



Modelling crisis management for improved action and preparedness

CRISMA Contingency Planner

CRISMA Business Day

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CRISMA Contingency Planner

The Offer:

- Planning and Decision Support Solution for contingency planning
- The solution utilizes simulation tools to model the progress of the situation as well as the impact of the mitigation actions
- Proposed mitigation actions are based on preparedness plans defined and continuously improved by the user.
- The current solution focusing on the *electricity blackout crisis occurring during extreme cold weather* acts as a Proof of Concept. The solution can be adapted to other types of crisis scenarios using different simulation models.

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The targeted market(s):

Profiles of the Clients/users:

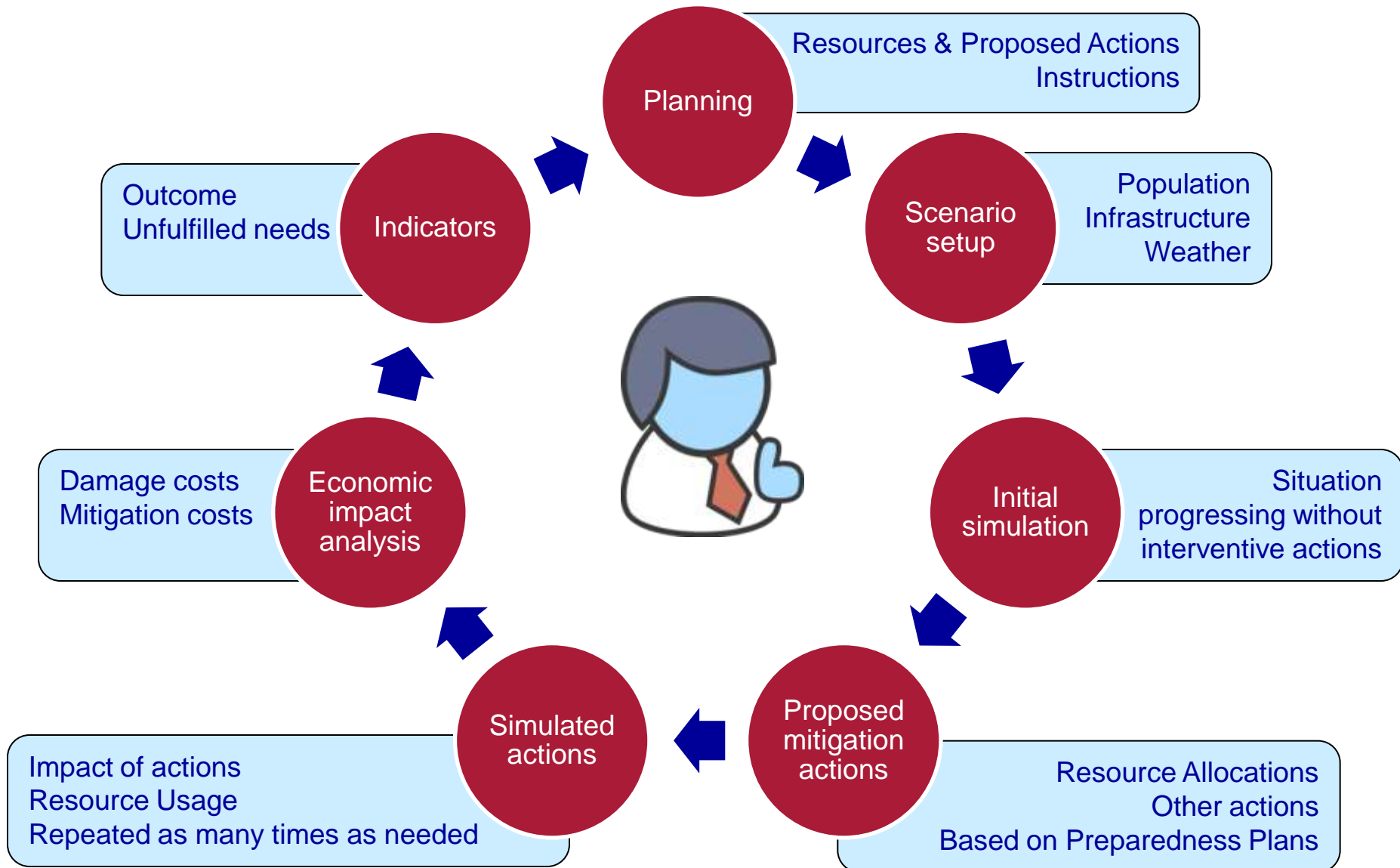
Authorities on regional or national level:

