Critical response in Security and Safety Emergencies

http://www.crisys-project.eu/

Răspunsul Critic pentru Situații de Urgență în domeniile Siguranță şi Securitate - proiectul european CRISYS

interdependenta dintre infrastructura critica din sectoarele energie si transporturi

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INTERNATIONAL CONFERENCE

PROTECTIA INFRASTRUCTURILOR CRITICE

PROTECTION OF CRITICAL INFRASTRUCTURE IN TRANSPORT FIELD
COOPERATION BETWEEN THE PUBLIC SECTOR, BUSINESS AND CIVIL SOCIETY

The CRISYS Project

Part of EU Research Seventh Framework Programme (FP7)

- Theme 10 – **Security**
  - Activity 10.4 – Restoring security and safety in case of crisis.
    - Area 10.4.1 – Demonstration Programme
      - Topic 10.4.1-1 – **Aftermath Crisis Management – *Phase I***

- Two studies looking at same topic – **ACRIMAS** and **CRISYS**

Study Period : 1 February 2011 End: 31 May 2012 - Duration: 16 months

TWO Phases

- ***Phase1*** : **Produce Strategic Roadmap**
- ***Phase2:*** **Demonstrate an integrated and scalable Crisis Management System capable of implementation**

Consortium

EUROPEAN ORGANISATION FOR SECURITY	EOS	BE
EDISOFT SA	EDI	PT
CENTRE FOR SECURITY STUDIES	KEM	GR
NATIONAL CENTRE FOR SCIENTIFIC RESEARCH	NCSR	GR
ALTRAN BV	ALT	NL
INTERNATIONAL FIRE AND RESCUE SERVICES ASSOCIATION	CTIF	GE
TELETRON EURORICERCHE SECURITY ENGINEERING	TLT	IT
INDRA	IND	SP
THALES	THA	FR
FINLAND MINISTRY OF INTERIOR [RESCUE SERVICES]	FMOI	FI
UNIVERSITY OF CENTRAL LANCASHIRE	UCL	UK
SOCIETE FRANCOISE DE MEDICINE DE CATASTROPHE	SFMC	FR
INSTITUTO AFFARI INTERNAZIONALI	IAI	IT
ZANASI ALESSANDRO	ZAN	IT
TRANSELECTRICA	TRA	RO

⊙	Coordinator
⊙	Suppliers
⊙	Public bodies
⊙	R&D centers

15 partners: public authorities, research institutions, industries, consultancies and NGOs
12 countries

European Context

- There is an **increasing frequency** of natural and manmade disasters
- European Parliament and Commission aspiration to **improve** EU civil protection response both within and outside Europe [links ECHO-EEAS-ISS]
- Recognition of the **sovereign role of Member States** through the **principle of subsidiarity** and desire for mutual support at times of crisis through **principle of solidarity**
- Current **ad hoc approach** of **sharing resources by volunteering** response modules is seen as **partially effective**
- Proposals being discussed involve a **more planned response capability**

