



# Joint Requirements Office for Chemical, Biological, and Nuclear Defense

**MAJ W. Scott Smedley**

**8 March 2006**

**Individual Protection Conference**

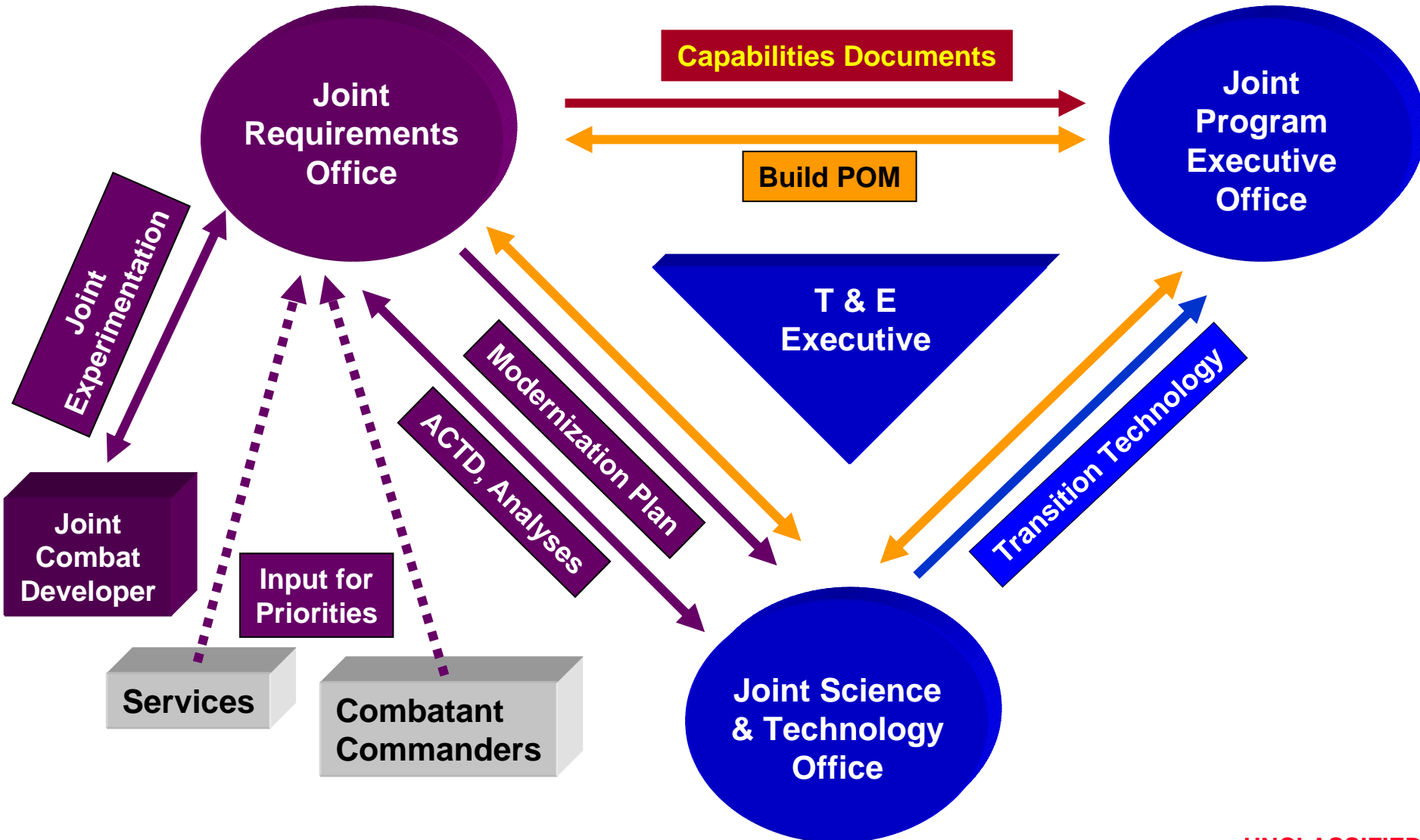
**Charleston, South Carolina**

- **Background**
- **Baseline Capabilities Assessment**
- **Capabilities Based Assessment and the Joint Capabilities Integration and Development System**
- **Way Ahead**

