



Co-Creative Improved Understanding and Awareness of Multi-hazard Risks for Disaster Resilient Society

Problems/Challenges

Facts:



Disasters triggered by natural hazards alone cost the EU more than **90,000 lives**



Economic losses between 1980 and 2017 more than **€500 billion**



EU, reported economic losses from weather extremes are already on average per year **€12 billion**

Fuelling Factors:



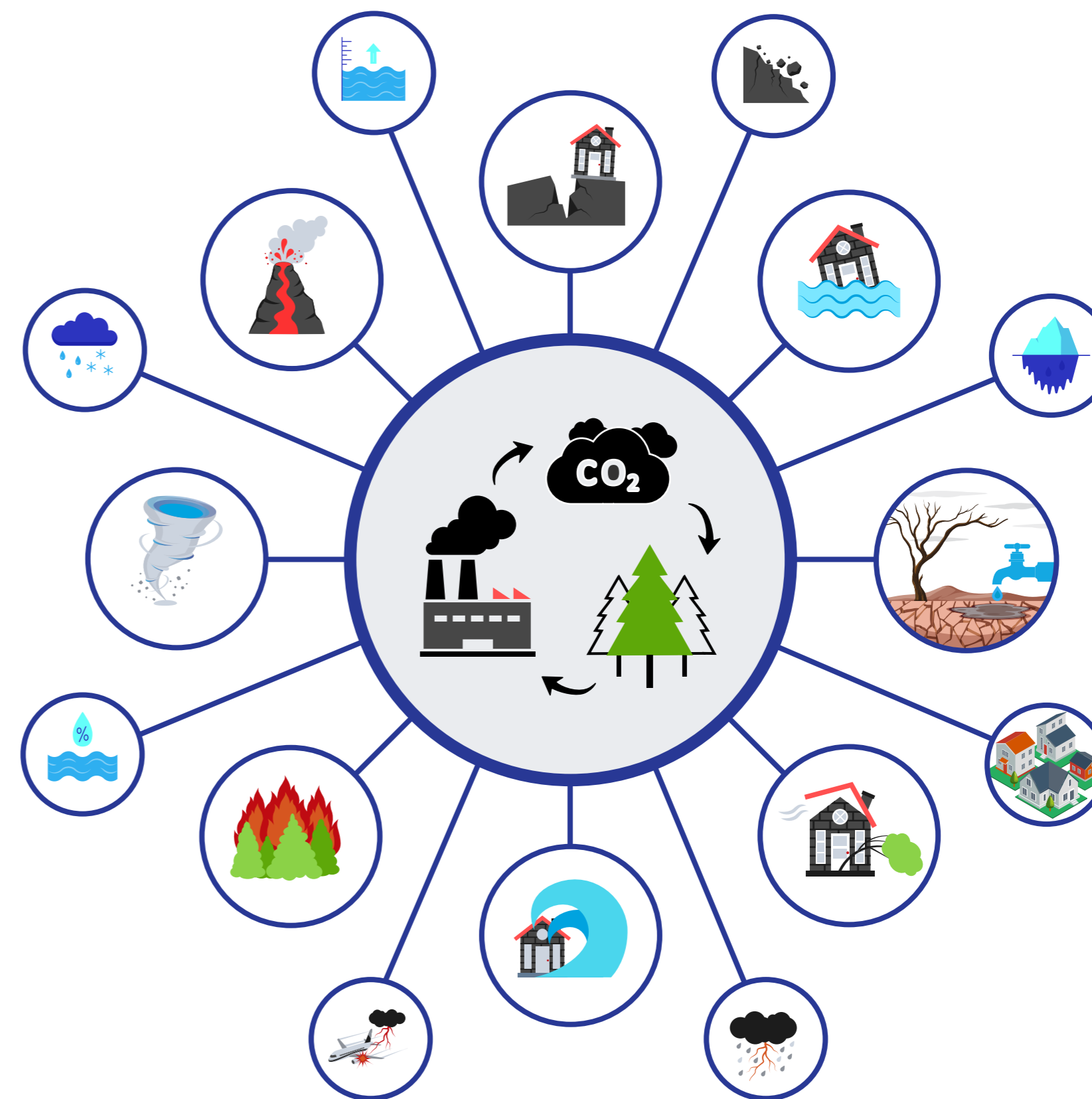
There is a lack of data



Lack of understanding and awareness in Europe and in the world of compound weather and climate extremes

