

Workshop on Chemical, Biological, Radiological and Nuclear Research,  
9-10 Nov 2010

'CBRN PROTECTION EQUIPMENT, MEDICAL COUNTER-MEASURES,  
DECONTAMINATION'

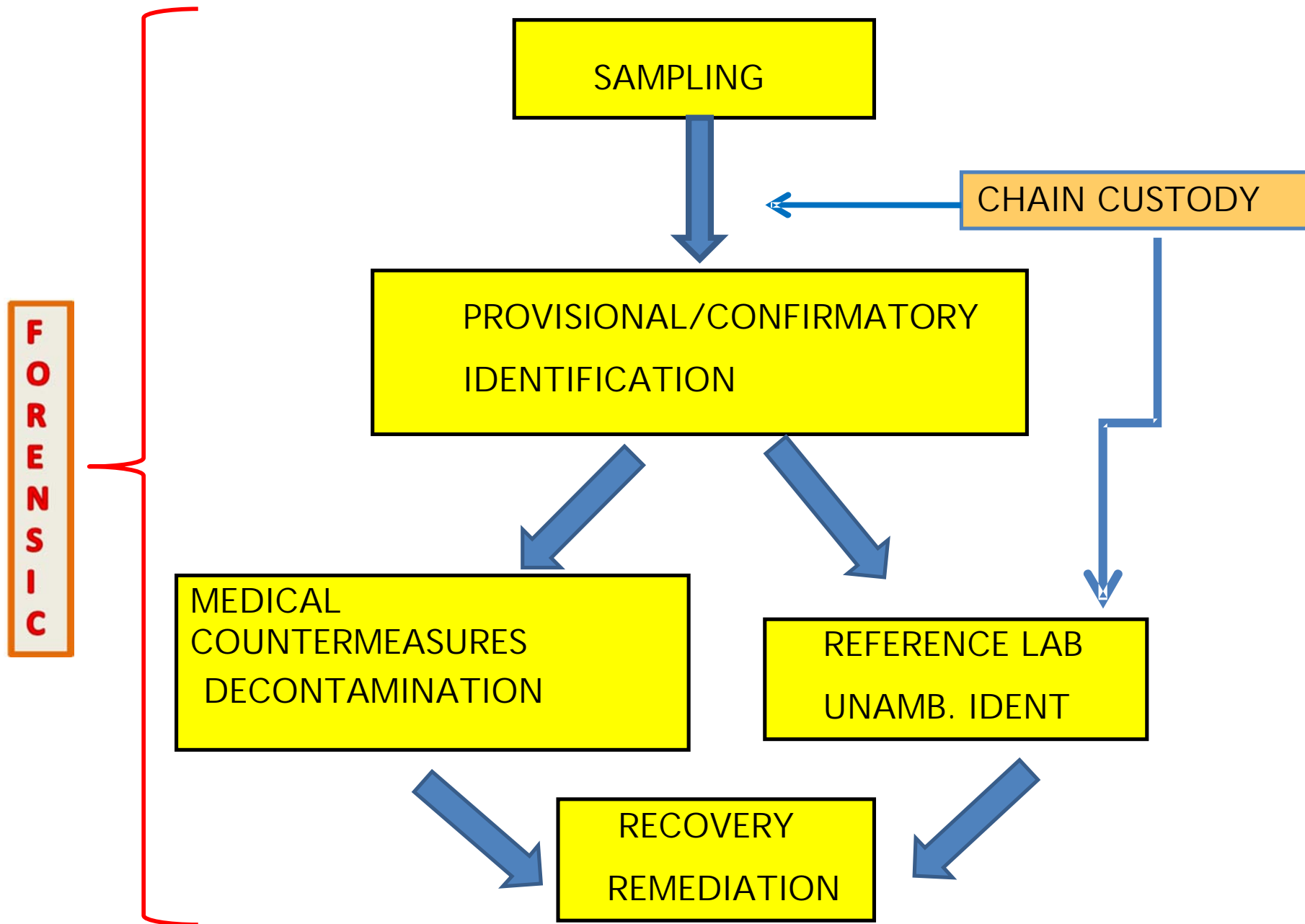
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# CBRN PROCESS



# National CBRN capability

	RAD DETECTION	RAD IDENT	BIOL DETECTION	BIOL IDENTIFIC	CBRN SAMPLI	CHEM DETECT	CHEM IDENTIF	CBRN RECO VEHICLE	INDIVID PROTECT	COLECTIV PROTEC	INDIV DECO	COLECTIV DECO	CHEM STAND OFF DET
NAVY	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES	YES	YES	NO
AIR FORCE	YES	YES	NO	YES	YES	YES	NO	NO	YES	YES	YES	YES	NO
ARMY	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
POLICE	YES	YES	NO	YES	YES	YES	NO	NO	YES	NO	YES	NO	NO
CIVILIAN FORCES (1)	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	NO
CIVILIAN FORCES (2)	YES	NO	NO	YES	YES	YES	NO	NO	YES	NO	YES	YES	NO
HEALTH SERVICES	YES	NO	NO	NO	NO	YES	NO	NO	YES	NO	YES	YES	NO

## SCENARIOS

**NUCLEAR FIELD:** accident/incident in nuclear facilities, nuclear power plants, transportation of radiological material.