## *JRO – CBRN Defense Charter*

- **Single office within DOD responsible for the planning, coordination, and oversight of joint CBRN defense operational requirements**
  - **Develop and maintain the CBRN Defense Integrating Concept and the CBRND Modernization Plan**
  - **Represent the Services and Combatant Commanders in the requirements generation process and act as their proponent for coordinating and integrating CBRND operational capabilities**
  - **Develop DOD CBD POM with acquisition community support**
  - **Facilitate the development of joint doctrine and training and sponsor the development of multi-service doctrine**
- **CJCS' single source of expertise to address all issues involving CBRND, within passive defense, consequence management, force protection, and homeland security**

# Required Capabilities, S&T, and Acquisition

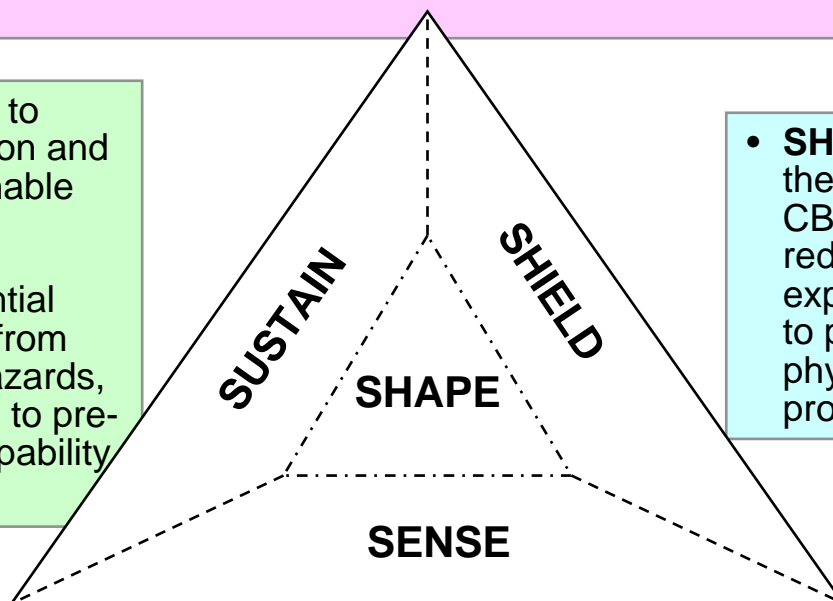


# Joint CBRN Defense Functional Concept

- **SHAPE** – Provides the ability to characterize the CBRN hazard to the force commander - develop a clear understanding of the current and predicted CBRN situation; collect and assimilate info from sensors, intelligence, medical, etc., in near real time to inform personnel, provide actual and potential impacts of CBRN hazards; envision critical SENSE, SHIELD and SUSTAIN end states (preparation for operations); visualize the sequence of events that moves the force from its current state to those end states.

