



Chemical and Biological Defense Program: Strategic Guidance

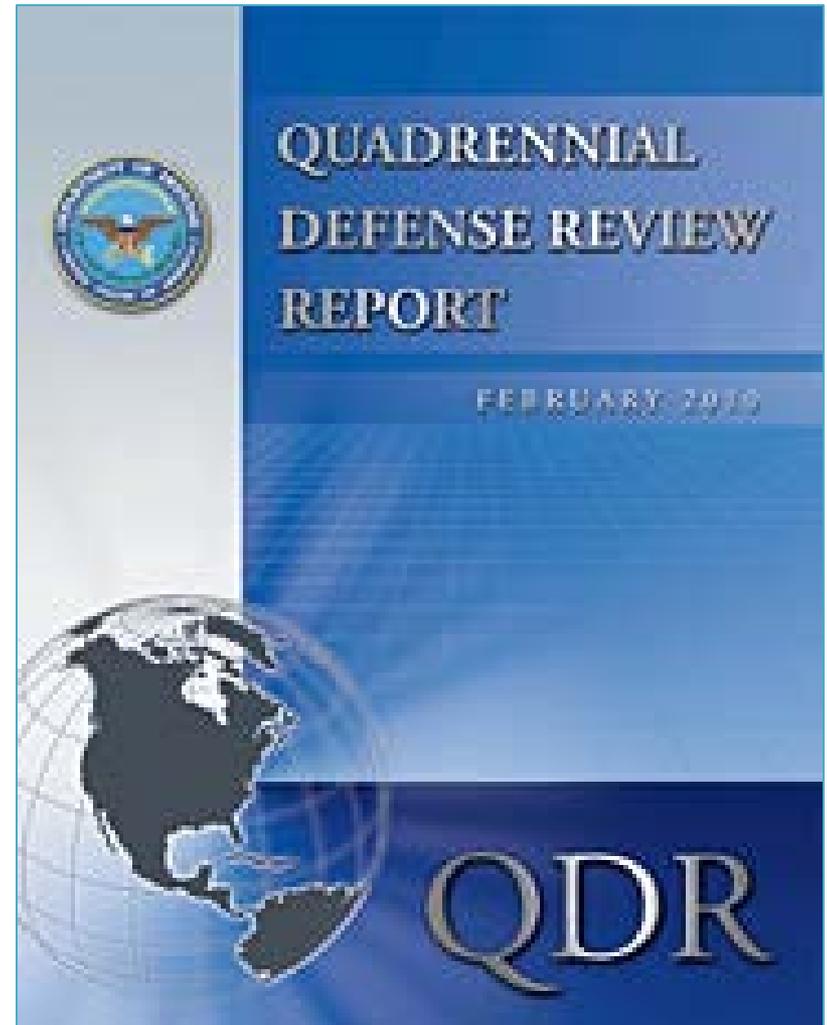
Andy Weber

**Assistant to the Secretary of Defense for Nuclear and
Chemical and Biological Defense Programs**

**Fort Leonard Wood, MO
June 23, 2010**

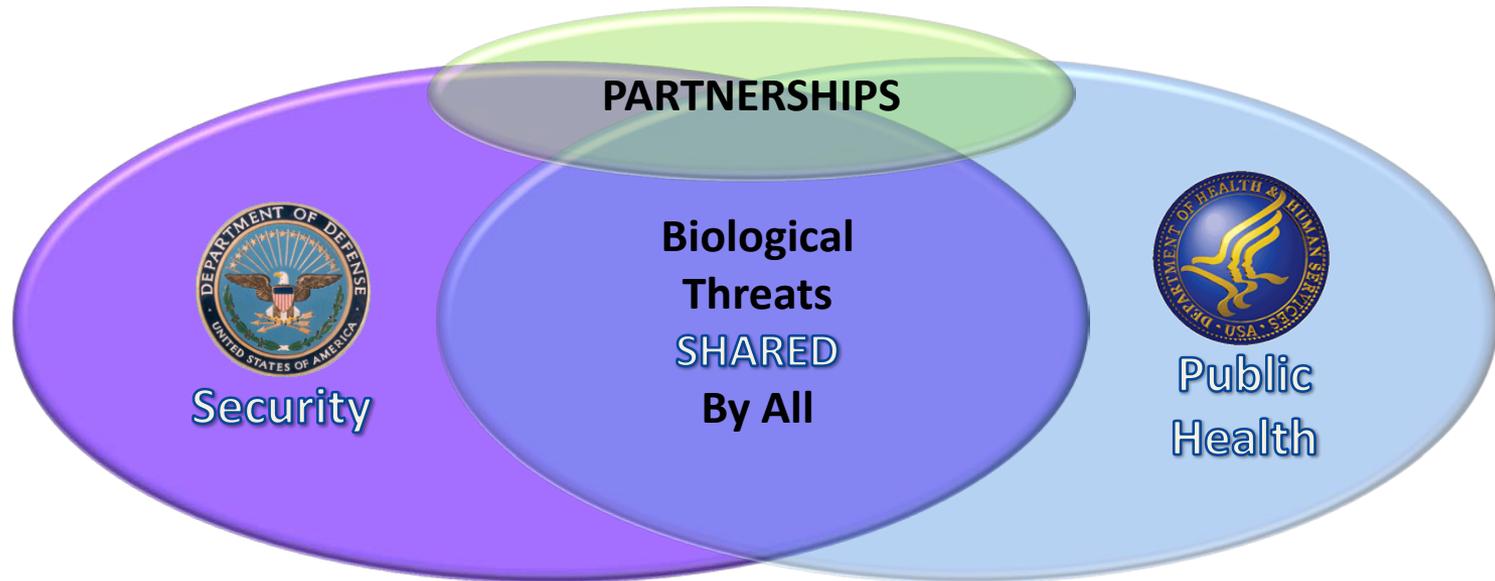
Quadrennial Defense Review

- **Defend the United States and support civil authorities at home:**
 - Improve the responsiveness and flexibility of consequence management response forces;
 - Enhance capabilities for domain awareness;
 - Accelerate the development of standoff radiological/nuclear detection capabilities; and
 - Enhance domestic capabilities to counter improvised explosive devices (IEDs).
- **Prevent proliferation and counter weapons of mass destruction**
 - Establish a Joint Task Force Elimination Headquarters to plan, train, and execute WMD elimination operations;
 - Research countermeasures and defense to nontraditional agents;
 - Enhance nuclear forensics;
 - Secure vulnerable nuclear materials;
 - Expand the biological threat reduction program; and
 - Develop new verification technologies.



Nexus of Public Health and Security

