

A PLATFORM FOR DISASTER MANAGEMENT AND RISK REDUCTION

PARATUS is a project that aims to promote disaster preparedness and resilience by co-developing stakeholder support tools for managing the systemic risk of compounding disasters

PARATUS is a [Horizon Europe](#)-funded project that aims to **increase the preparedness of first and second responders in the face of multi-hazard events** and to reduce the risks related to impacts on various sectors that result from complex disasters.

The outcome is to develop a cloud-based **Online Service Platform** that offers support in analyzing and evaluating dynamic risk scenarios and systemic risks caused by multi-hazard disasters.

The project will perform in-depth assessments of the interactions between hazards and their resulting impacts in various sectors. In addition, it will analyze the current risk situation and study how alternative future scenarios could change multi-hazard impact chains. Scenarios will be co-designed with stakeholders and developed in four case study areas (including the Caribbean, Romania, Istanbul, and Alpine areas).

The project team will adopt a participatory methodology and use a range of tools to develop decision support techniques. The methods developed in PARATUS will be co-designed together with the local and regional communities and authorities. The case study areas cover combinations of multiple aspects: natural and anthropogenic hazard interactions (extreme weather events and associated events); scale of analysis (international, cross-border to local applications); assets and vulnerability in different sectors (social science, human health, cultural heritage, environment and biodiversity, public financial management and key economic sectors).

PARATUS project will address several key actions for a safer future.

First, figure out the dynamic and interactive conditions of risk will be carried out using data from satellite remote sensing and artificial intelligence to gain an in-depth understanding of risks that have arisen in the past and how they may evolve over time.

Secondly, a multi-sectoral systemic risk assessment will be developed. This approach will allow to study how hazards and risks change in relation to climate change and other social factors.

Context-specific decision-making tools for risk reduction, including serious games and stress testing methodologies, will also be developed to assist in short- and long-term planning. The focus will also be on the user, with the co-creation of a **user-centred risk assessment and mitigation service** to evaluate the impact chains of multi-hazard events with particular emphasis on cross-border and cascading impacts.

Finally, the project aims to extend **external cooperation, impact and transferability**, creating a **stakeholder hub** that will bring together professionals from various cultural, geographical and economic contexts.

PARATUS brings together a consortium of 19 partners from 11 countries and includes representatives of research organizations, NGOs, SMEs, first and second responders, and local and regional authorities:

- University of Twente, Project Coordinator with wide experience in the application of spatial information in hazard, vulnerability and risk assessment
- University of Bucharest, Coordinator of the Romania Case Study
- Department of Emergency Situations, Ministry of Internal Affairs, main government organization responsible for the first response after disasters in Romania
- Istanbul Technical University, Coordinator of the Istanbul Case Study
- Istanbul Metropolitan Municipality, contributing to the Istanbul Case Study
- University of Vienna, Coordinator of the Alps Case Study
- Royal Netherlands Meteorological Institute, governmental organization developing a multi-hazard early warning center for the Caribbean

- The Netherlands Red Cross, specialized in risk assessment, impact-based forecasting, damage assessment and development of spatial databases for humanitarian purposes and contributing to the Caribbean Case Study
- The Resilience Advisors Network, leader of WP5 *“External cooperation, Impact and Transferability”*
- Technical University of Catalunya, leader of WP2 *“Today’s future: how current hazard and risk may change”*
- EURAC Research Centre, leader of WP1 *“Learning from the past: understanding the dynamic and interactive conditions of risk”*
- Centre for Systems Solutions, leading the co-development of serious games
- Red Cross Red Crescent Climate Centre, supports the humanitarian and development sectors to address long-term climate risk management and is leader of WP3 *“Adapting to changes”*
- FI Group, contributing to the impact, transferability, and exploitation of the project results
- Deep Blue, leader of Communication and Dissemination
- German Aerospace Centre, leading the exploitation of satellite remote sensing data and artificial intelligence
- International Institute for Applied Systems Analysis, leading the co-development of scenarios for future change
- Asian Institute of Technology, vast expertise in web-programming and contributing to the development of the web-based tool for dynamic risk assessment
- ASFiNAG Alpenstraßen GmbH, responsible for the operational management of motorways and expressways and contributing to the Alps Case Study

Awards and recognitions

PARATUS was nominated for the [Polish Smart Development Award](#) in the **“Project of the Future”** category in July 2023. The prestigious Polish prize is awarded to innovative projects with great social impact, whose way of acting and thinking influence the intelligent and sustainable development of the life of society and the economy.

PARATUS, along with Polish project partner organisation, **the Association of the Centre for System Solutions**, was recognised by the award organisers for the results to date of the project, and its potential **to result in a positive impact on socio-economic development**.

The nomination was also awarded for an open approach to promotion and communication with the public, in presenting the importance of the benefits of the implemented solution.

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