

Nuclear Forensics Cooperation

-- Reviewing Frameworks, Goals & Capabilities

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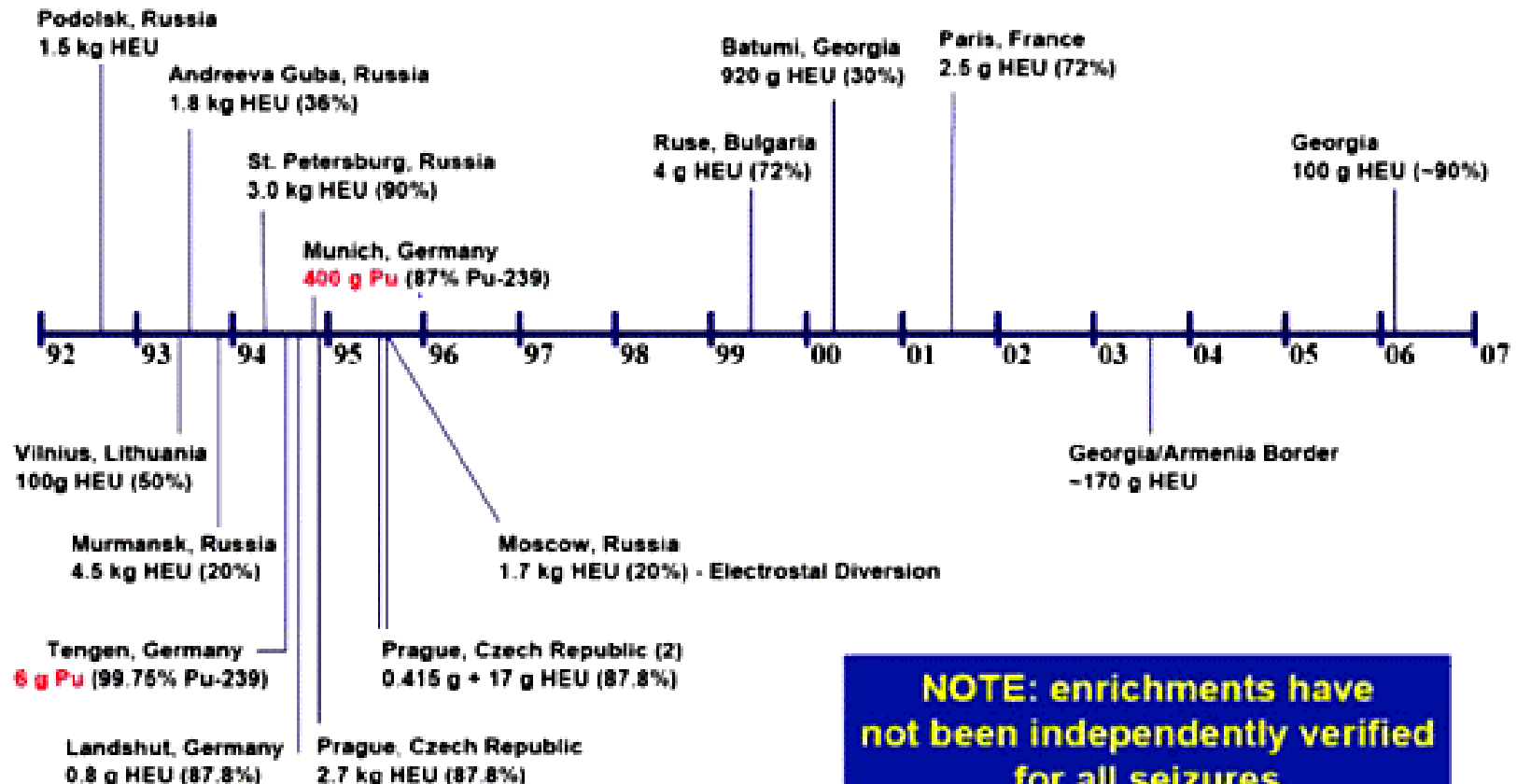
Overview

- ▶ Need for Cooperation
- ▶ Goals of Cooperation
- ▶ Cooperation & Capabilities Vary
- ▶ International Frameworks
- ▶ National Forensics Libraries



