

DEFENCE



DÉFENSE

## Public Security S&T Research Challenges in Canada

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[www.css.drdc-rddc.gc.ca](http://www.css.drdc-rddc.gc.ca)



Defence R&D  
Canada

R et D pour la défense  
Canada

Canada



## DRDC Centre for Security Science

- Created in 2006 as a joint initiative of Public Safety Canada and Defence R&D Canada and working on behalf of >20 Public Security S&T federal departments and agencies as program partners
- ...to strengthen Canada's ability to prepare for, prevent, respond to and recover from high-consequence public safety and security events through science and technology



# Current Program Investments

- CBRNE Research and Technology Initiative (CRTI)
  - Budget 2001: \$175M for 5 years, renewed in 2006
- DRDC Counter-Terrorism Technology Centre (CTTC)
  - Budget 2001: \$3M/year on-going
- Public Security Technical Program (PSTP) Secretariat
  - Budget 2005: \$15.5M for 5 years
- Canadian Police Research Centre (CPRC)
  - Budget 2007: \$25M for 5 years

Partner contributions effectively double this



# Program Partners

- Canada Border Services Agency
- Canadian Food Inspection Agency
- Canadian Nuclear Safety Commission
- Canadian Security Intelligence Service
- Canadian Space Agency
- Communications Research Centre Canada
- Communications Security Establishment
- Environment Canada
- Fisheries and Oceans Canada
- Health Canada
- National Defence
- National Research Council Canada
- Natural Resources Canada
- Public Safety Canada
- Public Health Agency of Canada
- Royal Canadian Mounted Police
- Transport Canada

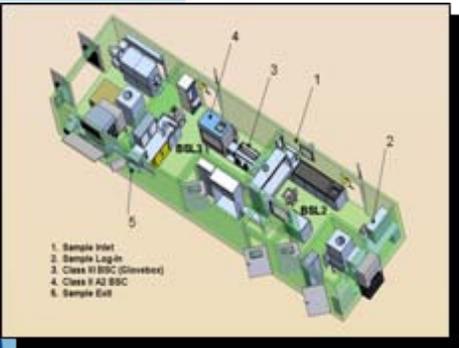
... and provincial and municipal first responders

...and academia, industry and international partners



# Some examples of work completed

- Intelligence/Scientific Consolidated Risk Assessment
- National First Responder CBR Specialist Training
- “Dirty Bomb” Preparedness
- National Disease Surveillance Capability
- First Responder Personal Protection
- Forensic tools for CBRNE incidents
- Incident management tools
- On-line “knowledge repository”





## Current Challenges

- Shift of focus from specific terrorist threats (CBRN) to an all-hazards approach
- Managing across multiple departmental boundaries and mandates
- Targeting limited investment funding to ensure the best results for the nation
- Exploitation of S&T to maximize impact on operational capability of responders, emergency planners, and end-users in the private sector



# Expansion into Broader Public Security S&T

## CBRNE Defeat

- Chemical Defeat
- Biological Defeat
- Radiological/Nuclear Defeat
- Explosives Defeat
- Forensics

## Critical Infrastructure Protection (CIP)

- Infrastructure Vulnerability Assessment and Monitoring
  - Infrastructure Resiliency
- Natural Disaster Alert and Mitigation
  - E-Security

## Surveillance, Intelligence and Interdiction (SI<sup>2</sup>)

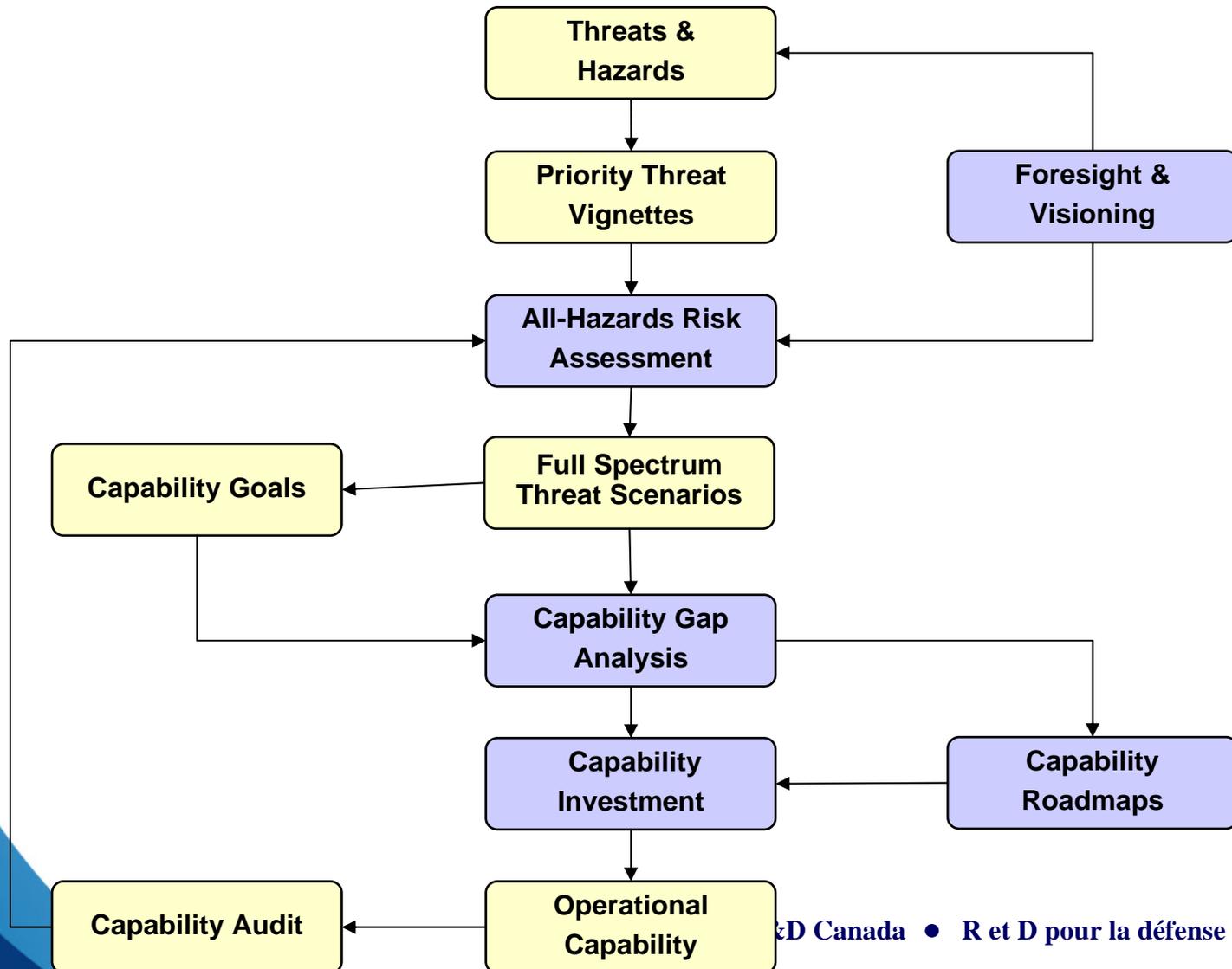
- Integrated Communications, Intelligence and Surveillance
- First Responder, Policing and Officer Safety
  - Border and Transportation Security
  - Maritime Security