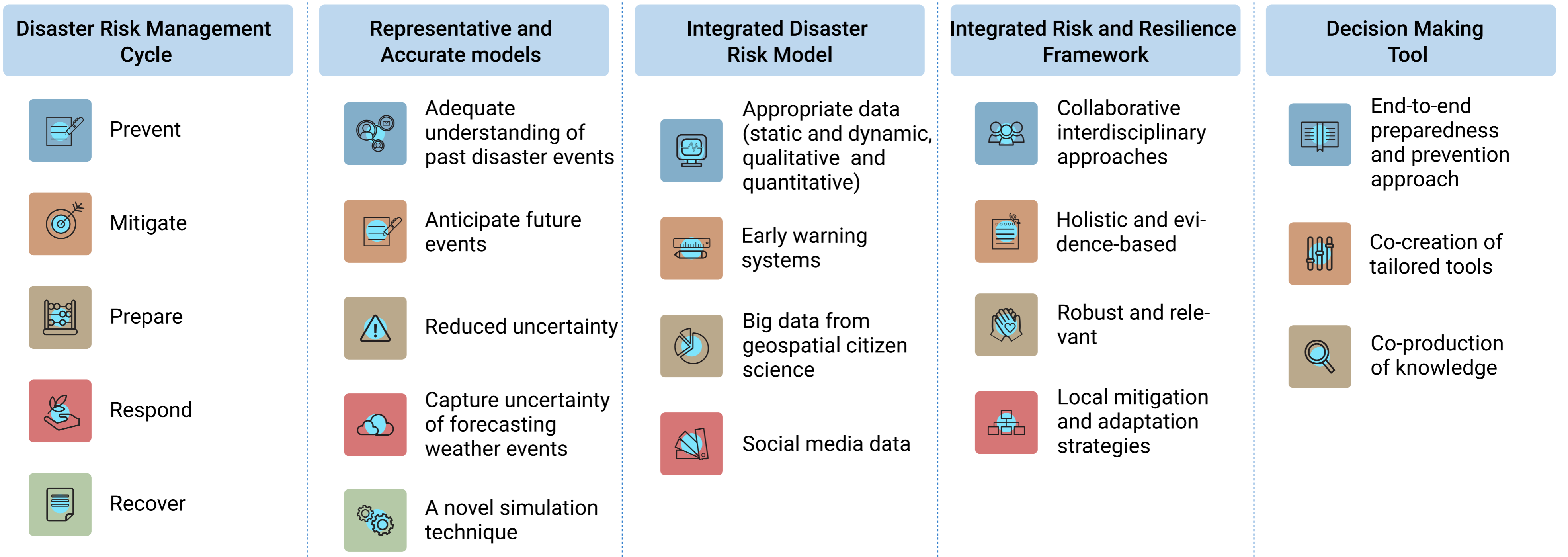


Insufficient disaster risk management and governance function across related cross-cutting areas like environmental management, urban and regional development



Extreme weather events due to climate change

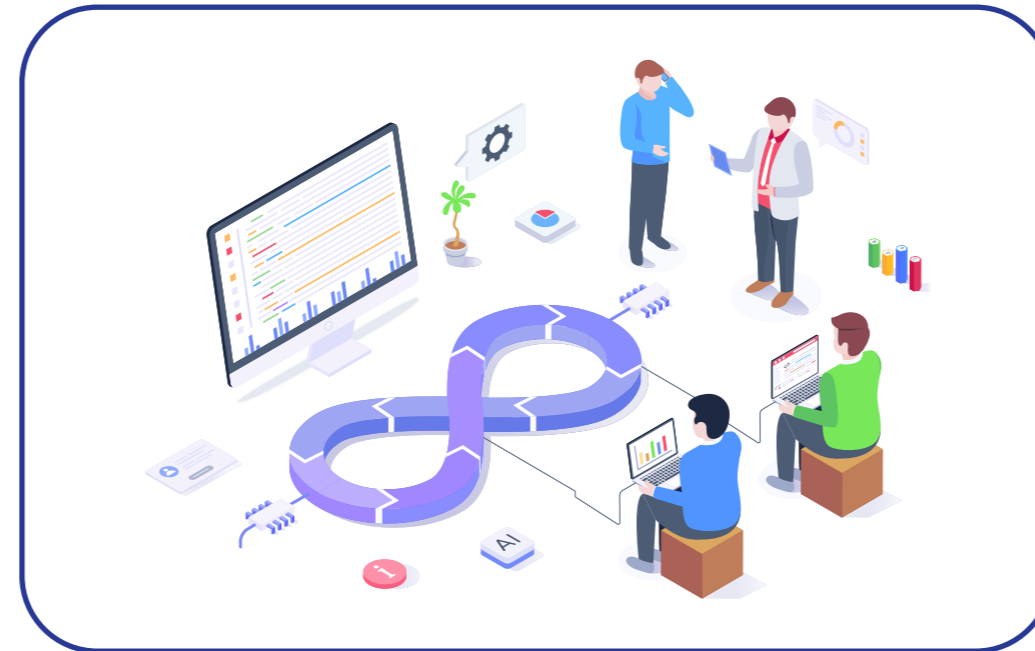
What is needed



C2IMPRESS Solution



Place and People Centred Integrated Multi-Hazard Risk and Resilient Assessment Framework



