Modelling crisis management for improved action and preparedness (CRISMA)

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**CRISMA-project in a nut shell**

<table>
<thead>
<tr>
<th><strong>EU-FP7</strong></th>
<th>FP7- SEC-2011.4.1-1 Crisis management modelling tool</th>
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<tbody>
<tr>
<td>Theme 10: Security</td>
<td><strong>Type of project:</strong> Integration Project</td>
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<tr>
<td><strong>Duration</strong></td>
<td>42 months</td>
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<td></td>
<td>Start date: 1&lt;sup&gt;st&lt;/sup&gt; March 2012, End date: 30&lt;sup&gt;th&lt;/sup&gt; August 2015</td>
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<td><strong>Effort</strong></td>
<td>1.097 person months</td>
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<td><strong>Cost/EU-Funding</strong></td>
<td>14 M€ / 10 M€</td>
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<td><strong>WWW</strong></td>
<td><a href="http://www.crismaproject.eu">www.crismaproject.eu</a></td>
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<tr>
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CRISMA Participants
Irreversible consequences

How do we prepare for this?

large-scale crisis

Multi-organisational and multi-national cooperation needed
Modelling crisis management for improved action and preparedness

Enabling decision makers to

- model crisis scenarios and consequences
- simulate alternative impacts
- make strategic decisions
- optimise deployment of resources
- make better action plans
CRISMA objectives

CRISMA intends to help *decision makers and crisis managers* to:

- (1) model possible multi-sectoral crisis scenarios and assess the consequences of an incident,
- (2) simulate possible impacts resulting from alternative actions,
- (3) support strategic decisions on capabilities, related investments, reserves and inventories,
- (4) optimise the deployment of resources dedicated to crisis response in-line with the evolvement of a crisis, and
- (5) to improve action plans for the preparedness and response phases of the crisis management.
CRISMA outcome

- An integrated modelling system for simulation–based decision support

- CRISMA System facilitates simulation and modelling of
  - realistic crisis management scenarios;
  - possible response actions; and
  - the impacts of crisis, depending on crisis evolvement and various crisis management actions.

- CRISMA System will support
  - multi-organisational short and long term strategic planning,
  - impact evaluation of e.g. investment options,
  - improving multi-organisational cooperation,
  - more flexible training.
CRISMA shall focus on

- **Natural disasters with irreversible damages**: vulnerability models for buildings, transport systems and social disruption;

- **Flooding and coastal submersion**: flood models;

- **Accidental pollution**: atmospheric dispersion models of chemical products;

- **Cross-border accident**: meteorological forecasts and models;

- **Forecasting societal and economic impacts**: vulnerability models
CRISMA concept

REFERENCE SCENARIOS & END-USER NEEDS

REAL-LIFE DATA

DATA EXCHANGE

DECISION SUPPORT TOOL
- Key parameters
- Priorisation
- What-if? simulation
- Optimisation
  - Preparedness
  - Response
  - Countermeasures

INFORMATION MANAGEMENT PLATFORM
- Response analysis
- Response planning
- Preparedness planning
- Timing analysis
- Training

SIMULATION TOOLS FOR SCENARIOS
HAZARDS VULNERABILITY/LOSSES CAPACITIES
CASCADING EFFECTS TIME DEPENDENCY
Output of a simulation model
CRISMA Test cases

- Pilot A: Cross-Border Emergency – Finland
- Pilot B: Coastal Submersion – Charente-Maritime (France)
- Pilot C: Accidental Pollution – Ashod (Israel)
- Pilot D: Geophysical Hazards – L’Aquila (Italy)
- Pilot E: Mass casualty incident – Germany
Thank You!

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