European Focus

Increasing Risk

Climate

Hydrological

Meteorological

Geophysical

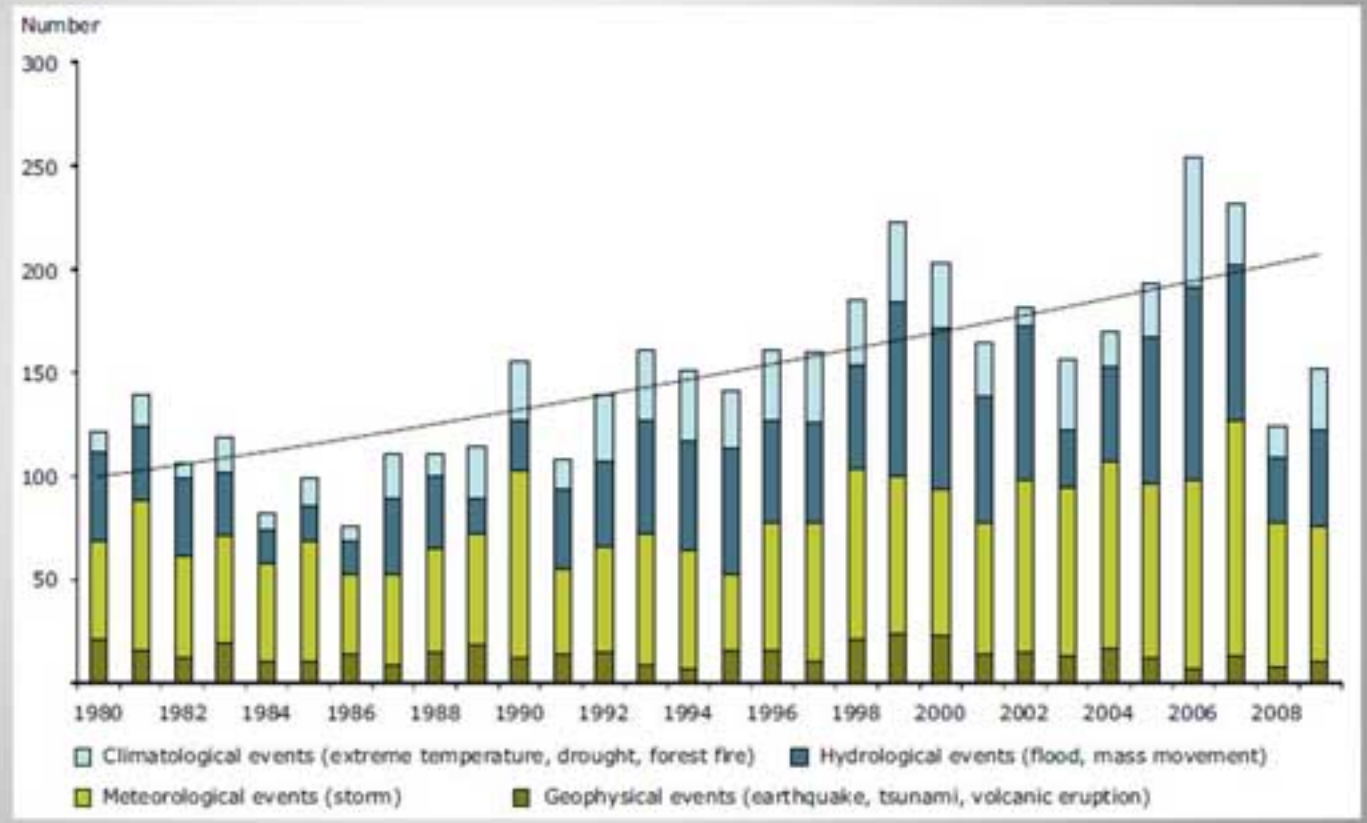
EU Priorities

Wildfires

Floods

Earthquakes

Technical Failure



OBJECTIVES

Overall aim (phase I + II):

Demonstrate an integrated and scalable crisis management system ...

... capable of providing comprehensive situational awareness to decision makers ...

... to ensure a timely, coordinated and effective response ...

... in defined and novel disaster situations.

Demonstration to be **focussed** and offer a **practical solution.**

CRISYS Objective (phase I):

Build a Roadmap .... capable of **full implementation** ...

... to show specific **demonstration actions in Phase II** ...

... whilst **establishing contacts and awareness** with the main **public and private stakeholders** in the field of Crisis Management

Process

- Must **recognise** what already exists and **how** Crisis Management is **organised and managed**.
- Note changes in EU Civil Protection policy and the **Member States relationships.**
- Assess **effectiveness of** capabilities and capacities to meet anticipated and unidentifiable threats.
- Target **community** resilience **and** business continuity.
- Propose improvements **in joint working, EU policy and practices** to strengthen cohesion, interoperability, operational effectiveness, affordability, cultural and moral values.
- Test and validate with stakeholder actors.
- Disseminate Project findings.

Structural Framework

Work Package 3
User and Stakeholder Requirements
Establish dialogue to identify CM environment and user requirements

User and Stakeholder Needs
Common Threads
Disaster Improvement Model
Structured Meetings
Matrix of responses

Work Package 2
Crisis Management
Analysis of current situation and preparation of discussion framework
Legacy
Standards
Citizens

Quality Assessment Toolkit

High frequency
Earthquake
Flood
Wildfire
Technical failure
Manmade event
Low Frequency
Mikado Effect

Work Package 5

Dissemination Actions

Website Reporting
Final Conference

Work Package 4
Roadmap Recommendations
Analysis synthesis prioritisation of requirement recommendations with validation
Gaps
Recommendations
Demonstration Roadmap of solutions

CRISYS

Politics and Social
- EU
- MS
- Civil Protection Authority
- Municipal Authority
- Citizen

Assets
- MS
- Municipal
- Voluntary
- NATO

Modus operandi

Standards
- Interoperability
- Operating practices
- Logistics

Citizen
- Education
- Knowledge
- Awareness

work-packages

CRISYS

WP1 Project Management

WP2 Crisis Management
Analysis of current situation and preparation of discussion framework

WP3 User and Stakeholder Requirements
Establish dialogue to identify CM environment and user requirements

WP4 Roadmap Recommendations
Analysis synthesis prioritisation of requirement recommendations with validation

WP5 Dissemination Actions (website reporting and Final Conference)

The Challenge

A major challenge is **LEGACY** and how to **link existing approaches, technical solutions, procedures, standards** etc. in the civil protection field, which can be extremely fragmented at national and even local level, **to permit a fast and adequate response to natural and man-made threats.**

The project also has to **PRACTICALLY DEMONSTRATE** in a few years the solution and cannot be a virtual exercise.