- Municipalities: decision makers and administrative planners
- Public safety, rescue services: Emergency managers

Geographical areas:

- with current solution: Northern Europe
- with extended/tailored solution: selected European markets

CRISMA Contingency Planner: The workflow

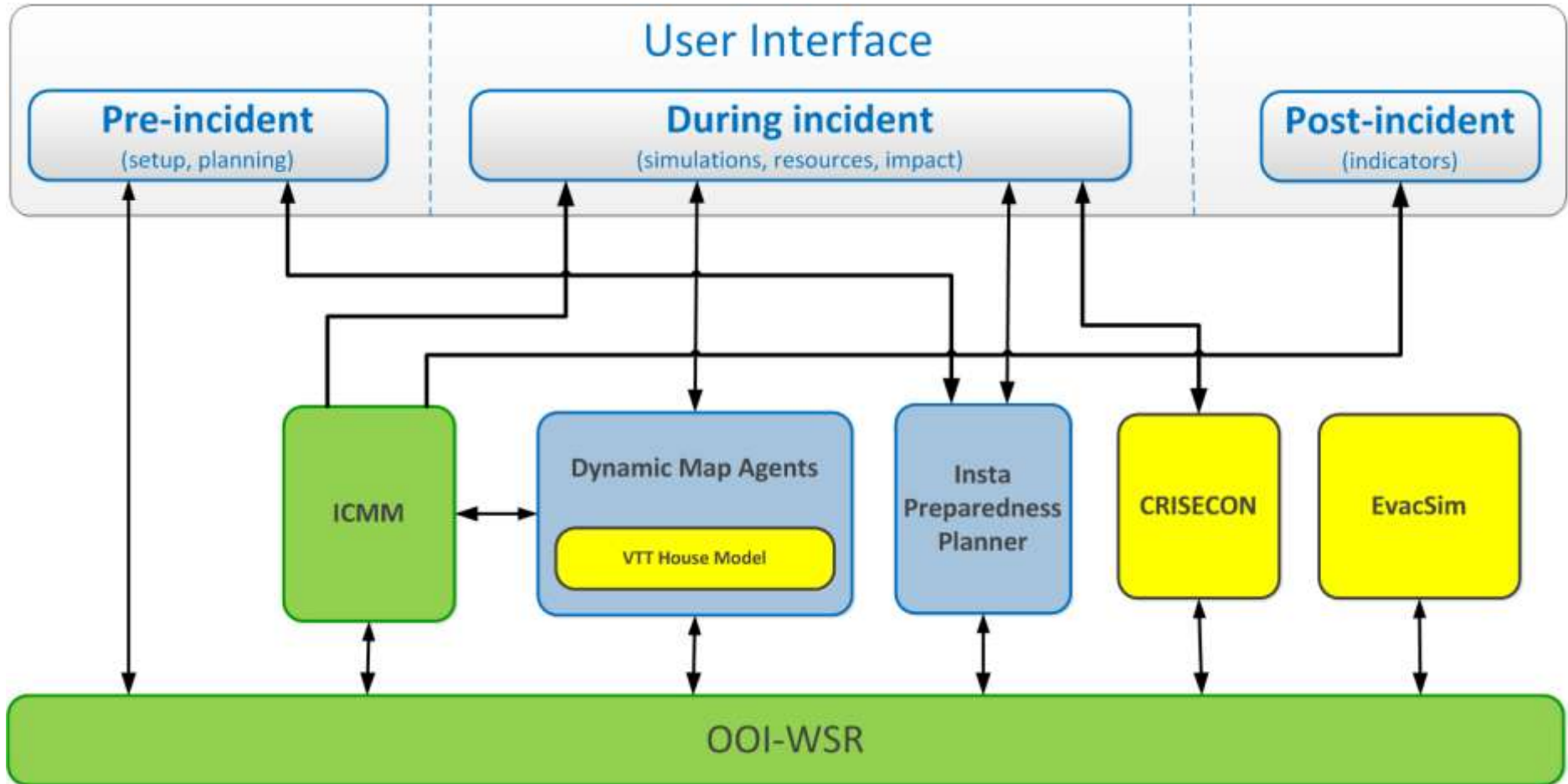


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Key functions:

- **Contingency planning**
- **Simulation** of the impacts of loss of electricity during a cold season
- **Decision support** during a crisis
- **Resource management**, optimized with different **response models**
- **Simulation** of the impacts of the mitigation actions
- **Evaluation of the economic impacts** of a crisis (damage costs, mitigation costs)
- **Comparison** of different mitigation options
- **Testing of contingency plans**

CRISMA Contingency Planner: Reference Architecture



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Options:

Other simulation models can be added to adapt the solution beyond it's current scope.