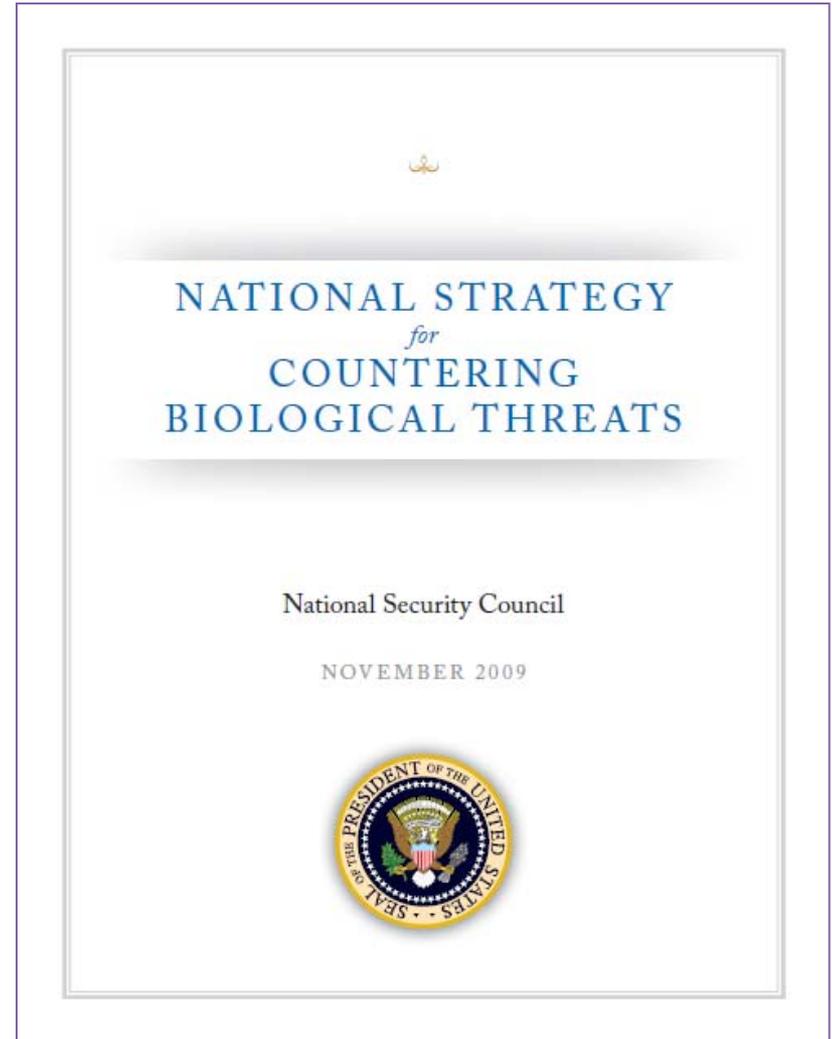
- October 26, 2009, Memorandum for the Secretaries of the Military Departments:
 - "Including Emerging Infectious Disease into the Biodefense Mission Set"



**Heightened need for global biosurveillance to
detect and prevent pandemics**

President Obama's Strategy for Countering Biological Threats

- Goal: **PROTECT** against the misuse of the life sciences to develop or use biological weapons.
- Objectives:
 - **P**romote global health security
 - **R**einforce norms of safe and responsible conduct
 - **O**btain timely and accurate insight on current and emerging risks
 - **T**ake reasonable steps to reduce the potential for exploitation
 - **E**xpand our capability to prevent, apprehend, and attribute
 - **C**ommunicate effectively with all stakeholders
 - **T**ransform the international dialogue on biological threats



Anthrax Weapons Production Facility

Stepnogorsk, Kazakhstan



Large scale fermentation. This is one of 10, 5,000 gallon fermenters. The facility had the capability to produce an estimated 300 metric tons of weaponized anthrax in eight months.