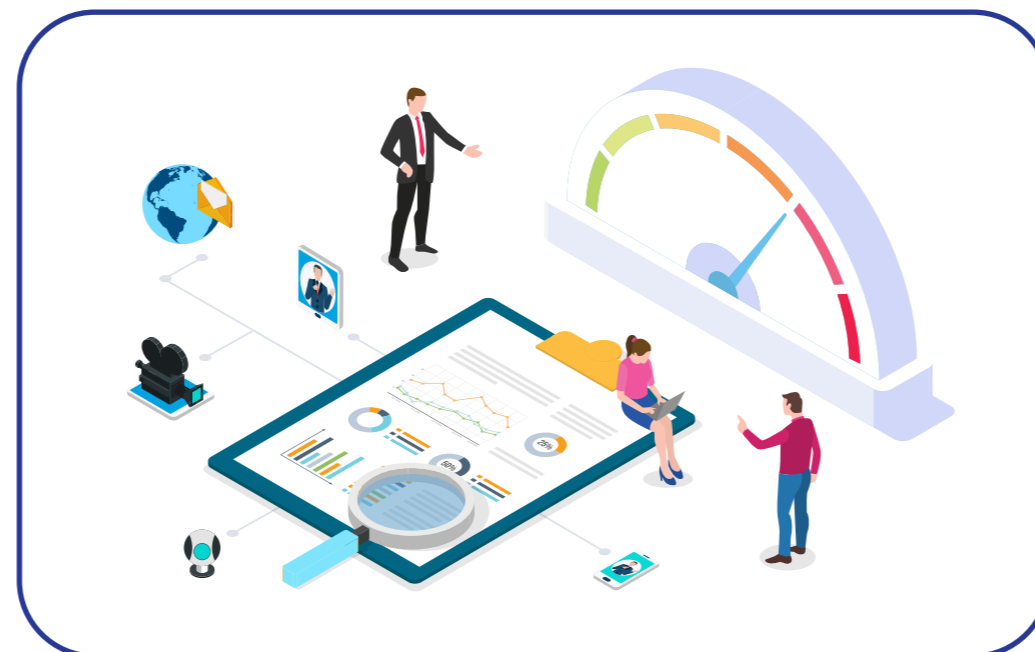
Agent Based Model



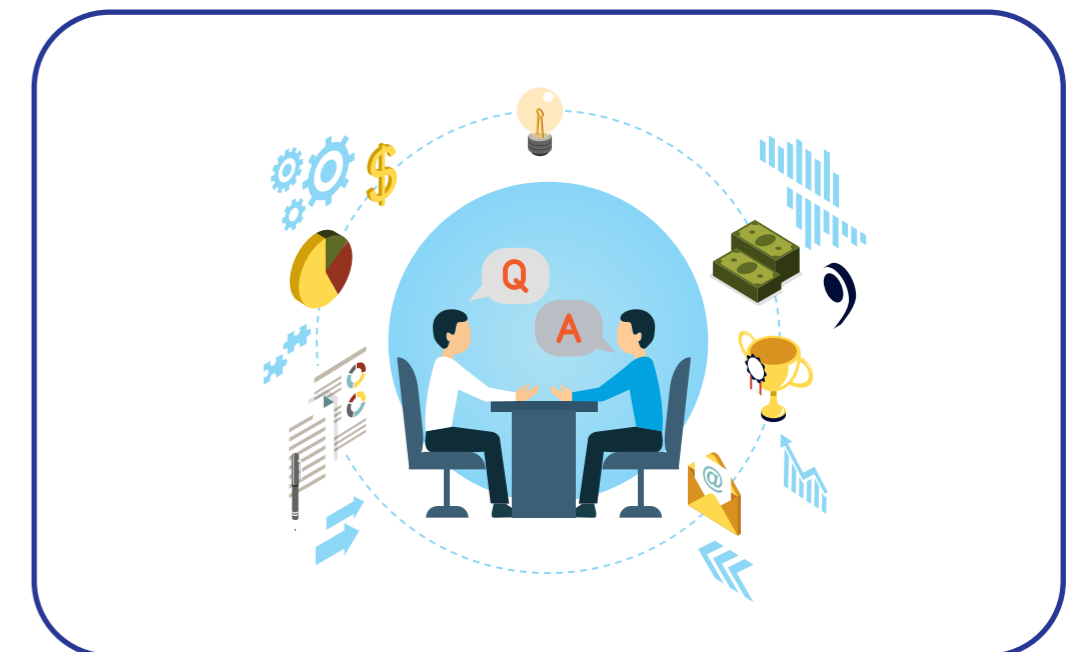
Decision Support Platform and Microservices for Policy- and Decision-Makers



System-of-Systems for Multi-Hazard Risk Intelligence Network (SoS4MHRIN)

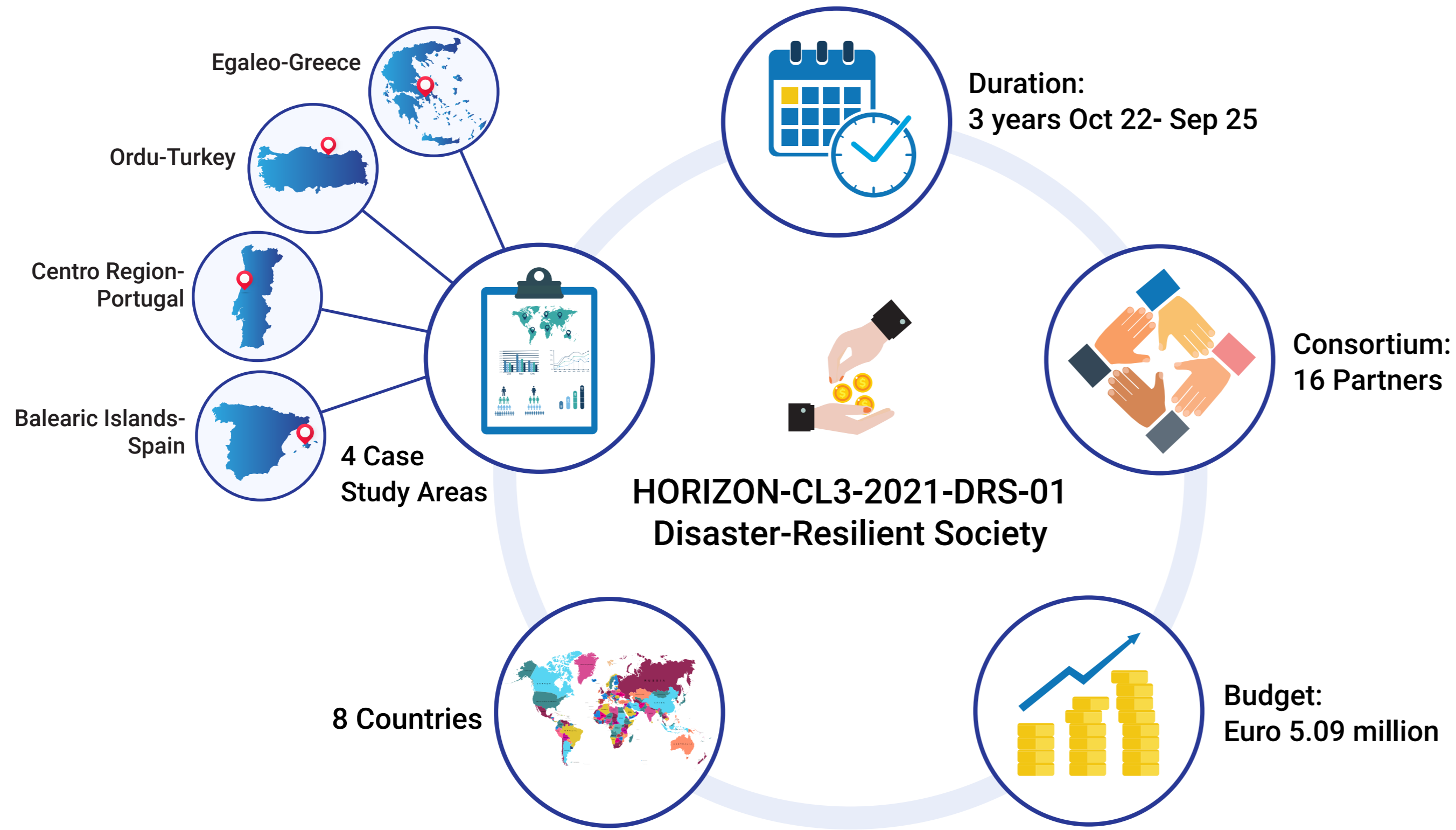


Integrated Risk Assessment Framework



Public-Private-Civic Partnership (PPCP)