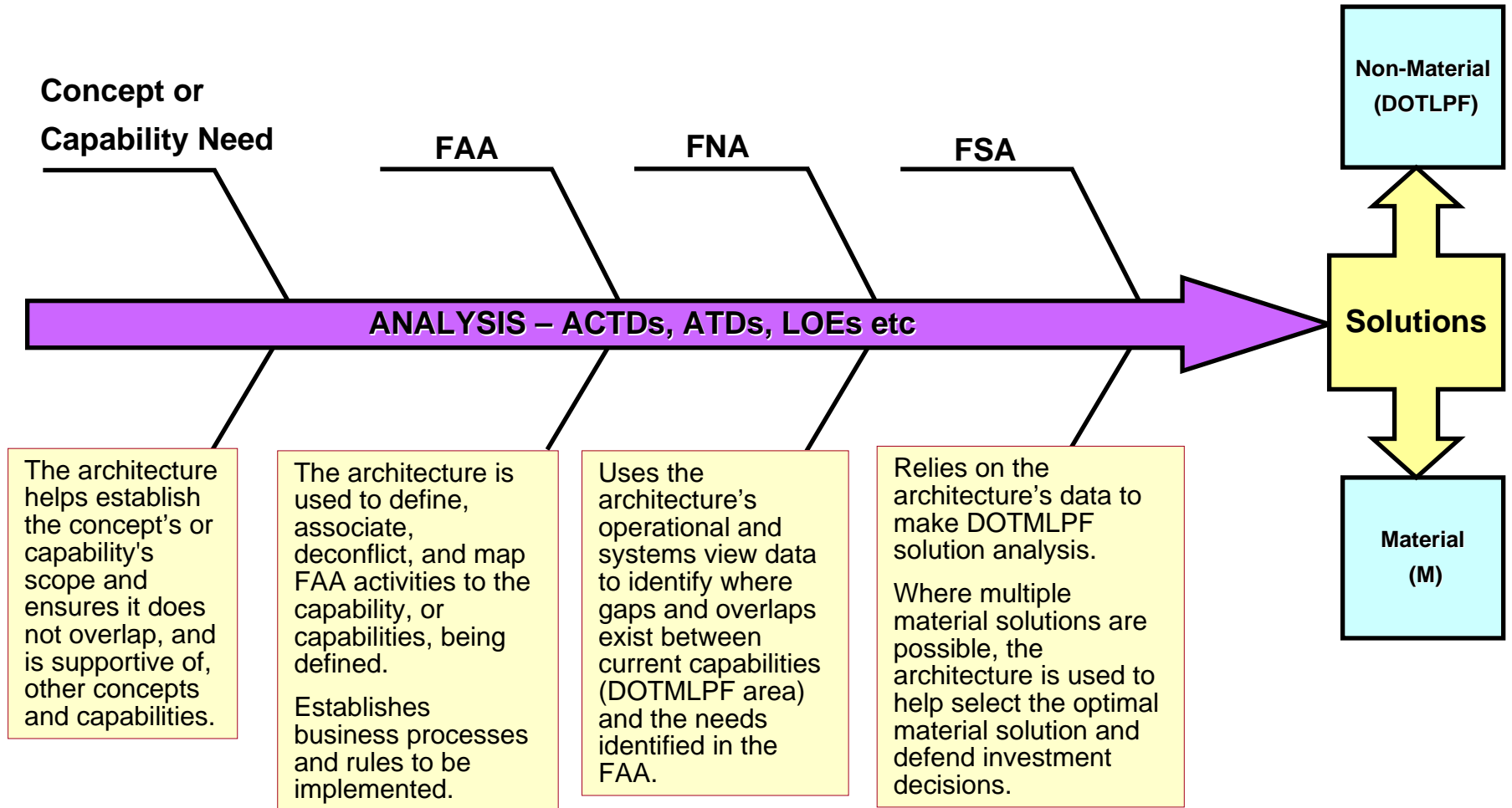
- **SUSTAIN** – The ability to conduct decontamination and medical actions that enable the quick restoration of combat power, maintain/recover essential functions that are free from the effects of CBRN hazards, and facilitate the return to pre-incident operational capability as soon as possible.

- **SHIELD** – The capability to shield the force from harm caused by CBRN hazards by preventing or reducing individual and collective exposures, applying prophylaxis to prevent or mitigate negative physiological effects, and protecting critical equipment



- **SENSE** – The capability to continually provide the information about the CBRN situation at a time and place by detecting, identifying, and quantifying CBRN hazards in air, water, on land, on personnel, equipment or facilities. This capability includes detecting, identifying, and quantifying those CBRN hazards in all physical states (solid, liquid, gas).