Smuggling Trends

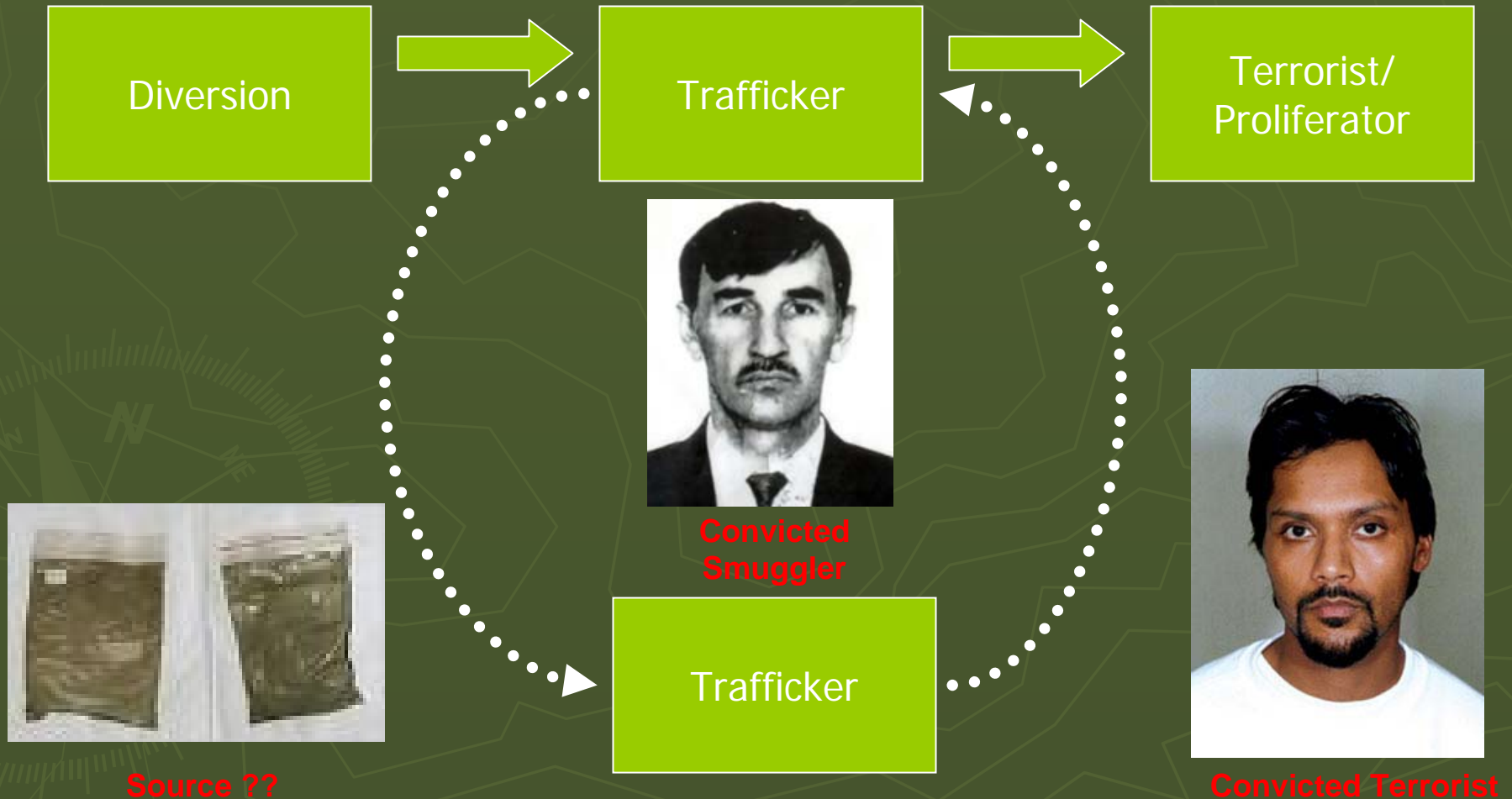
Reported weapons-usable nuclear material seizures



NOTE: enrichments have not been independently verified for all seizures

As of September 21, 2007

Life Cycle of Smuggling



Definition

Nuclear forensics is ...