Emerging Biological Threats

- **Established Bioterrorism Programs**

- Al-Qaeda: Kandahar, Afghanistan
- Aum Shinrikyo: Tokyo, Japan

Aum Shinrikyo headquarters



Anthrax Spraying, Tokyo

<http://www.cdc.gov/ncidod/EID/vol10no1/03-0238.htm>

- **Call for BW expertise**

- Al-Qaeda public call for scientists to develop and test biological weapons



<http://www.globalsecurity.org/intell/library/imint/images/011031-D-6570C-003.jpg>

Tarnak Farms, Al Qaeda training camp, Kandahar, Afghanistan

- **Emerging infectious diseases create an unpredictable source of pathogens**



Bacillus anthrax

<http://www.cdc.gov/ncidod/EID/vol10no1/03-0238.htm>

- **Proliferation of unsafe biocontainment labs**

- In areas of high terrorist activity



Thursday 28 Sept 2006, Arab News

Al-Masri also called on scientists to join the fighting in Iraq to develop and test biological or "dirty" weapons.

http://www.globalsecurity.org/security/profiles/images/abu_ayyub_al-masri_1.jpg

- **WMD Commission:**

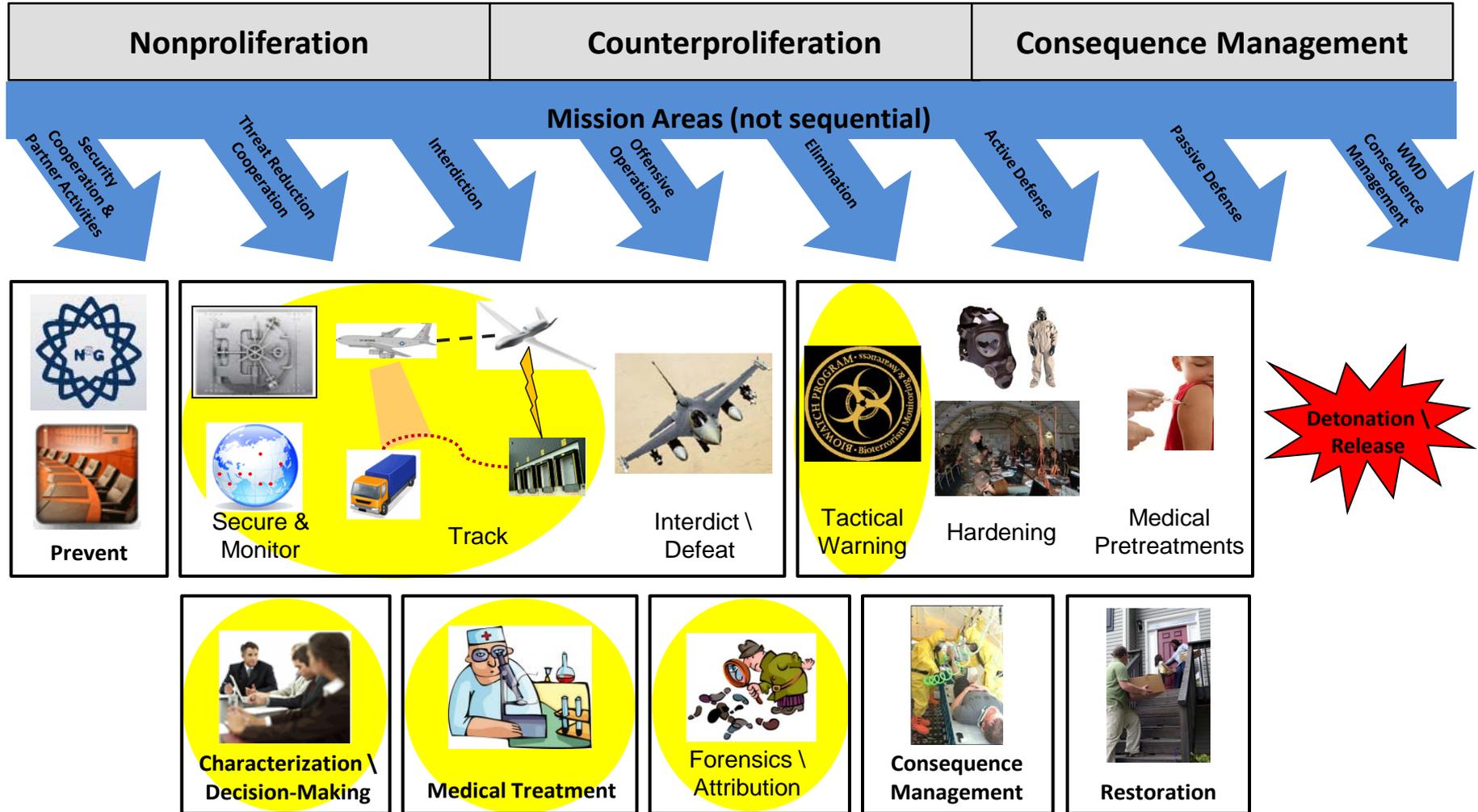
- Biological attack more likely than nuclear