## Using Architecture to Support JCIDS



# CBRN Baseline Capability Assessment Concept

BCA 1-39

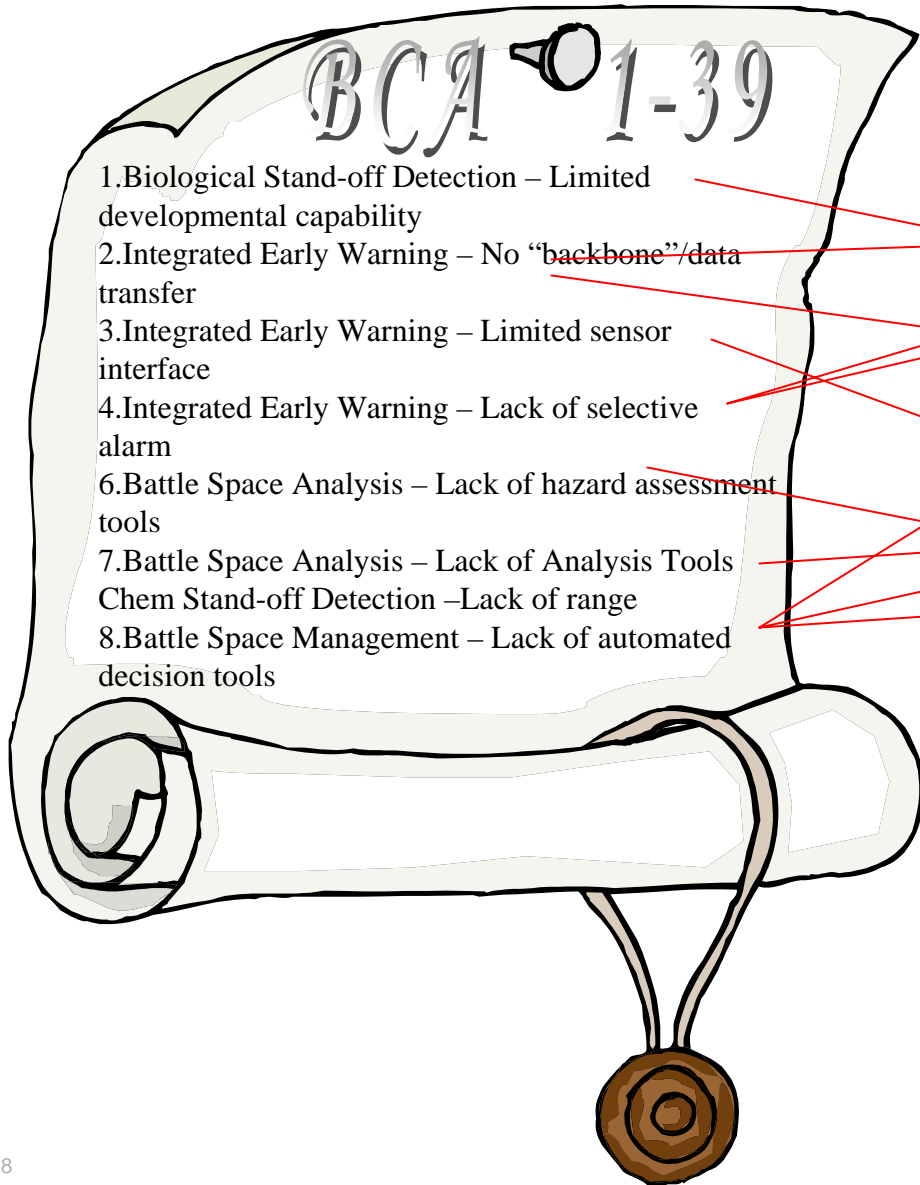
1. Biological Stand-off Detection – Limited developmental capability
2. Integrated Early Warning – No “backbone”/data transfer
3. Integrated Early Warning – Limited sensor interface
4. Integrated Early Warning – Lack of selective alarm
6. Battle Space Analysis – Lack of hazard assessment tools
7. Battle Space Analysis – Lack of Analysis Tools
- Chem Stand-off Detection –Lack of range
8. Battle Space Management – Lack of automated decision tools

## Why:

- Annual Requirement (JROCM, Jul 2002)
- Sets the basis for analysis toward Chairman’s Program Assessment (CPA)

Direct the JRO-CBRN Defense to propose to the JROC issues for inclusion in the FY 06-11 planning guidance priorities that are based on the capability gaps identified in this assessment