POLITICAL ACCEPTABILTY within Member States is essential to meet **EU political challenges: primarily for use in EU countries the system must also be deployable abroad** in concert with other Nations UN and NGOs so Europe's external humanitarian aid programmes can reflect the stronger post Lisbon Treaty alliances.

Foundation of Understanding

Imperative we first understood how the civil protection sector operates.

1.Review presently adopted solutions, procedures and the operational, legal, societal, political, legacy environments in which those mechanisms are set.

2.Establish parameters of operations – not simply scenarios but how to create wider capability and capacity.

3.Understanding of the issues surrounding effective operational needs (e.g. interoperability of technical solutions, commonality of procedures, decision and crisis decision tools, the importance of languages; common training approaches; homogeneous risk assessment methodologies etc.) **for the most significant demonstration actions.**

CRISYS Questions

1 Can we improve response either in **speed or effectiveness**?

2 **What known barriers exist that inhibit or delay the practical response to crisis?**

3 Are there tools or practices that will help improve:

- communication ?
- situational awareness ?
- command and decision support ?
- deployment in harsh environments ?
- search and rescue ?
- medical care ?
- restoration of basic services ?

4 If so **what are they and how might they be demonstrated**?

Question Focus

Focus is upon **4 ACTIONS** and **8 CAPABILITIES**

ACTIONS

PEOPLE

Key asset [operational actors] and target [public protection] with issues of skills competency awareness with education and training

PROCESS

Required for integration and understanding but currently diverse and variable with no common system of operation

INFORMATION

Essential management tool currently fragmented and diverse highly sensitive to sharing and security issues

TECHNOLOGY

Many practical solutions exist in sectors like defence and security with issues of transfer adaptability and cost.

Scope

- Four categories of events

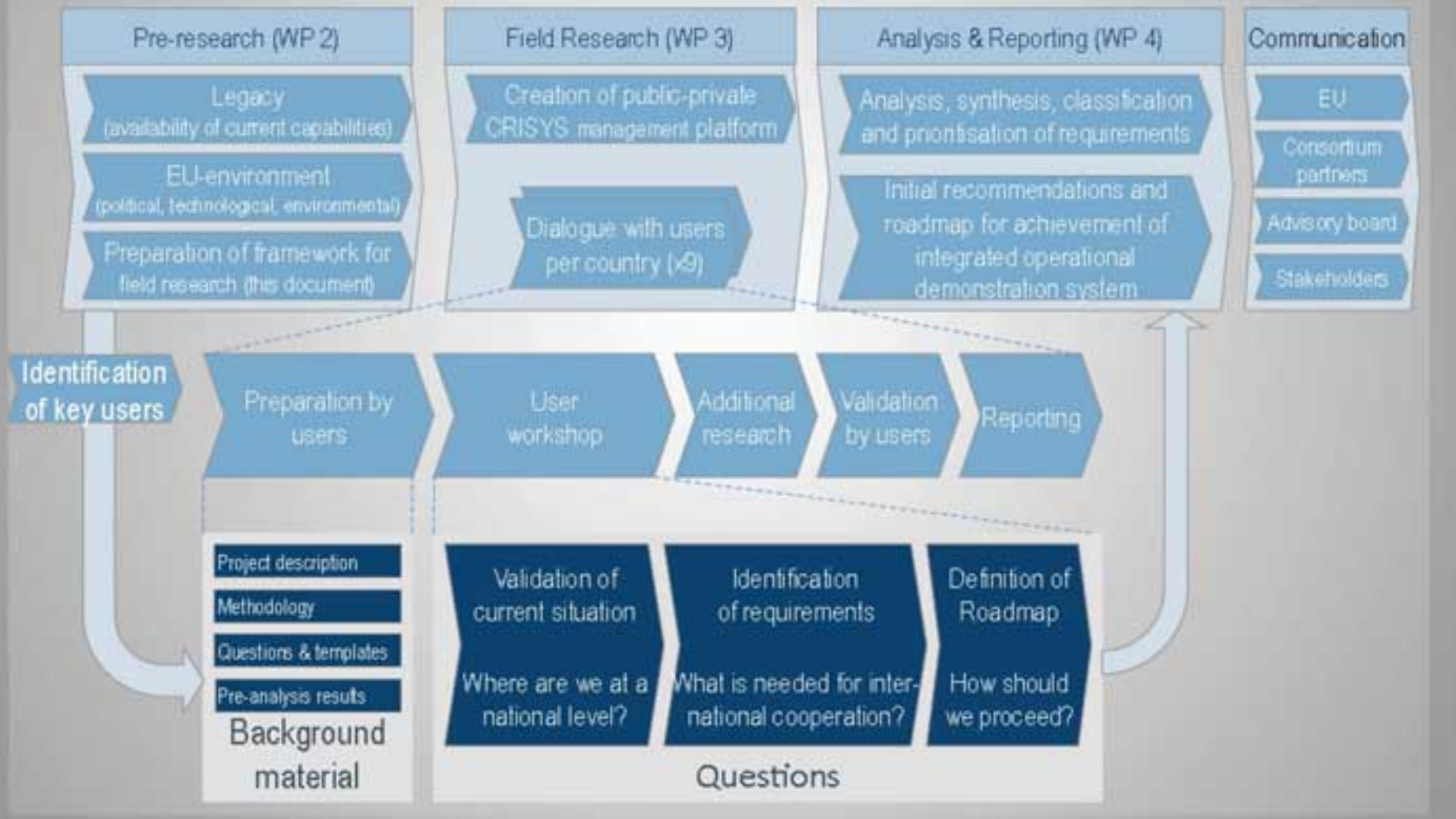
Event:	Definition
1. Earthquake and landslides	Sudden movement of the Earth's crust or surface that destroys infrastructure
2. Wildfire	A vegetation fire in a large open landscape that may have an urban interface
3. Flood	Large or sudden flow of water or fluid material that inundates normally dry land
4. Failure (technical, manmade)	Consequences from unintended or deliberate action that negates protective systems