Chem Bio Defense Program

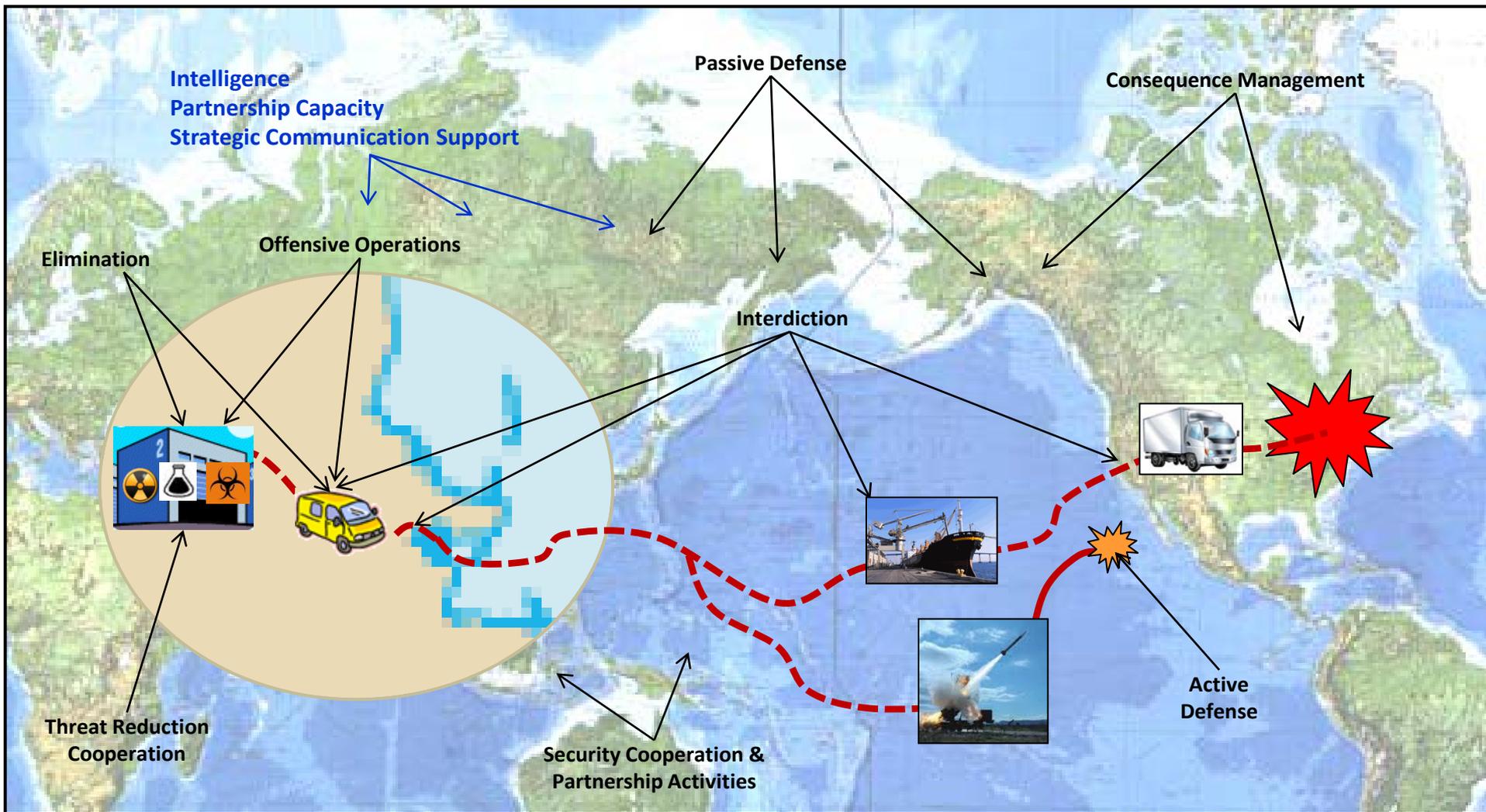
Old: Ensure DoD Operations are unconstrained by CBRN effects

New: Counter Biological and Chemical Threats

Prevent Proliferation and Counter WMD Capabilities Mapping



Prevent Proliferation and Counter WMD Operational View



Reducing the Threat at the Source

- Dismantle, consolidate, and secure
- Prevent proliferation, increase transparency and improve standards of conduct
- Build relationships

Priority Obama administration initiatives:

- Countering Biological Threats
- Global Nuclear Lockdown

Biological Threat Reduction Program: Initial Work in the Former Soviet Union

Country-wide laboratory networks confirming diagnoses and conducting research at biosafety levels 2 and 3

Below– Reference Lab in Georgia (2010)



- Objectives:
 - Collection consolidation
 - Safety and security
 - Detection, diagnosis, reporting
 - Sustainability
- Initial Programs in Kazakhstan, Ukraine, Russia, Armenia, Uzbekistan, Georgia, Azerbaijan
- Cooperative Biological Engagement: Global expansion

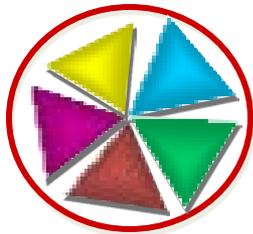
Bio-Surveillance

- Importance of bio-surveillance for DoD
 - DoD deploys forces into areas where unusual diseases are endemic
 - Many naturally-occurring pathogens are well-suited to use by an adversary
 - DoD must be ready to help in response to pandemics, whether natural (H1N1) or not (smallpox)
- Advanced/Prompt analysis and diagnostics