- ▶ Analysis to determine the physical, chemical, elemental and isotopic characteristics of nuclear or radiological material.
 - help determine age and production process
 - also used to compare illicitly trafficked material with known samples



Nuclear forensics is not ...

- ▶ Attribution -- a process that uses results of forensic analyses and combines them with other law enforcement or intelligence information to help form conclusions about the origin of illicitly trafficked material.

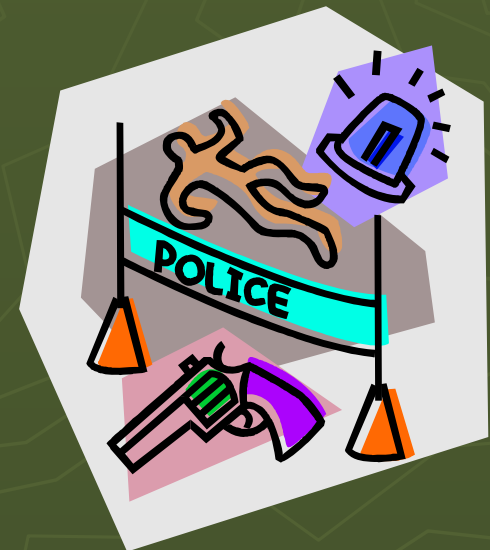
Goals for Cooperation

- ▶ Best Practices
- ▶ Analysis/Safeguards
- ▶ Prosecution
- ▶ Attribution
- ▶ Deterrence



Cooperation Varies by Incident

- ▶ Prosecution of a smuggler
 - Categorize material
 - Present evidence
- ▶ Investigation of Diversion
 - Detailed characterization
 - Compare samples



Capabilities Vary

▶ Core Capabilities

- National Response Plan
- Ability to categorize material
- Ability to transport, store and present at trial
- National Forensics Library

▶ Useful Capabilities

- Ability to interpret data
- Ability to characterize material
- Ability to develop investigative leads

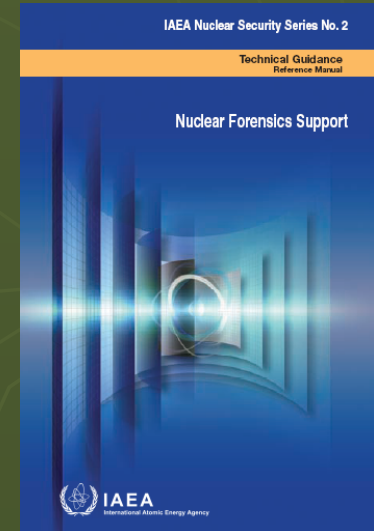
▶ Cutting Edge Capabilities

- Perform sophisticated analysis



International Frameworks

- ▶ ITWG
 - Round Robins, Best Practices
- ▶ IAEA
 - Guidelines
- ▶ Global Initiative to Combat Nuclear Terrorism
 - Build Capabilities, Political Mandate