# Tying the BCA to Programs of Record



SOLUTION  
SOLUTION  
SOLUTION  
SOLUTION  
SOLUTION  
SOLUTION  
SOLUTION  
SOLUTION

**Since 2003  
Programs of Record  
have been tied to  
gaps identified by  
the CBRN BCA.**



# *JCIDS Capabilities Baseline Assessment Supersedes BCAs*

*BCA 1-39*

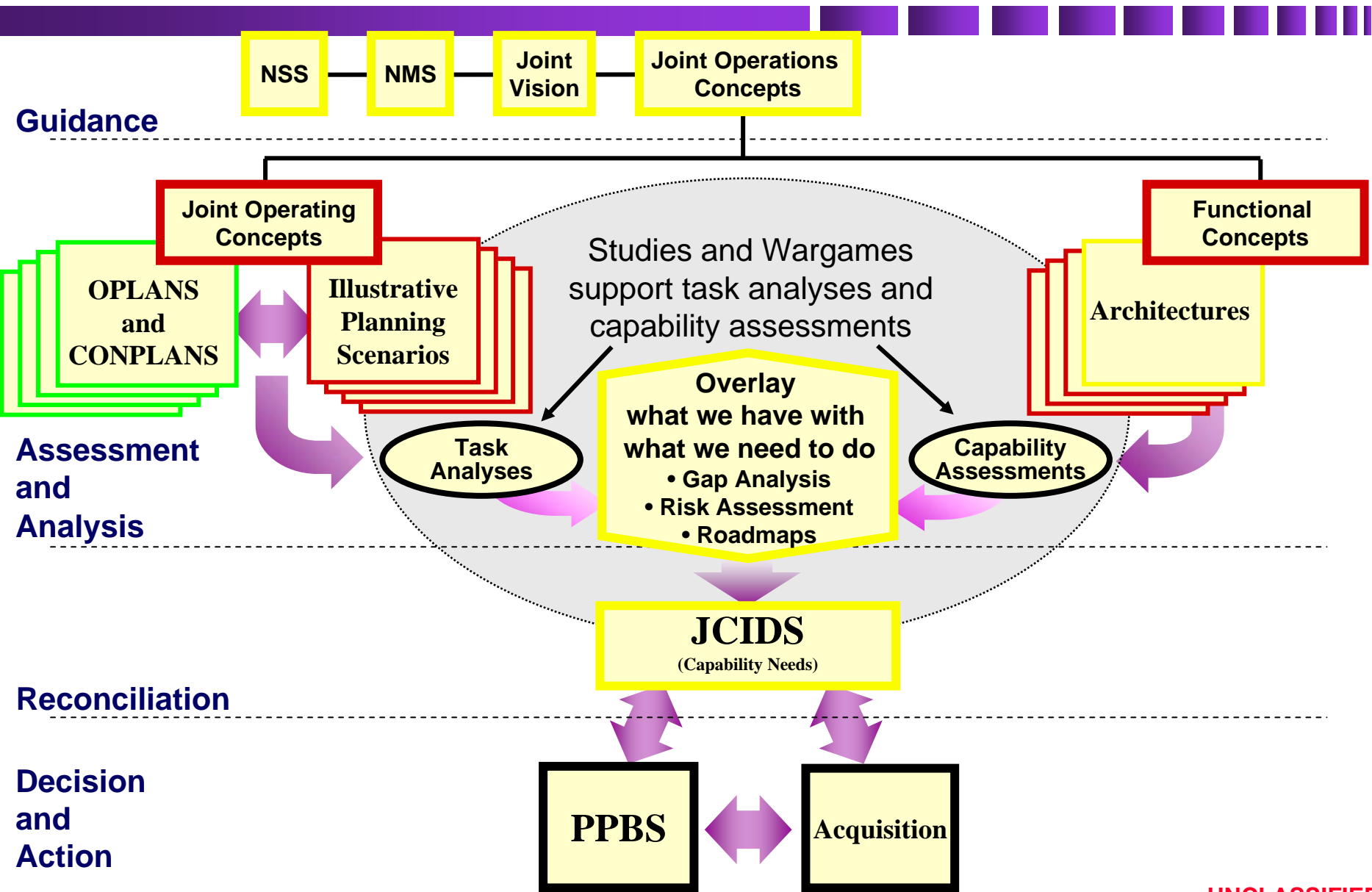
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## JCIDS Guidance