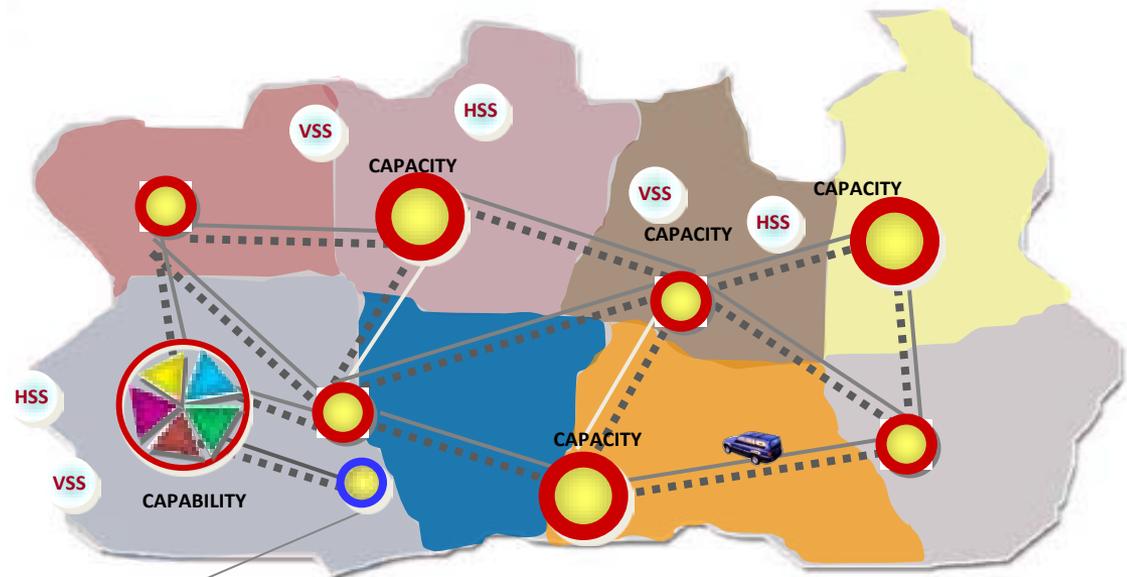
“The key to recognizing new or emerging infectious diseases, and to tracking the prevalence of more established ones, is surveillance.”

Emerging Infections: Microbial Threats to Health in the United States (1992)

Global Disease Surveillance Network



National-level laboratory oversees integrated veterinary/human health surveillance system



A national response team is deployed to fight outbreaks when regional resources are not sufficient

Emerging Infectious Disease/ Pathogen

Human diseases/pathogens	Animal diseases/pathogens
Influenza*	Foot and mouth disease
Anthrax*	Rinderpest
Brucellosis*	Sheep, Goat and Camel pox
Plague*	Anthrax *
Tularemia*	Brucellosis *
Crimean-Congo Hemorrhagic fever*	Newcastle disease*
Tick-borne encephalitis	Avian Influenza*
Fevers of Unknown Origin requiring hospitalization	Glanders*
Flu-like Symptoms requiring hospitalization	Swine fevers
	Diseases of Unknown Origin

* Denotes zoonotic pathogen (transferable between humans and animals)



Regional Laboratories



Hospital Sentinel Site



Veterinary Sentinel Site



National Response Team



Electronic Disease Surveillance System



Transportation

Obama Administration Initiative on Medical Countermeasures

"We are launching a new initiative that will give us the capacity to respond faster and more effectively to bioterrorism or an infectious disease – a plan that will counter threats at home, and strengthen public health abroad."

President Barack Obama, January 28, 2010

- Systems-biology approaches, multiple use products, and platform-based solutions
- Regulatory Science and Innovation - Create licensure pathways that are more predictable, transparent, and faster

Countering Chemical Threats

- NTA Rapid Fielding Initiative
- Equipping Specialized CBRN Units
- Chemical Prophylaxis & Therapeutics
 - Bioscavenger Increment 2
 - Improved Nerve Agent Treatment System



Consequence Management

- 2010 QDR: Faster, more flexible CM response forces
- Foreign CM: Building partner capacity
 - Reduce response time - country can respond itself
 - Synchronize foreign CM response training and education with ongoing CWMD efforts
- Supporting state and local authorities
 - Interagency support

Conclusions

- Global security and public health communities working together to advance common goals
- Increase focus on emerging biological threats
 - Infectious Disease
 - Surveillance and prevention networks
 - Advanced Medical Counter Measures / Diagnostics
- Consequence Management

“The question why a preventable disease is not prevented applies to the civil population as well as to Armies.”