Added-Value on the market:

The solution helps the user in contingency planning to:

- Identify the most vulnerable geographical areas (due to population and/or built infrastructure)
- Find out possible bottlenecks in the available resources and optimize them
- Test different mitigation approaches
- Estimate costs of different options
- Continuously improve the contingency plans

The solution can be tailored to other areas of application with new or improved simulation models

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Business approaches:

- **Service Platform:** solution as a service, provided from distributed services by the CRISMA partners
- **System Delivery:** an integrated software solution, tailored to customer's needs

Prerequisites:

- Current solution is based on web-services provided by the CRISMA partners.
- A network connection and a common web browser are needed to use the web-based service solution.
- For an integrated software system delivery, the components can be installed on top of a Linux-Apache-MySQL-PHP (LAMP) stack running on “reasonably capable” server hardware.

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Access conditions:

- license fee per user (system delivery) or annual subscription fee (service platform), pricing depends on SLAs and need for support
- Current solution is a prototype (TRL5), which is a PoC acting as a basis for further development.
- Commercial availability depending on need for additional development to meet customer needs and to reach finalized TRL8 level.

Additional services:

- Consulting & other professional services provided by CRISMA partners
- Education & training
- Development to adapt the solution or components to other application areas

Expert services provided by CRISMA partners

Professional service	Description	CRISMA partners
Professional services related to Crisis Management	Consultancy related to societal security, crisis management, accident prevention and rescue services	Emergency Services College (Finland)
Education	Training and education of current and future Crisis Management practitioners	
Professional services related to climate change and weather	Consultancy on use of weather and climate change scenarios related to e.g. risk analysis.	Finnish Meteorological Institute
Professional services related to build infrastructure	Expert services on resilience and vulnerability of build infrastructure, e.g. risk-analysis related to residential buildings and critical infrastructure.	VTT Technical Research Centre of Finland Oy
Professional services for economic impacts related to large-scale crises	Expert services on socio-economic impacts related to large-scale crises, their prevention and the mitigation actions.	VTT Technical Research Centre of Finland Oy, Finnish Meteorological Institute
Professional services and solutions related to crisis management, incident handling and contingency management	<p>Solutions extending the current Insta Preparedness Planner concept to other areas of Public Safety, e.g. contingency planning, critical infrastructure protection and control rooms.</p> <p>Consultancy related to contingency management, risk analysis and training.</p>	Insta DefSec Oy
Professional services and solutions related to agent based modelling and simulation of complex environments	Solutions and consultancy related to utilizing the Agent Oriented Simulation Model concept to other domains.	Tallinn University of Technology

Software products individually offered by CRISMA partners

CRISMA partner	Product	Description
Insta DefSec Oy	Insta Preparedness Planner	<p>A contingency management and operative decision support solution. Current prototype (TRL 5) will be further developed to the final product to be added to Insta Response product family as "Insta Response Preparedness Planner".</p> <p>Solution can be provided as a service platform (with SLA and comprehensive support) or as a software system delivery.</p>
Tallinn University of Technology	Dynamic Map Agents	A framework enabling creation of simulation environments based on agent model
VTT Technical Research Centre of Finland Oy	CRISECON	A model to assess the costs caused by the damages to the infrastructure and the costs of the mitigation actions
	VTT House	A simulation model to assess the impact of external ambient temperature to different types of residential buildings and their eligibility for living.

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Demonstration material

- *Demonstrations can be arranged by request. Access to some components is restricted*

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 - *CRISECON (Economic Impacts Model): Markus Jähi: markus.jahi@vtt.fi*
 - *VTT House (House cooling simulation): Kalevi Piira: kalevi.piira@vtt.fi*
- *Tallinn University of Technology:*
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