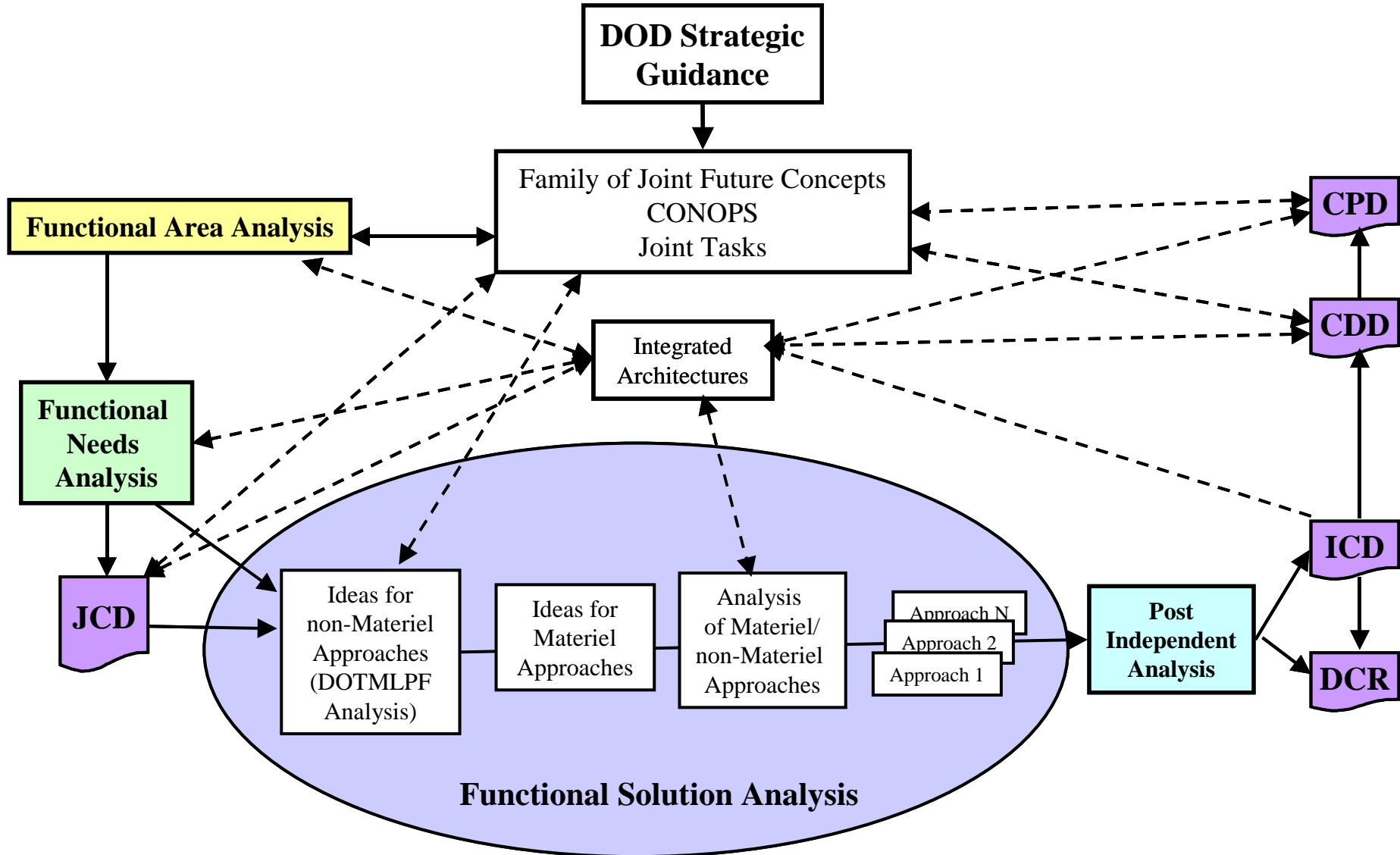
- CJCSI 3170.01E
- CJCSM 3170.01B

**The CBRN BCA served it's purpose well, but now the JCIDS process mandates CBAs.**

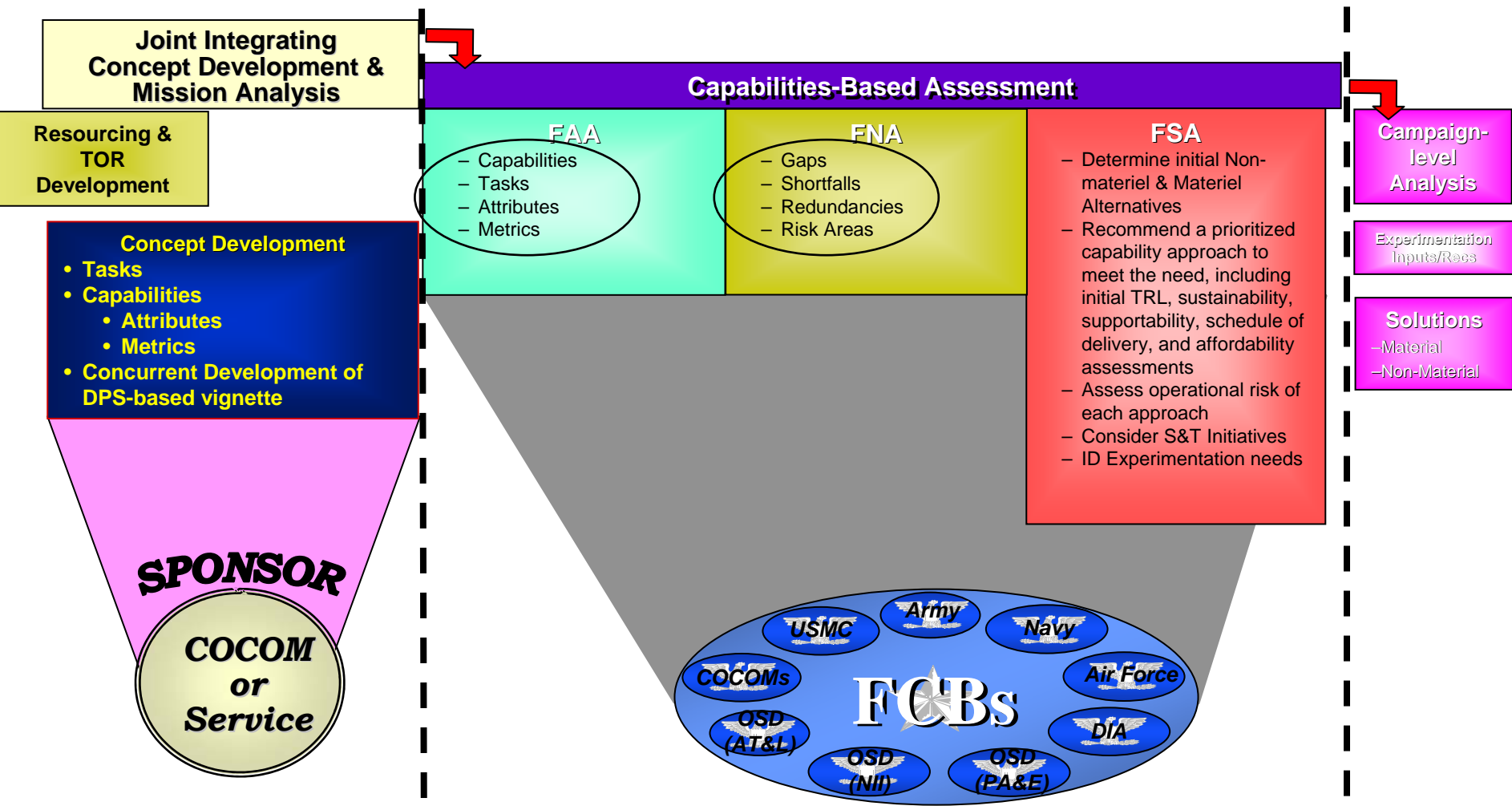
# Top-Down Capabilities-Based Process



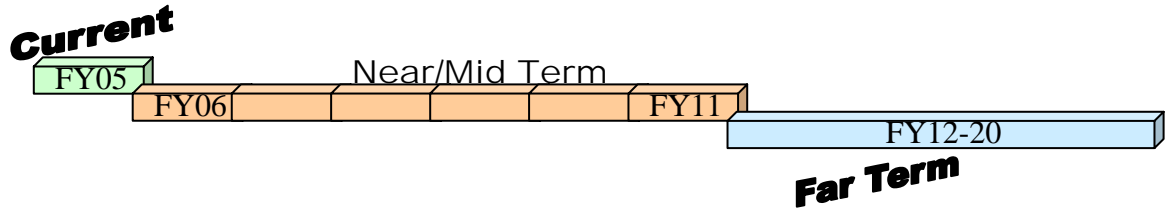