## Emergency Management & Systems Integration (EMSI)

- Risk and Vulnerability Assessment
- Integrated Emergency Management Systems
  - Interoperability, Standards, Modeling and Decision Support
  - Modelling & Simulation
    - Human Factors
  - Search and Rescue



# Capability Based Planning for S&T Investment





# Some Potential Future Investment Areas

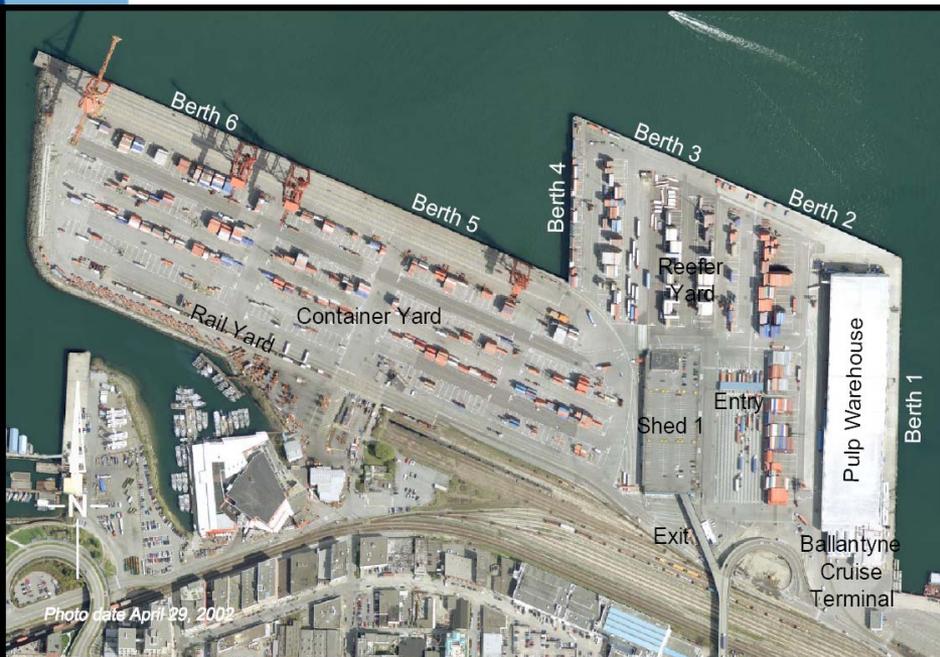
- Food Safety
- Explosives - Threat & Capabilities
- North American Nuclear Detection Architecture Vulnerability and Risk Assessment
- Criminal & National Security Investigation (Forensics)
- Biometrics
- Data/Radio Interoperability
- Emergency Management System Architectures
- Marine Security (including the Arctic)
- Aviation Security
- E-Security



# Exercise Initial Thunder - Feb 08

- Full Scale CBR, field exercise involving twelve Federal Departments, along with BC provincial and municipal organizations
  - Federal participants include AECL, CBSA, CNSC, DRDC, DND, EC, HC, NRCan, PHAC, PS, RCMP, and TC
  - Provincial/Municipal participants include: Vancouver Port Authority, BC Center for Disease Control, BC Ambulance Service, BC Provincial Emergency Program, Vancouver Fire and Rescue Service, Vancouver Police Department

## Vancouver Port (Centerm)



## Victoria (CFB Esquimalt)





This is my  
current personal  
challenge

13.6 feet and  
counting!!