- Aftermath crisis response

Question Focus 8 Capabilities

Capability:	The ability to:
1. Communication	Exchange information between citizens, rescue workers and authorities
2. Situational awareness	Collect and present relevant static and dynamic information about the incident
3. Adaptable command & decision support	Coordinate action between various rescue organisations
4. Logistics and resource planning	Plan, support and control the allocation of rescue workers and equipment
5. Fast deployment on harsh environment	Deploy rescue workers and equipment at the area of the incident
6. Search and rescue	Trace and rescue victims
7. Medical Care	Provide large scale medical aid and care in a crisis situation
8. Restore of basic services	Restore basic needs of people (water, food) and infrastructure (electricity, transportation)

Approach


Pre-research (WP 2)
Legacy (availability of current capabilities)
EU-environment (political, technological, environmental)
Preparation of framework for field research (this document)
Field Research (WP 3)
Creation of public-private CRISYS management platform
Dialogue with users per country (x9)
Analysis & Reporting (WP 4)
Analysis, synthesis, classification and prioritisation of requirements
Initial recommendations and roadmap for achievement of integrated operational demonstration system
Communication
EU
Consortium partners
Advisory board
Stakeholders
Identification of key users
Preparation by users
User workshop
Additional research
Validation by users
Reporting
Project description
Methodology
Questions & templates
Pre-analysis results
Background material
Validation of current situation
Where are we at a national level?
Identification of requirements
What is needed for inter-national cooperation?
Definition of Roadmap
How should we proceed?
Questions

How do we get this information?

By conduction a **study** with

- Web Research
- Field Research: 9 National meetings- FI, UK, NL, GE, Fr, Gr, RO, IT, Pr
- Impact Analysis & Reporting
- Communication

Identifying the **current situation**, the **gap** for cooperation and a **roadmap** for improvement

Using **standardized questions** in different areas of research

Domain	Action	Priority	Ref
Operations			
	Incident Command System	Medium	O1
	Response Framework	High	O2
	Risk assessment capture and analysis	High	O3
→	External Actors protocols and networking	Medium	O4
	Decision Management Tools	Low	O5
	Command and Control protocols	Medium	O6
	Lexicon and language augmentation	Low	O7
→	Situation awareness tools and integration system	Low	O8
→	Communication protocols	High	O9
	Recording review and evaluation system	Low	O10

Assets

	Identification and tracking system	Low	A1
	Availability recognition tools	Medium	A2
	Attribute capture classification system	Medium	A3
→	Equipment and vehicle needs	Low	A4
	Specialist modularised assets	Medium	A5
→	Logistic hub and collation logistics system	High	A6
→	Transportation and supply chain systems	High	A7

Education			
	Online E-learning platform	High	E1
	Access controls and protocols	Medium	E2
	Public learning programmes	Medium	E3
	Alert and reverse alarm	Low	E4
	Lessons Learnt capture and dissemination system	Medium	E5
→	Responders exercise and training	High	E6
	Competency and skill verification system	Medium	E7