# Capabilities Based Analysis and JCIDS



# The JROC Capability-Based Assessment Process



# FNA Ratings and Analysis Timeframe



**Red** indicates little or no capability to perform the task to the designated standard(s).

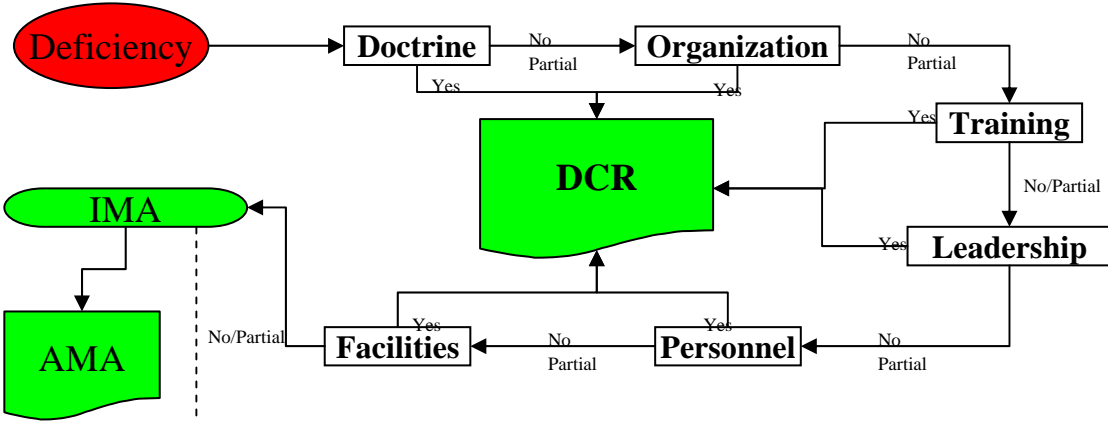
**Yellow** indicates a partial capability to perform the task to designated standard(s).