**RADIOLOGICAL FIELD:** Sabotage of radiological facilities, scrap. Transportation, theft / loss of sources (RDD).

**BIOLOGICAL FIELD:** grown and transport of biological warfare agents.

**CHEMICAL FIELD:** use of chemical warfare agents by terrorist groups, accidents in chemical facilities, transportation and use of TICs.



PREVENTION

## NEEDS ON PREVENTION

**PASSIVE AND INTEGRATED DETECTION SYSTEMS** with high resolution and fast response, located in critical places.

**DETECTION CBRNE**: of radioisotopes, bio and chemical agents, and precursors of explosives.

Equipment easy handling, capable of work in explosive atmospheres and easy decontamination.

**MODELING SYSTEMS** for setting up infrastructures and assessment of consequences.



# INTERVENTION



## INTERVENTION (I)

**MOBILE AND PORTABLE** detection and identification devices.

**ROBOTIC DEVICES** with capability of sampling and stand off detection.

**PERSONAL PROTECTIVE EQUIPMENT:** ergonomic, higher protection, versatile, less volume and weight, possibility of internal cooling.

Which are currently are difficult to operate, with low visibility and complex use.

**INDIVIDUAL BREATHING APPARATI** with the same features of the above item. At present, respiratory protective equipment have reduced autonomy in terms of time and mobility.

**VEHICLES** for recognition, analysis and remediation.





## INTERVENTION (II)

**FORENSIC COLLECTION** and transport of contaminated samples, containers easily handling with protective suits.

**MOBILE SYSTEMS FOR COLLECTIVE DECONTAMINATION**  
easily transportable.

**DECONTAMINANT OR NEUTRALIZING PRODUCTS** of a broad spectrum, suitable for most pollutants, people and objects, and able to decontaminate degradation products.

**EQUIPMENT/VEHICLES FOR EVACUATION OF PEOPLE** in a CBRNE environment.



MANAGEMENT



# MANAGEMENT OF AN INCIDENT

**MODELING SYSTEMS** to understand a CBRNE release, with proper algorithms to follow the evolution of the aggressive release and for decision-making.

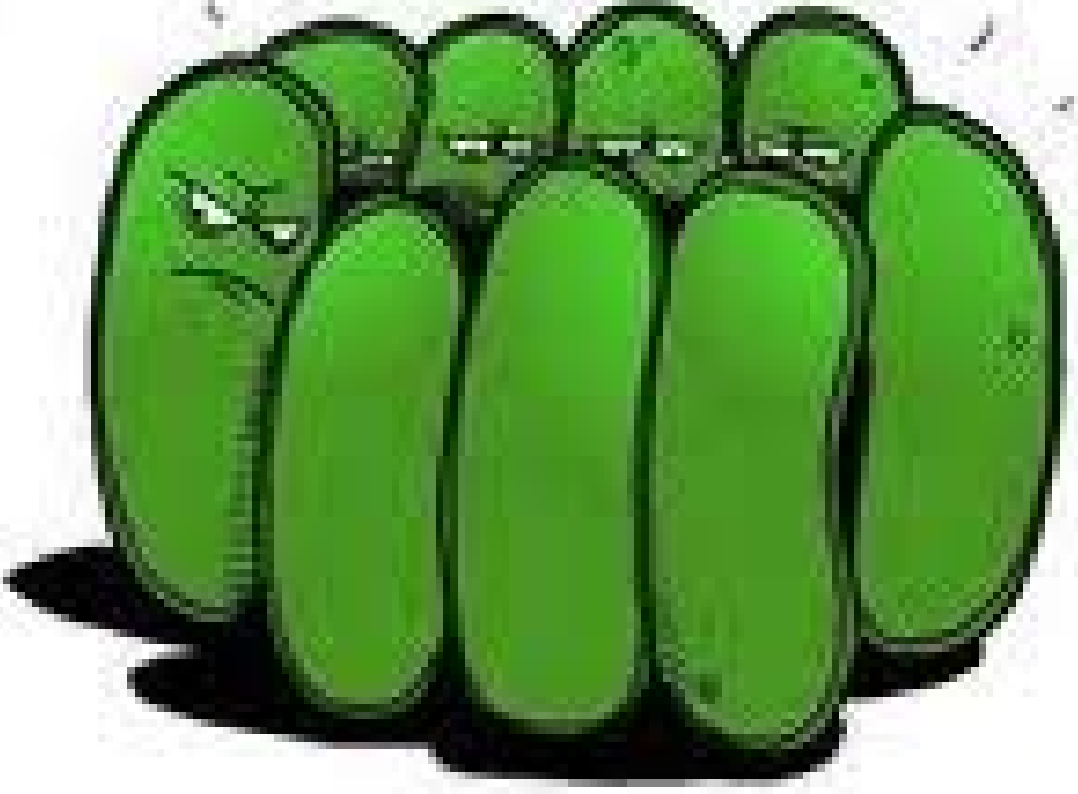
**MANAGEMENT CENTER** for critical situations in mobile units.

**DATA TRANSMISSION** specific networks.

# CHALLENGES

- CBR STAND-OFF DET for critical infrastructures.
- DEPLOYABLE C, B AND R LABS for inamb. identif.
- CBRN-UAV/UGV (recco, sampling, detect, ident, deco).
- MODELLING SYSTEMS for prevention and training.
- EUROPEAN PROGRAM for aquisition of CBRN reagents.
- EUROPEAN CBRN Databases (EDA: Database of B-Agents).

IS IT BECAUSE I'M  
GRAM NEGATIVE?



Cartoon  
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Thank you for your attention