ITC

	Mobile Data systems for harsh environments	High	C1
	Information Management System	Medium	C2
	Information capture tools kits	Medium	C3
→	GIS and visualisation overlays and simulation tools	High	C4
	Data verification and warehousing	Medium	C5
	Data encryption and mining systems	Low	C6
	Information formats and verification systems	High	C7
	Control room design and implementation	Medium	C8
	Mobilisation and dynamic information management	Medium	C9

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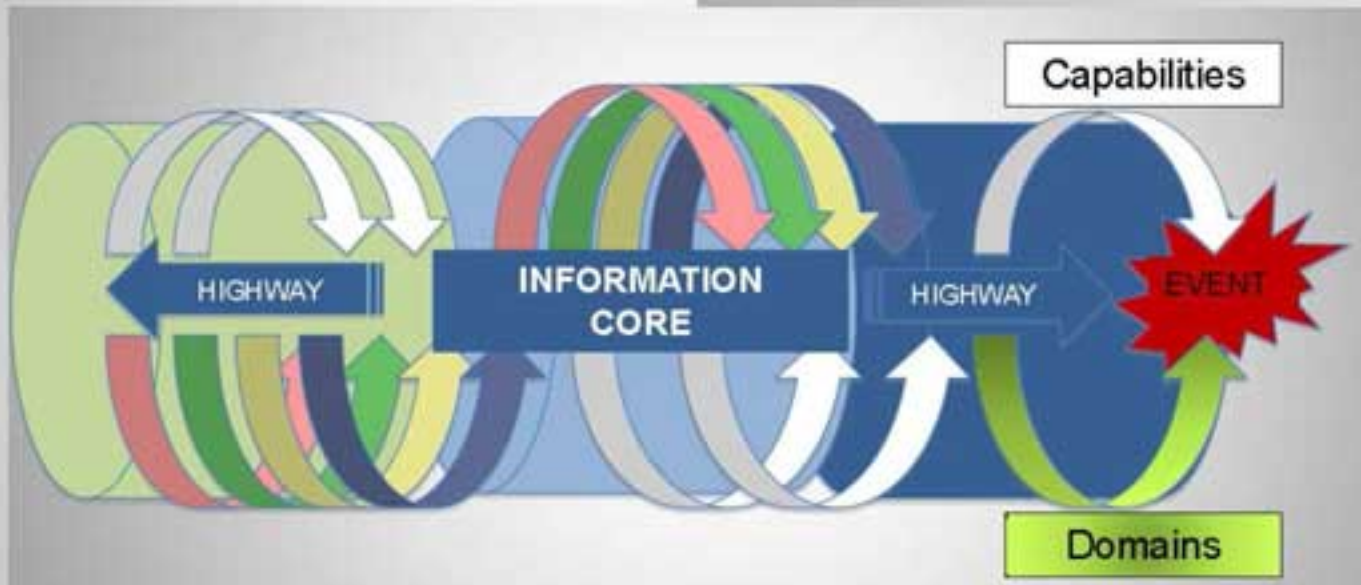
SECTORISATION