BG George Stenberg, US Army Surgeon General, 1893-1902



BACK - UP

The Global Partnership

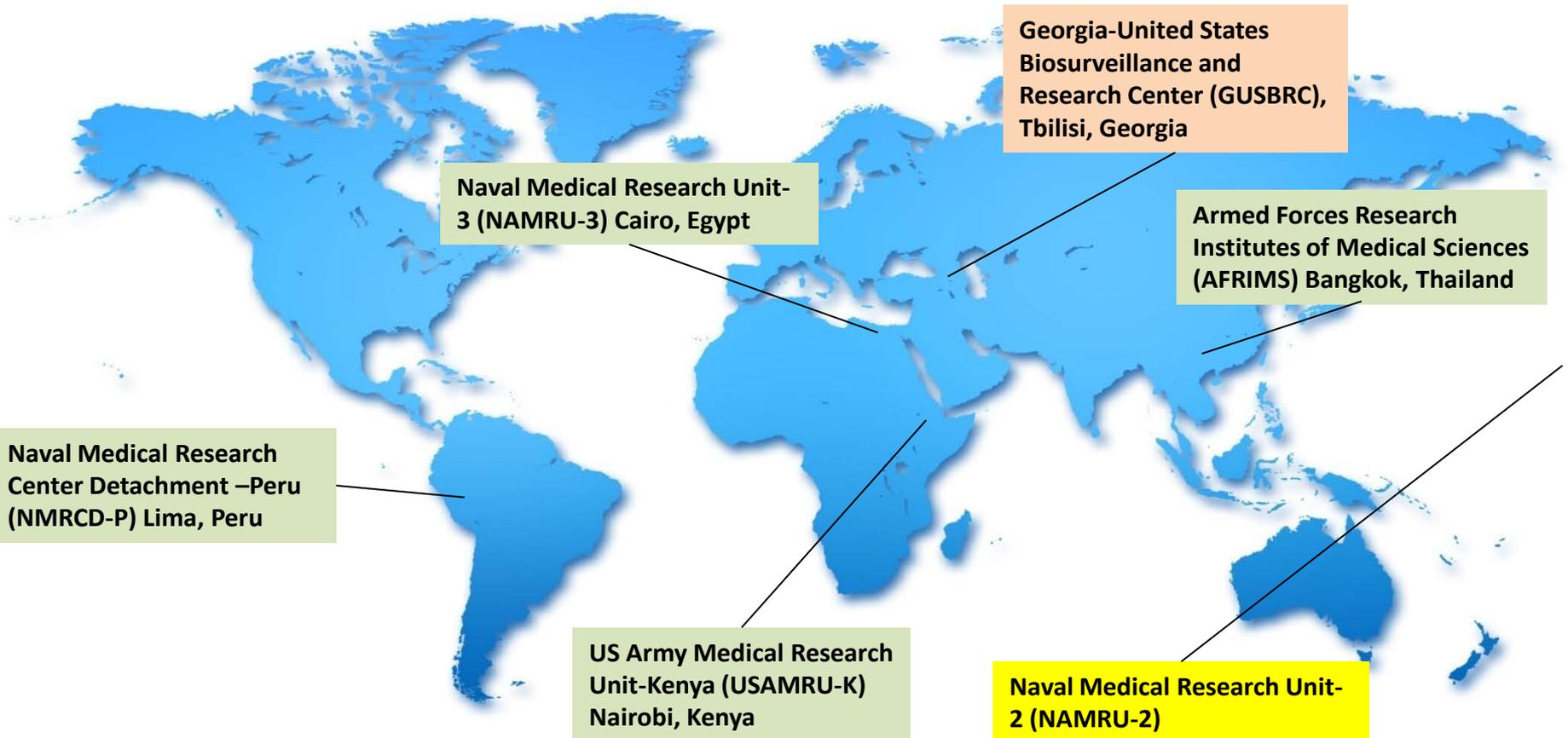
- The G8 launched the *Global Partnership Against the Spread of Weapons and Materials of Mass Destruction* at the 2002 Kananaskis Summit
- G8 Leaders committed to prevent terrorists, or those that harbour them, from acquiring or developing weapons and materials of mass destruction
- The Global Partnership's current mandate is ten years, with an initial focus on Russia and the former Soviet Union
- 2010: Extend GP beyond 2012, including focus on countering the global biological threat.



DoD Overseas Laboratories

Facilities contribute to the Biodefense mission

- Global Emerging Infectious Disease Surveillance (GEIS)
- Vaccine Trials
- Diagnostic Field Testing