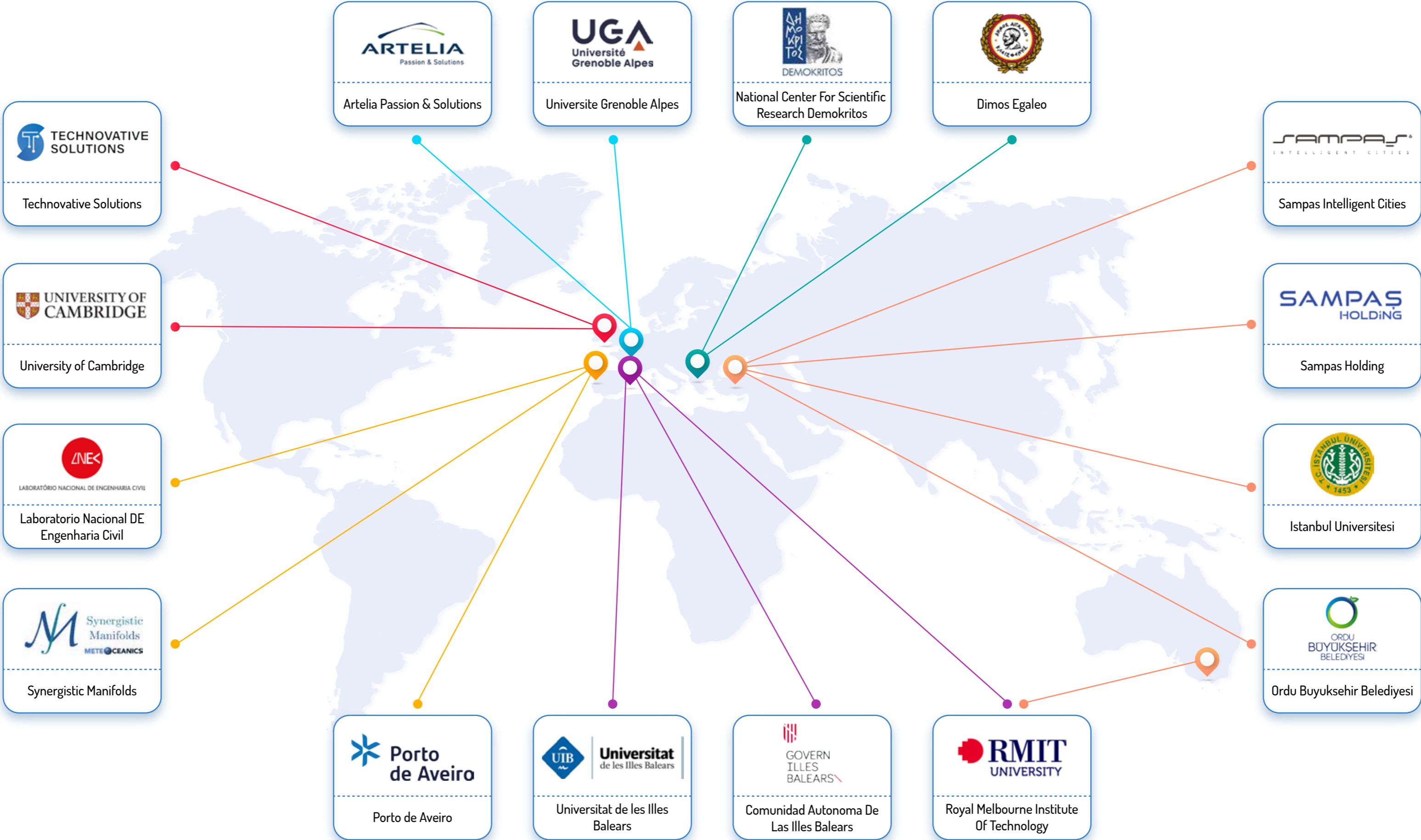
C2IMPRESS Project Information



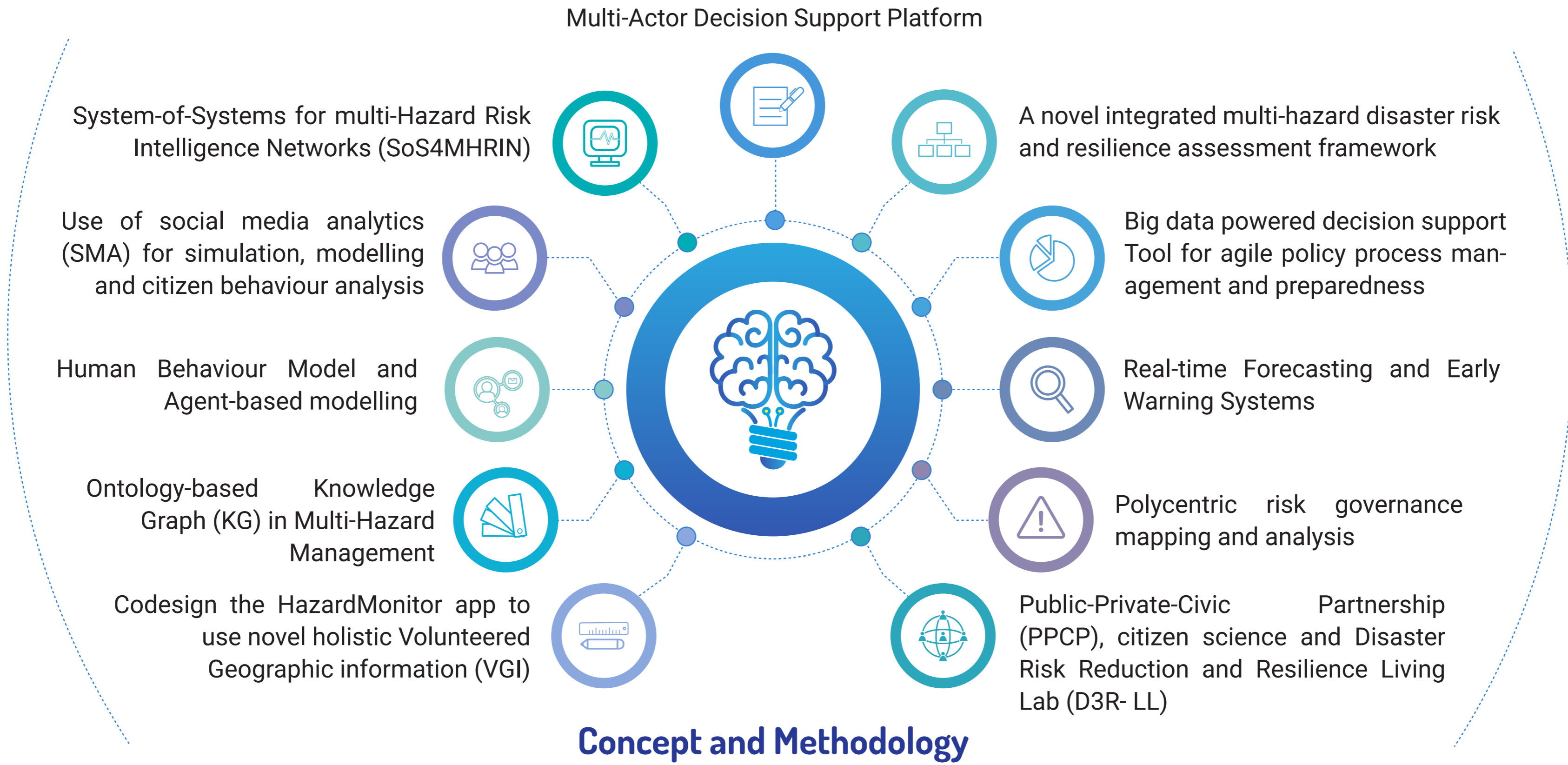
Main Hazards

- Heat Waves
- Wild Fires
- Floods
- Earthquake
- Landslides

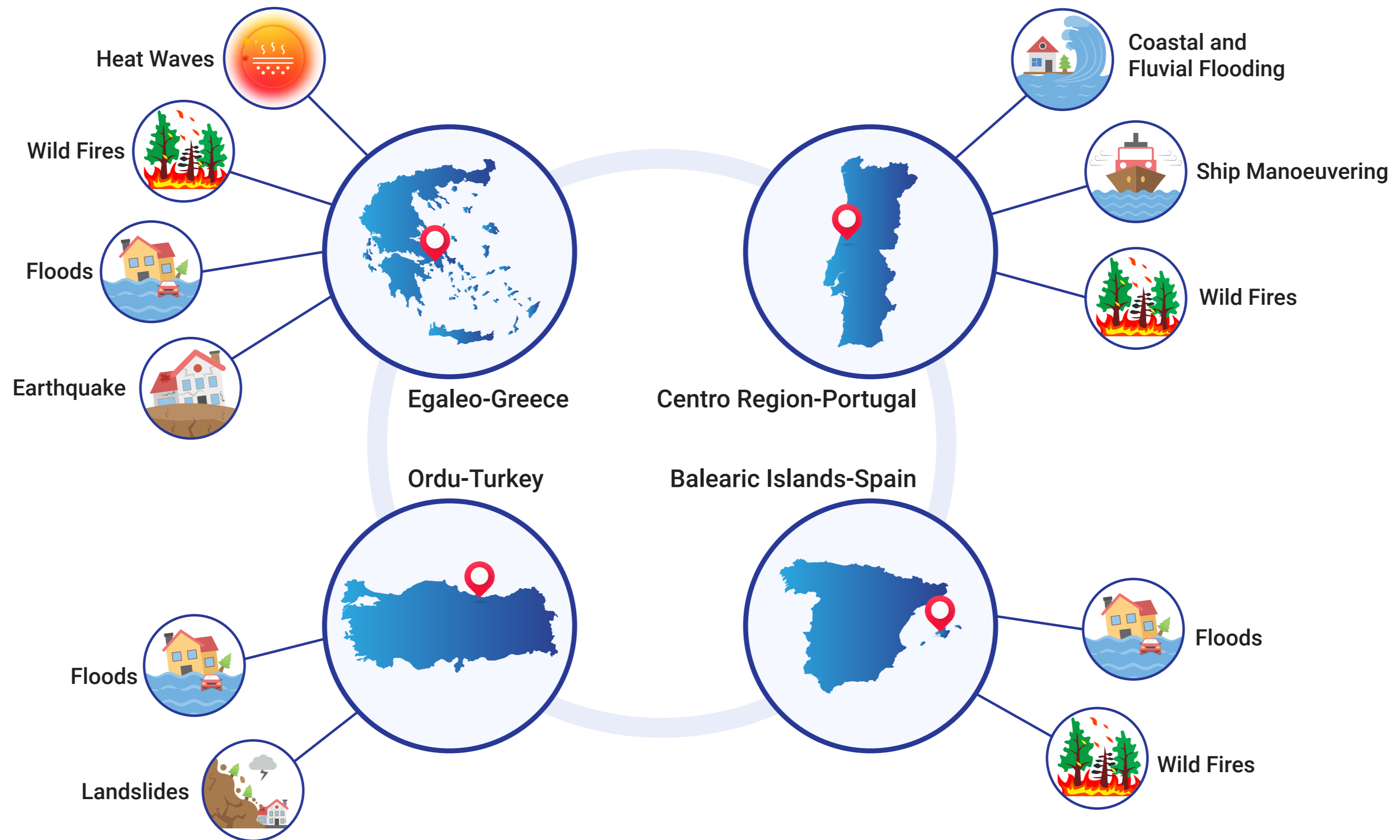
Consortium Members



Concept and Methodology