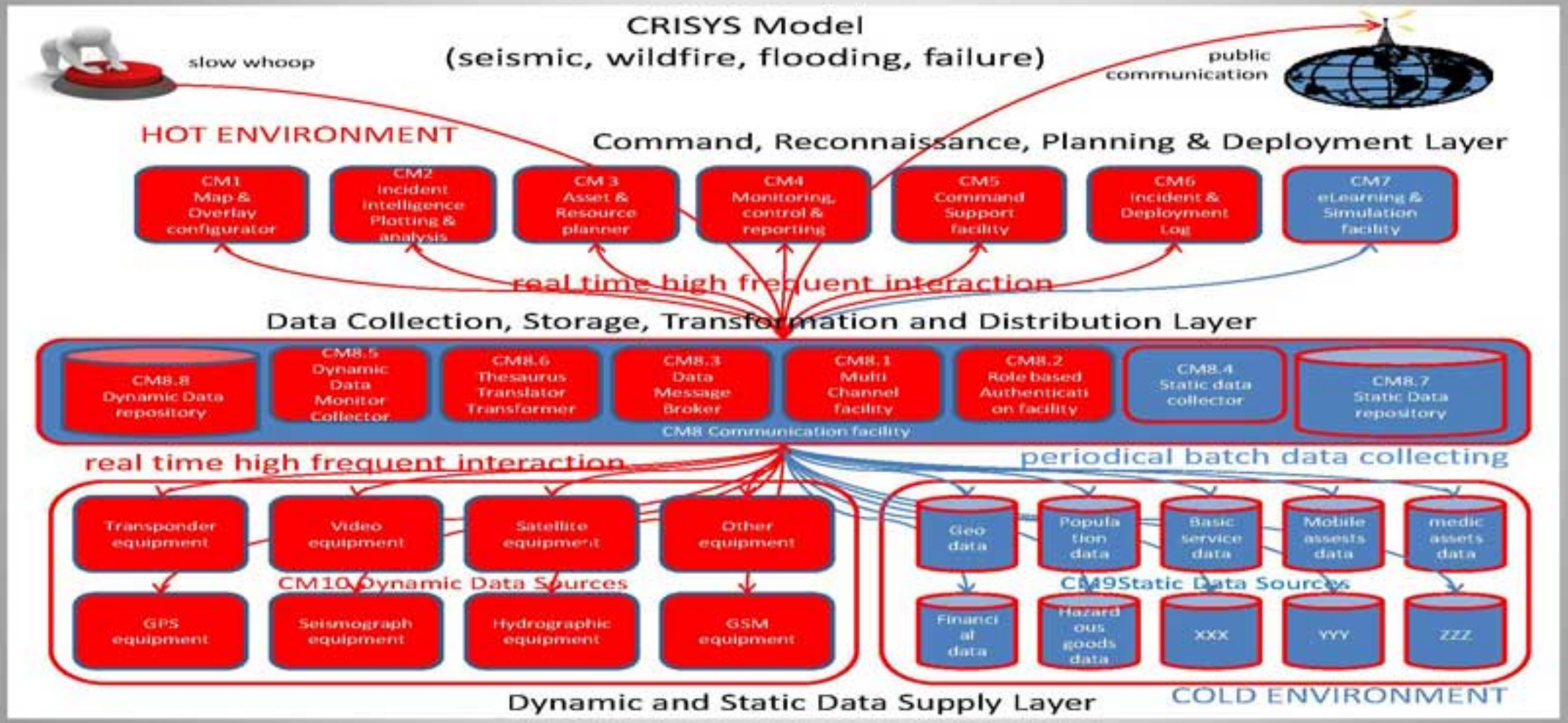


Strategic
Fused Data
National

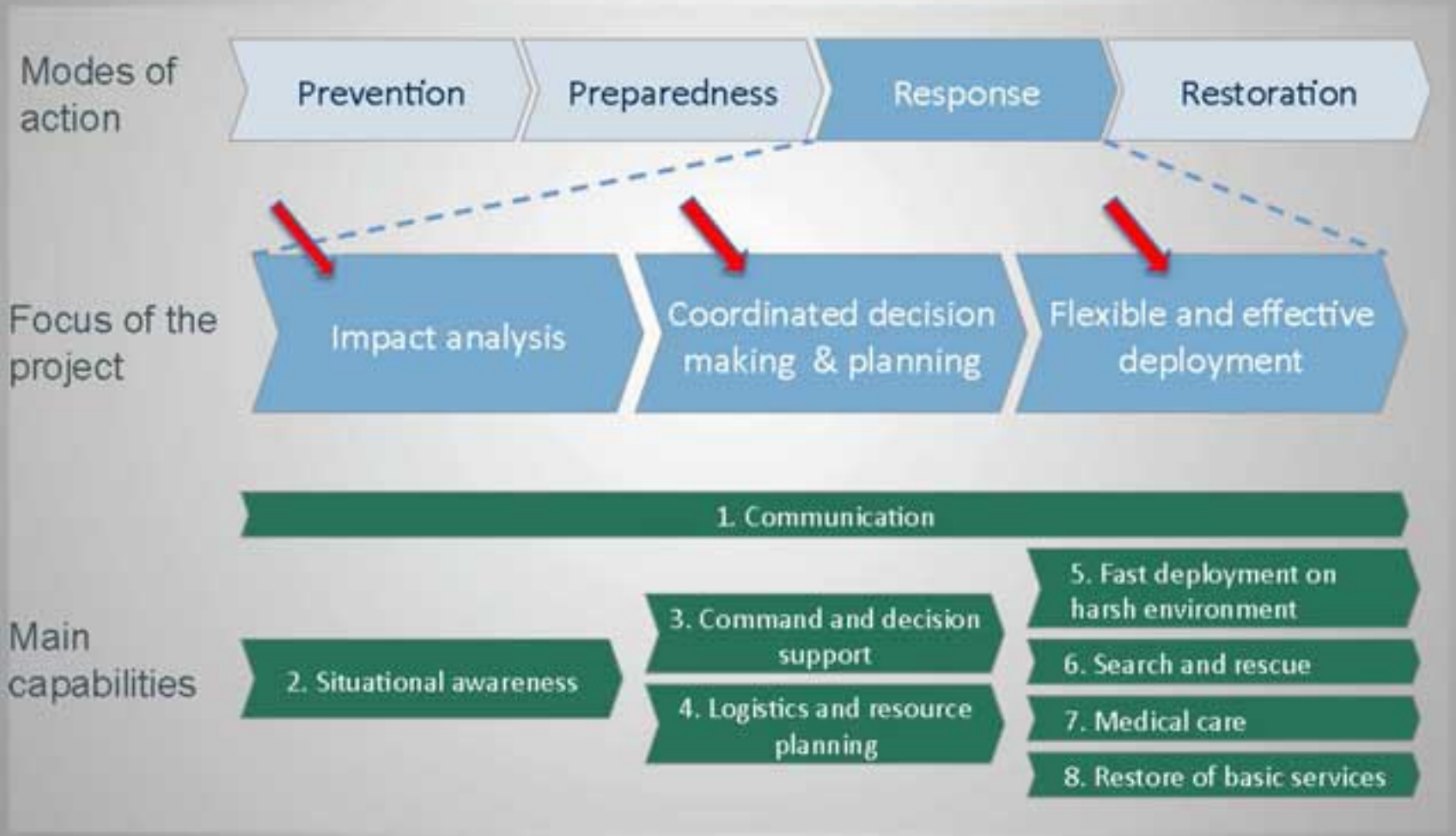
Tactical
Field Data
Regional

Operational
Hands On Data
Local