CTR Scorecard

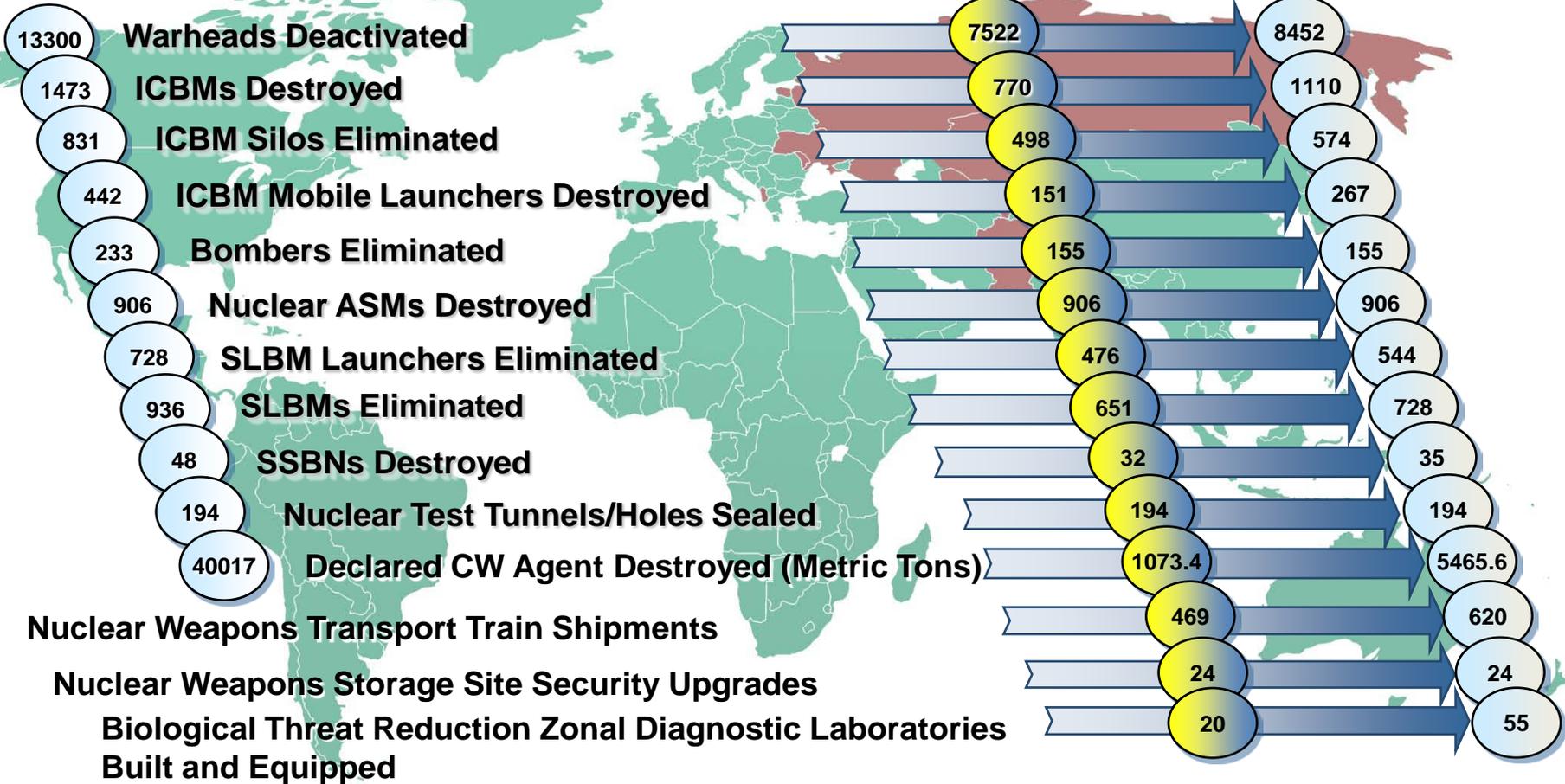
Ukraine, Kazakhstan, & Belarus are Nuclear Weapons Free