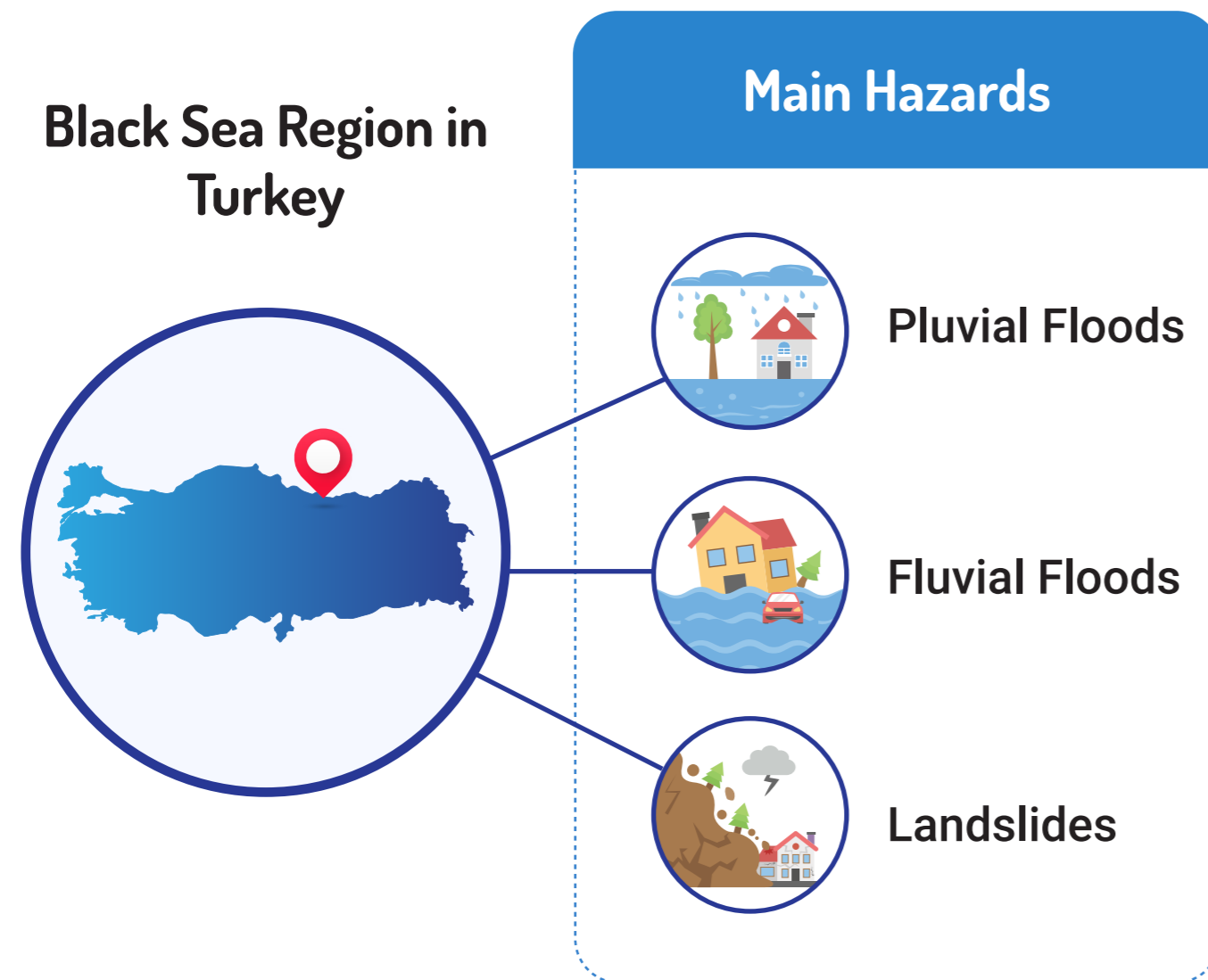


Case Study Areas



Case Study Area: Ordu-Turkey

Pluvial and fluvial flooding connected to the coastal zone and their cascading effects for urban flooding and regional landslides.



Needs



Understand the existing hazard risks and vulnerability levels of flooding and its effects



Evaluate the public's response and behaviour during and after a hazardous event

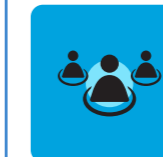


Improve predictions for future multi-hazards

User Groups



Ordu Provincial Directorate of Disaster and Emergency (AFAD)



