain environment
- Approach – use education, training and exercises as substitute for years of experience and assignments

- Joint Professional Military Education (JPME) curriculum development support
- JPME course and exercise participation (Joint Forces Staff College; USMC Command and Staff College; Joint Flag Officers Warfighting Course)
- National Defense University Center for the Study of WMD – JPME focal point for combating WMD
- COCOM staff training and exercise support – USNORTHCOM and USSTRATCOM

Questions?

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