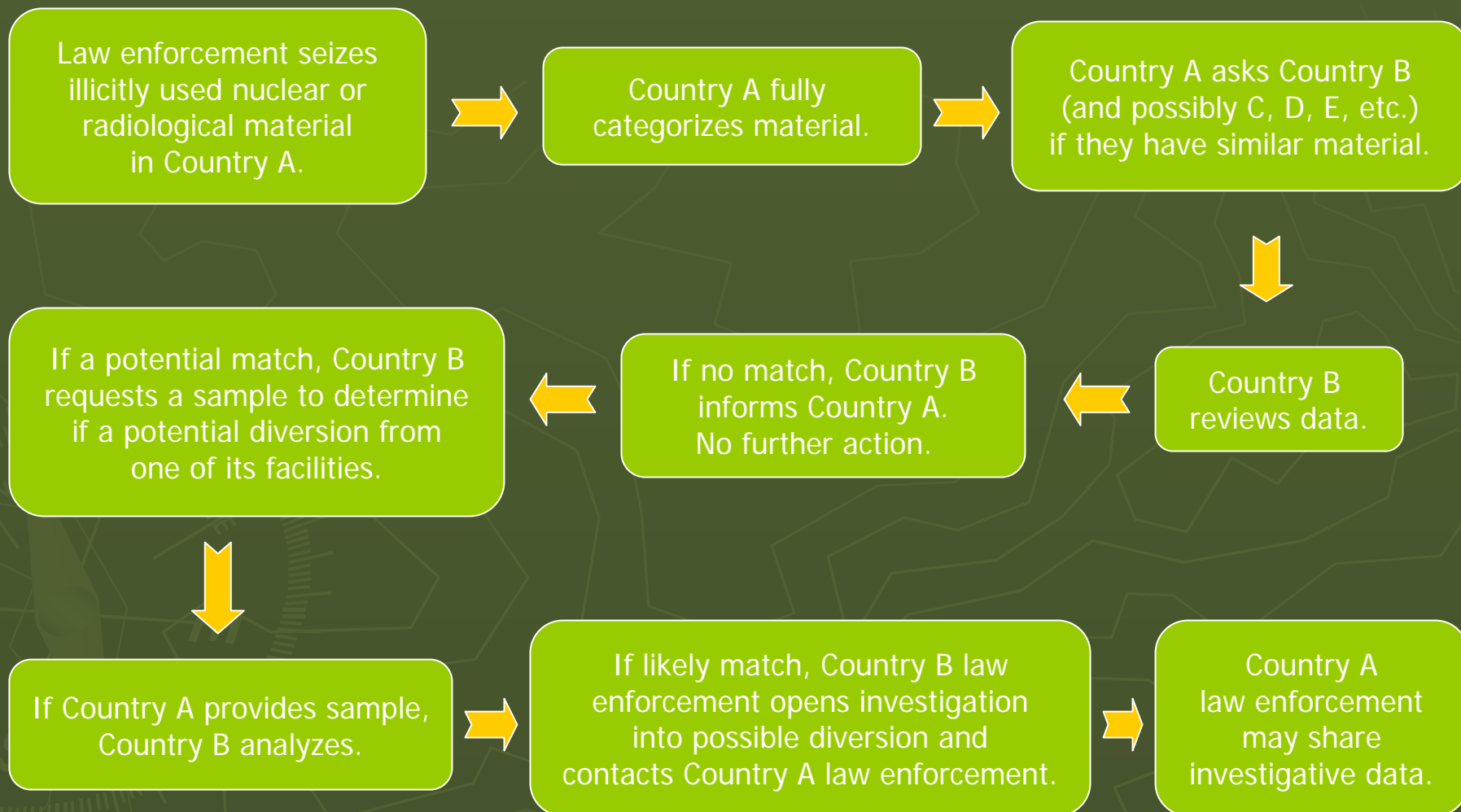
*Need framework to promote cooperation
between governments to investigate illicit uses of
nuclear or radiological material*

Problem

How does a law enforcement officer in Country A contact an atomic energy experts in Country B about an illicit activity involving nuclear or radioactive material?



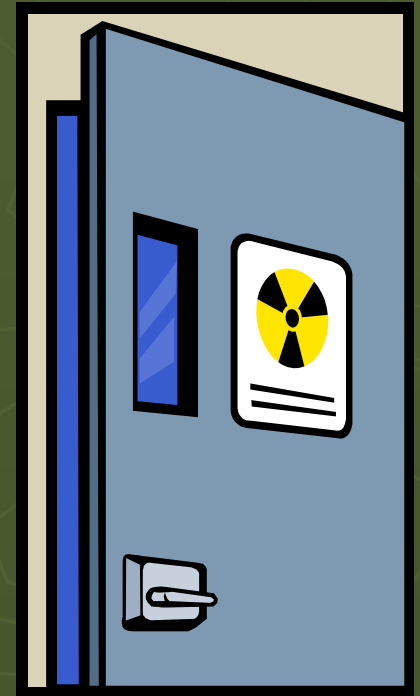
Process



Vision

- ▶ System of National Forensic Libraries
 - Library contains data on a countries nuclear and radiological materials
 - National Points of Contact
 - Procedures making queries and sharing samples if necessary

A system of national databases has the greatest opportunity for near-term progress for a problem that requires attention now.



Next Steps

- ▶ Need input from law enforcement and atomic energy experts
- ▶ Define procedures & common data structure
- ▶ Develop political support, e.g. through GI and other organizations