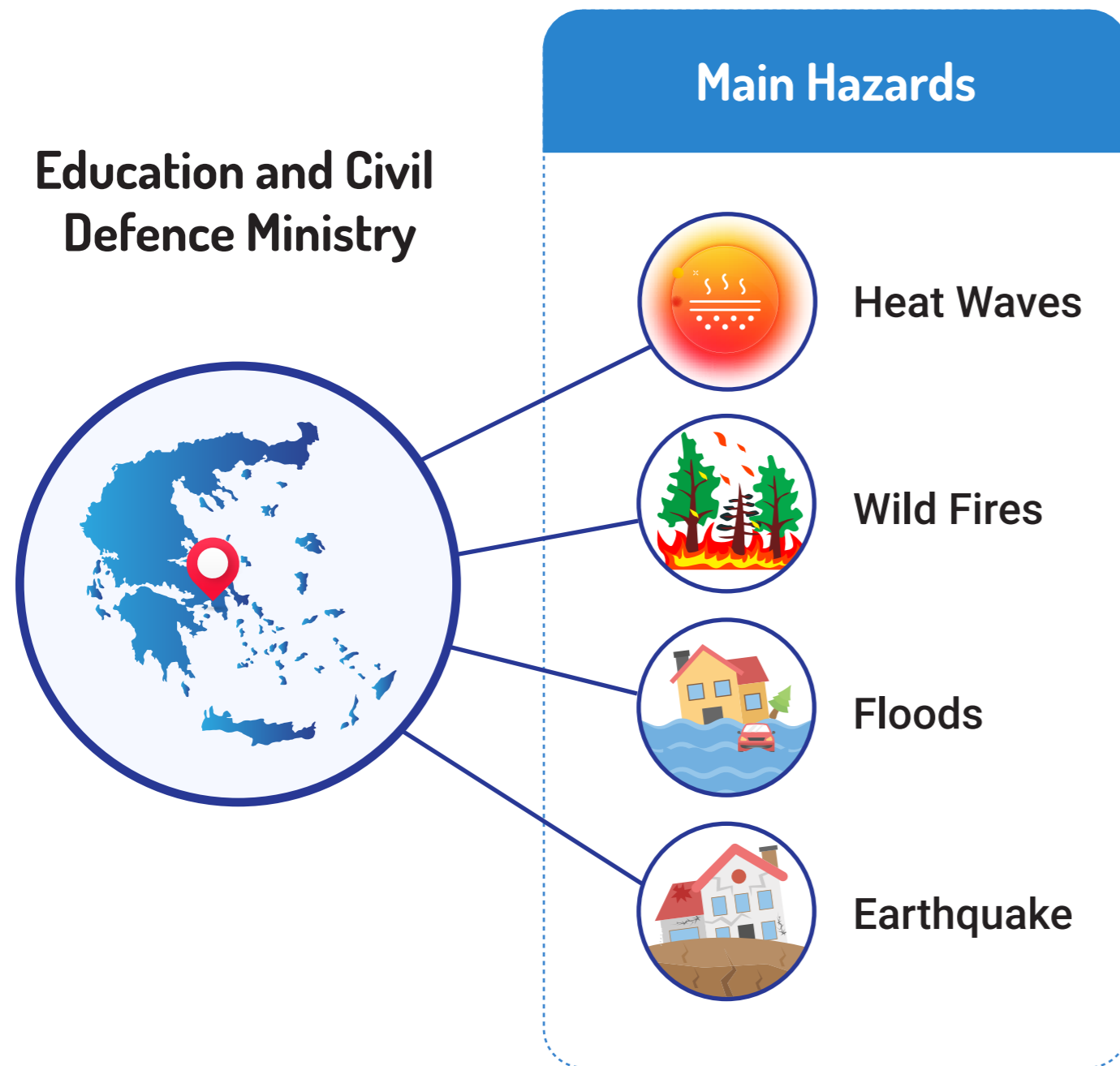
Ordu Metropolitan Municipality







Education and Civil Defence Ministry

Case Study Area: Egaleo-Greece




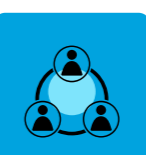


A coherent and integrated disaster management approach considering weather extreme events (wildfires, floods, heatwaves and earthquakes)



Needs

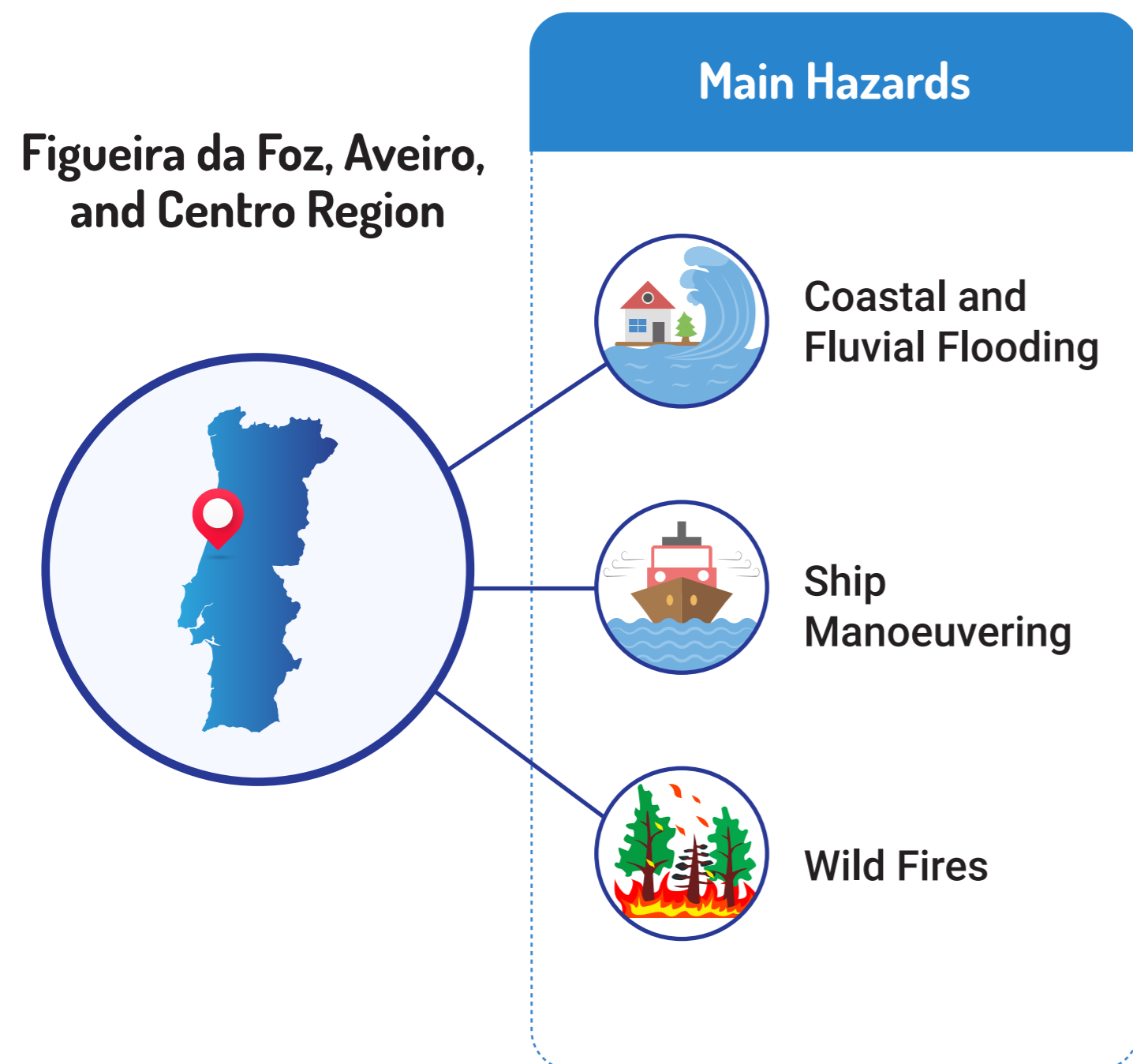
-  Improve inadequate infrastructure to manage the increasing amount of flood
-  Understand the impacts of earthquakes on municipal buildings and infrastructures
-  Re-evaluate the Sustainable Energy and Climate Action Plan (SECAP) and set municipal goals
-  Understand the risks and multi-dimensional vulnerabilities and impacts