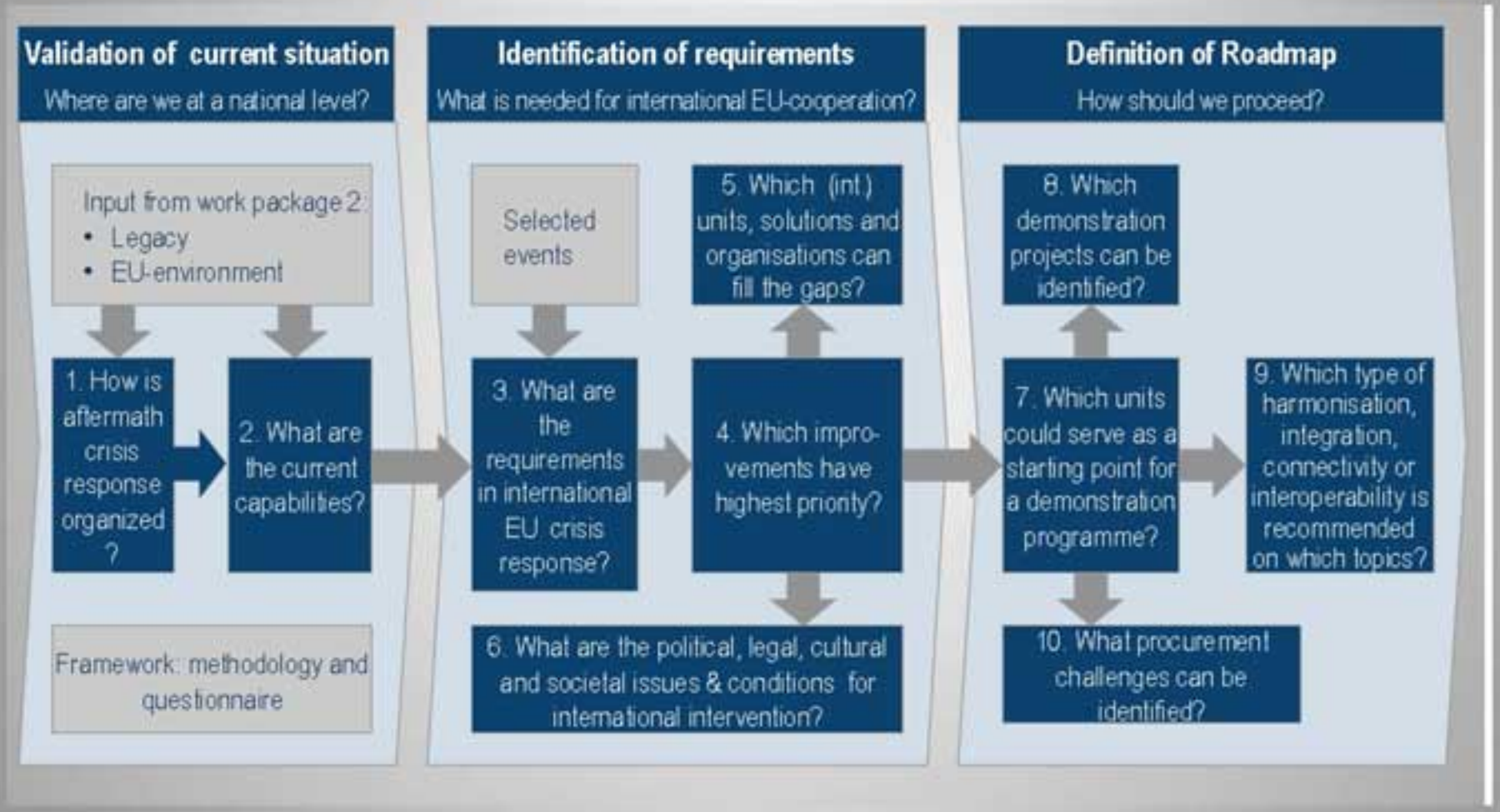
ICT Data Model



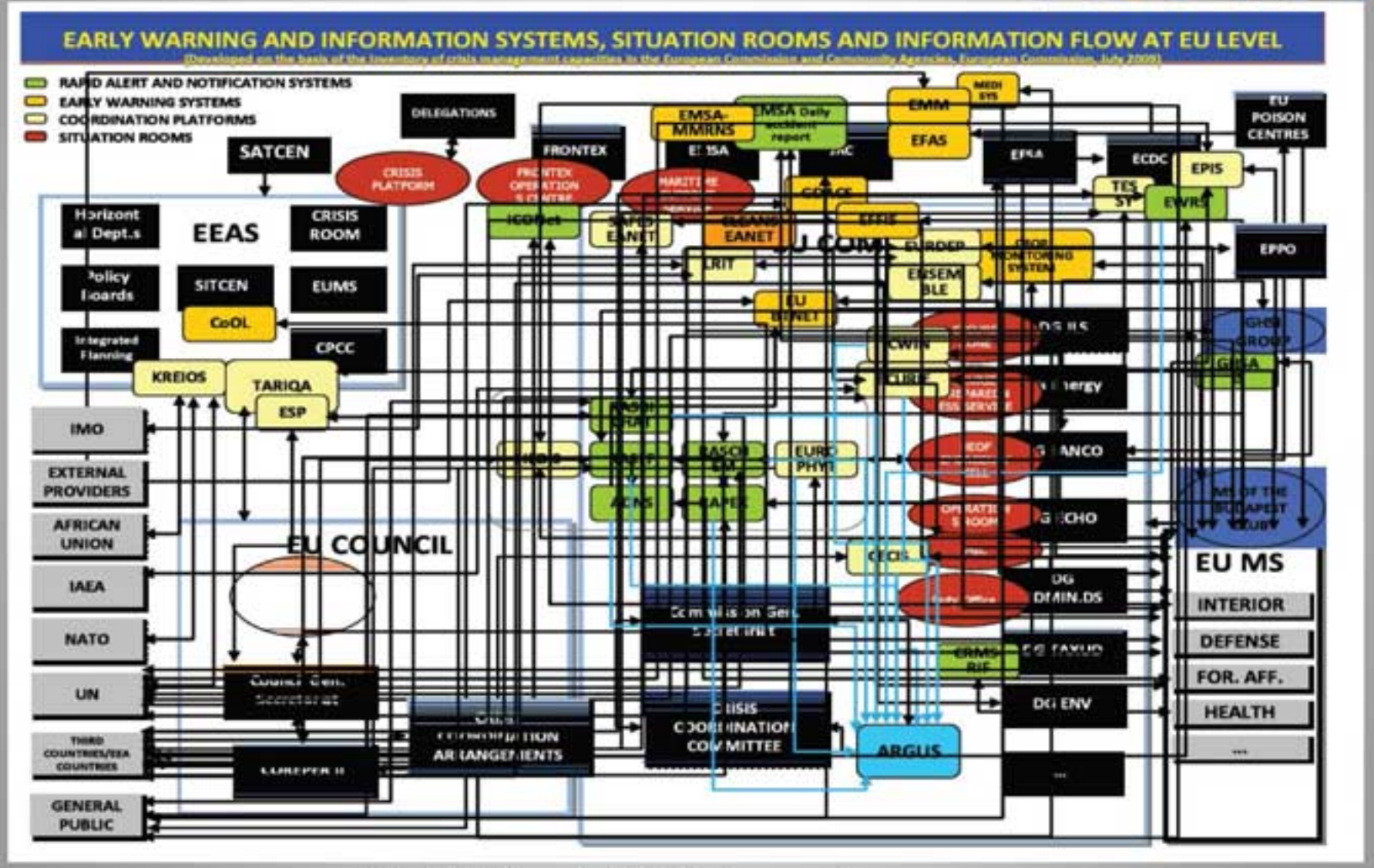
Aftermath crisis response



What do we need to know?



CRISYS



Source:

Deliverable: D.2.2. Impact Analysis of the Environment
Version: Final, [14/06/11]

Contacts and Further Information

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