Albania is Chemical Weapons Free

Amounts in Former Soviet Union & Albania circa. 1994

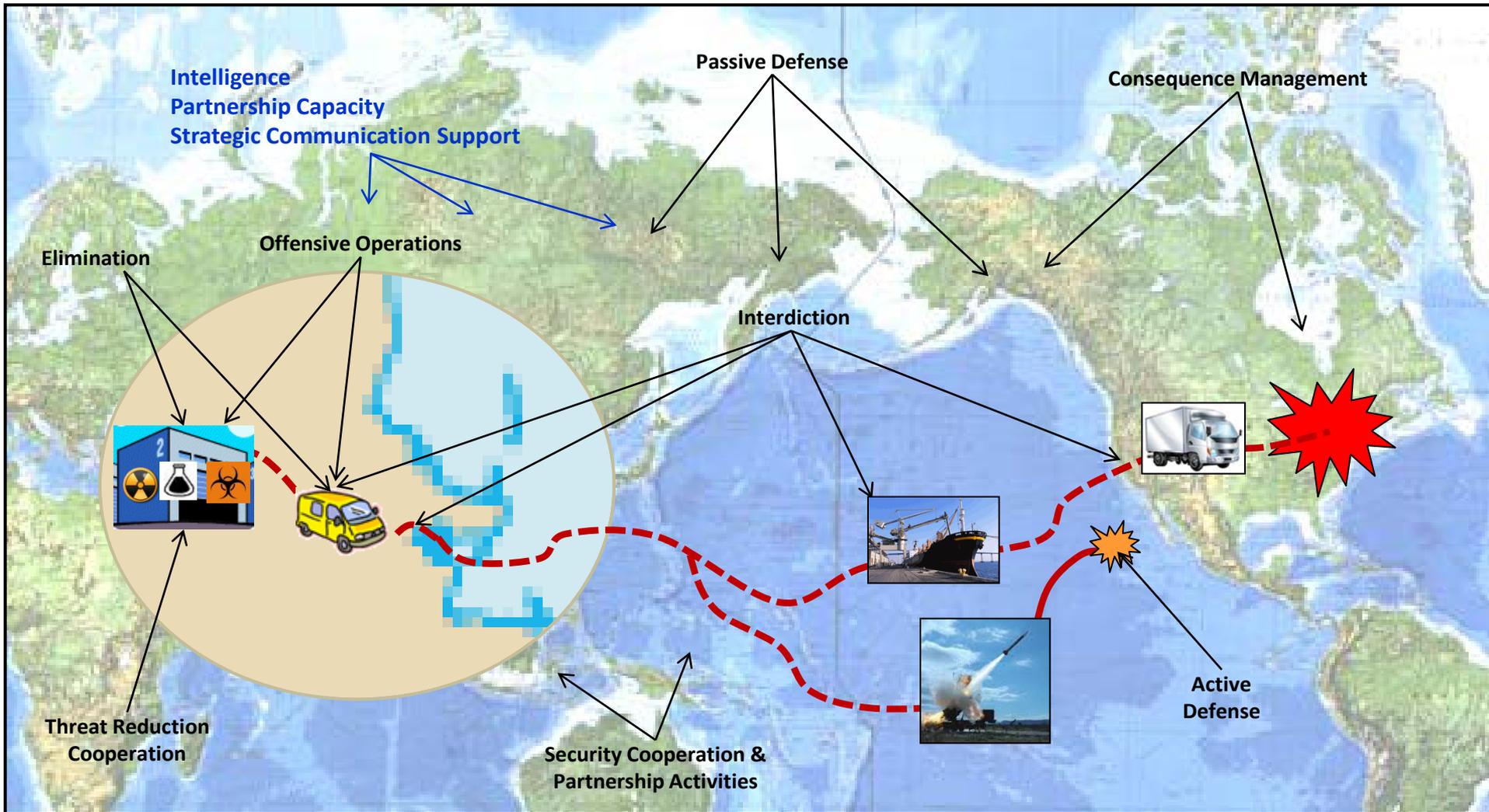
Reductions a/o Feb 12, 2010

2012 Target*



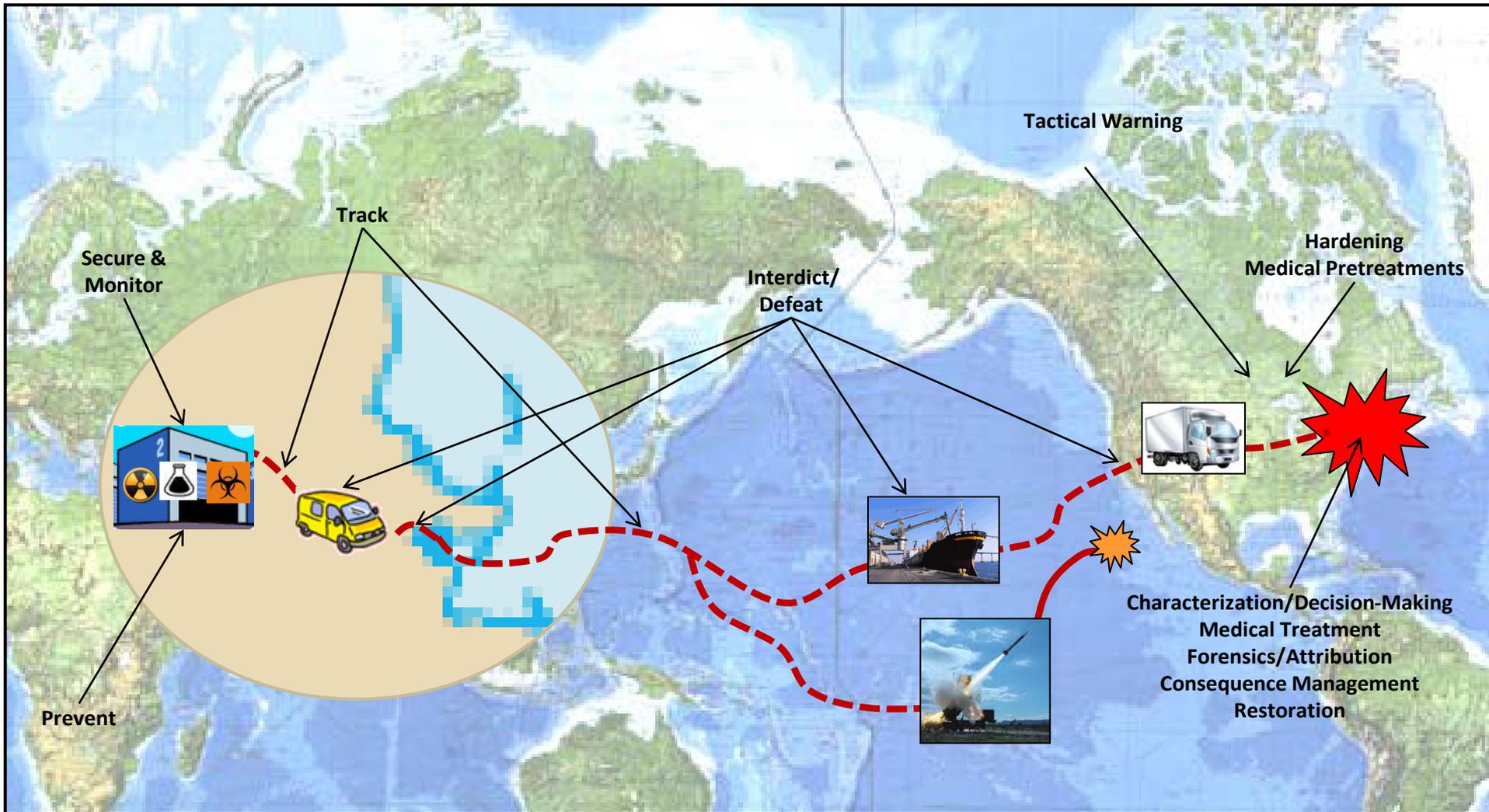
 CTR partner states
 Rest of the world

Prevent Proliferation and Counter WMD Operational View



Prevent Proliferation and Counter WMD

Capability Areas



Nuclear Security Vision

- Maintain a safe, secure, and effective arsenal
 - Reduce the role of nuclear weapons in the national security strategy
 - Reversing neglect of the nuclear deterrent
- Ensure that terrorists never acquire a nuclear weapon
 - “This is the most immediate and extreme threat to global security”

President Barack Obama

Prague Speech, April 5, 2009