**Green** indicates a full capability to perform the task to the designated standard(s).

	Measure 1	Measure 2	Measure 3	Measure 4
System 1	Red	Yellow	Yellow	Yellow
System 2	Green	Red	Yellow	Yellow
System 3	Red	Yellow	Green	Yellow
System 4	Red	Red	Red	Yellow

*Compares what we have with what we need to do*

# FSA DOTLPF Filter for Deficiencies



Once a capability gap is exposed the primary means to repair that gap is the DOTLPF analysis.

DCR – DOTMLPF Change Recommendation  
 IMA – Ideas for Materiel Approaches  
 AMA – Analysis of Materiel Approaches

An IMA submitted through research, SMEs, and working groups is used to identify materiel approaches to provide the required capabilities. Does not define which specific systems or system components should be used.

**TASENS 2. Sense the atmosphere for biological hazards.**

Idea for Material Approach (IMA)	Mass Spectrometry	Immunoassay	Genetic	Tissue Based	Flame Photometry	Colorimetric	Raman Spectrometry	Spectroscopy
Gap 1	X	X						X
Gap 2			X	X		X		
Gap 3							X	
Gap 4		X			X		X	
Gap 5	X		X					X

Notional

*Results From the Analysis*FNA Executive Summary

	SSENS	STSENS	OPSENS	TASENS	SNSHA	STSHA	OPSHA	TASHA	SNSHLD	STSHLD	OPSHLD	TASHLD	SNSUST	STSUST	OPSUST	TASUST	OVERALL
Current	Y	Y	Y	Y	Y	Y	Y	Y	R	Y	Y	Y	R	Y	Y	Y	Y
Near/Mid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	R	Y	Y	Y	Y
Far	Y	Y	G	Y	G	G	G	Y	Y	Y	Y	Y	Y	G	G	Y	Y
Task Qty	17	9	10	17	14	11	12	32	12	11	14	14	12	14	14	30	243

Upper level assessments are a product of the assessments of many pieces and a single measure can effect the overall

# Olde Way

## 39 BCA Gaps in 19 Core Capabilities

Qty	Sense: Detection
1	Biological Stand-off Detection
2	Chemical Stand-off Detection
4	Chemical Point Detection
1	Biological Point Detection
1	CBRN Recon
1	Radiological Point Detection

Qty	Shield: Protection
2	Mobile Collective Protection
3	Medical Prophylaxes
2	Respiratory Protection
3	Percutaneous Protection

Qty	Shape: Battlespace Awareness
3	Integrated Early Warning
2	Battle Space Analysis
2	Battle Space Management

Qty	Sustain: Restoration
2	Individual Decontamination
1	Sensitive Equipment Decon
2	Equipment Decon
2	Medical Therapeutics
2	Fixed Site Decon
3	Diagnostics



# New Way

## 362 CBA Gaps in 19 Core Capabilities

Qty	Sense: Detection
4	Biological Stand-off Detection
10	Chemical Stand-off Detection
29	Chemical Point Detection
19	Biological Point Detection
N/A	CBRN Recon
21	Radiological Point Detection

Qty	Shape: Battlespace Awareness
21	Integrated Early Warning
27	Battle Space Analysis
34	Battle Space Management

Qty	Shield: Protection
41	Mobile / <b>Fixed</b> Collective Protection
21	Medical Prophylaxes
22	Respiratory Protection
30	Percutaneous Protection

Qty	Sustain: Restoration
20	Individual Decontamination
5	Sensitive Equipment Decon
33	Equipment Decon
17	Medical Therapeutics
18	Fixed Site Decon
20	Diagnostics

- **Match Programs of Record to capability gaps**
- **Assess the ability of the program of record to meet the necessary standards indicated in the metrics**
- **Complete a roadmap for CBRN Passive Defense**
- **Use this analysis and roadmap to build the Program Objective Memorandum**





# Contact Information

**W. Scott Smedley, Major, US Army**  
**8000 Joint Staff Pentagon**  
**Washington, DC 20318**  
**703-602-0871/0863**

**[William.smedley@js.pentagon.mil](mailto:William.smedley@js.pentagon.mil)**

**SIPR: [william.smedley@js.pentagon.smil.mil](mailto:william.smedley@js.pentagon.smil.mil)**