User Groups

-  Association of Municipalities of Western Attica (ASDA)
-  University of Western Attica
-  Municipality of Egaleo
-  Volunteering Group
-  Local Schools
-  Municipal Innovation Hub

Case Study Area: Centro Region-Portugal

Coastal flooding (including river flooding) and impact of wildfires (on surface water and groundwater bodies) on Centro region main harbours, adjacent coastal areas, surface water and groundwater bodies of Mondego and Lis river basins



Needs



Understand the risks of coastal and fluvial flooding, erosion and wildfires



Evaluate the impacts of multi-hazards



Improve the existing Early Warning System

User Groups



Figueira da Foz Port



River basin administration of Centro Region



Portuguese Environment Agency



Intermunicipal Community of Coimbra Region



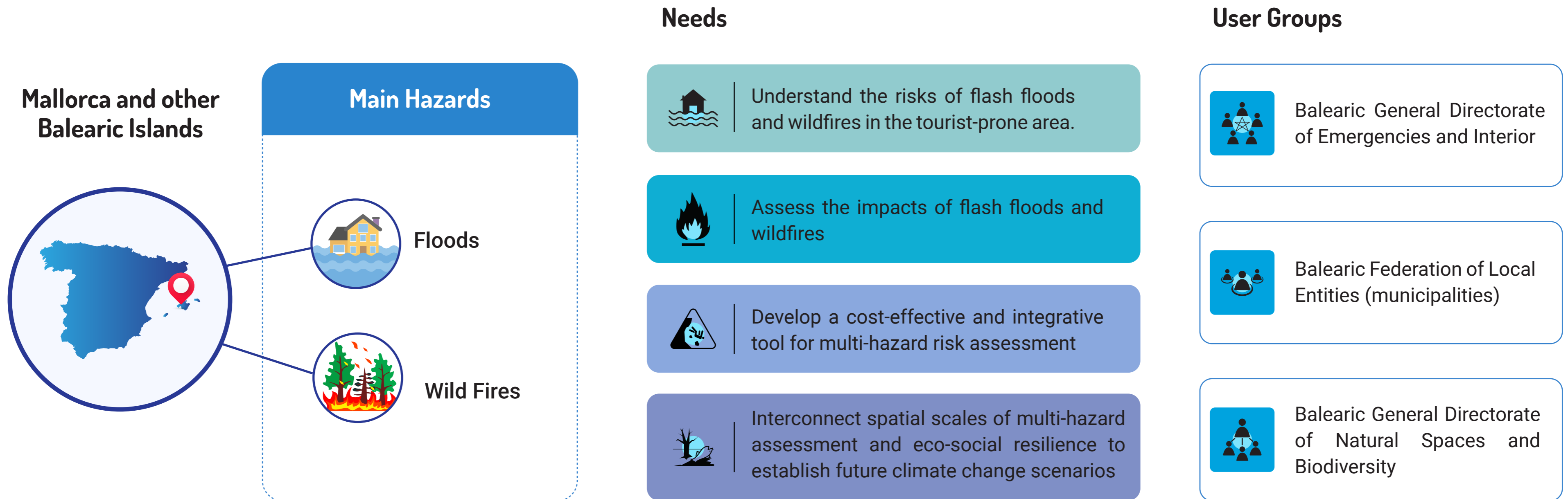
Centro Regional Coordination and Development Commission (CCDR-C)



Association of Agriculture Beneficiaries from Baixo Mondego

Case Study Area: Balearic Islands-Spain

A multi-hazard platform- from science to decision making with the island of Mallorca, Balearic Island



Impacts

Advanced disaster/crisis simulations and impact assessments supporting decision-making processes, ensuring quantitative hazard information and qualitative information.

Novel interdisciplinary risk approaches and reaching the most vulnerable segments of the community



Risk and resilience assessment solutions, studies and outputs in support of long-term multi-hazard management strategies involving interdisciplinary teams

Advanced data management, information update and forecast / early warning systems

Communication and dissemination platforms supporting an increased dialogue and cooperation

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Coordinator: Sampas Holding || Technical Lead: Technovative Solutions Ltd.



This project has received funding from the Horizon Europe Framework Programme (HORIZON) Research and Innovation Actions under grant agreement No 101074004