PRESS OFFICE

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From Heatwaves To Blackouts: Why Europe Needs To Prepare For Cascading Disasters

As extreme events become increasingly interconnected, the EU-funded PARATUS project concludes with tools, methods, open-access research and new European guidelines to strengthen preparedness for compound and cascading disasters.

Brussels, 30 September 2026 – During the heatwave that hit Europe last June, one question became increasingly difficult to ignore: **what happens when extreme heat does not only cause train failures and delays, but also ignites wildfires, triggers blackouts, disrupts communication networks and sets off a chain of further failures?**

This is the reality of **compound and cascading disasters**: events in which different hazards occur simultaneously or successively, interacting with one another and potentially producing consequences far greater than those of a single event. As the IPCC defines it, *"compound risk is the interaction of simultaneous or successive multiple hazards or events that combine to produce extreme disasters capable of generating widespread losses."*

Preparing for these scenarios is the focus of **PARATUS**, a European research project bringing together researchers and practitioners to develop new approaches, tools and methods for assessing and managing risks across hazards, infrastructures and communities.

As the project reaches its conclusion in September 2026, PARATUS leaves behind practical resources and recommendations designed to strengthen disaster preparedness in Europe and ensure that its knowledge and tools remain accessible beyond the project's lifetime.

Preparing for disasters that do not happen in isolation

A heatwave can increase the risk of wildfires and put pressure on energy systems. A wildfire can damage infrastructure and disrupt communications. An earthquake can

simultaneously affect transport, energy and emergency response. **When critical systems are interconnected, the failure of one can create consequences across others.**

PARATUS addresses these challenges through a **multi-hazard approach to disaster risk preparedness**, combining risk assessment, scenario analysis, stakeholder engagement and innovative tools to support decision-making.

The project's results were presented on **29 June in Brussels**, during the PARATUS Final Event at The Hotel, held one day before the European Commission's **Disaster Resilience Days**. The event brought together practitioners, first and second responders, policy experts, researchers and other stakeholders.

PARATUS showcased its tools, applications and methods in an interactive format and published a series of **dedicated open-access papers**, including lessons learned from its **four case studies**.

Opening the event, **Funda Atun, PARATUS Project Coordinator and Associate Professor at the University of Twente**, highlighted a key lesson: *"No matter how good the assessment is, no matter how good the plan is, failures occur during disaster. This is why we shall focus on the role of society in mitigating or increasing the risk, and understand what didn't work, but also what went well."*

For PARATUS, effective preparedness must therefore go beyond technical assessments and emergency plans. **Socio-technical factors matter**, including the role of citizens, children, older people and spontaneous volunteers.

From research results to long-term standards

One of PARATUS's key achievements is its contribution to a **CEN Workshop Agreement (CWA), "Guidelines for Disaster Risk Preparedness Solutions – Project tools, platforms and processes – Good practice recommendations."**

The process began in early 2024 after stakeholders identified a need for greater standardisation and for sustainability to be considered from the earliest stages of disaster preparedness projects. "*Already in year one we realized that most stakeholders involved were seeking higher standardization when it comes to Disaster Risk Preparedness*," says **Cees Van Westen, Full Professor at the Faculty of Geo-Information Science and Earth Observation of the University of Twente**. *"They emphasised the need for sustainability planning from an early stage, including long-term hosting, preservation of web domains and continued access to documentation, datasets and training resources."*

The draft CWA highlights **shared repositories, discoverability, interoperability, community engagement and collaborative networks**, while providing guidance for effective long-term governance and custodianship.

Keeping preparedness alive beyond PARATUS

PARATUS will officially close in September 2026, but its work will continue through the **Disaster Risk Stakeholder Hub (DRS Hub)**.

The Hub brings together results and open-access tools from several European projects and provides a space for continued dialogue and collaboration among people working on societal resilience and systemic risks. *“As soon as we established the DRS Stakeholder Hub, members had immediate access to a broad and dynamic network of people engaged in Societal Resilience at various levels,”* says **Jon Hall, Crisis Management and Civil Protection Specialist at Resilience Advisory Network**, responsible for the DRS Hub.

The Hub will help ensure that knowledge, tools and networks developed through European research remain available beyond the lifetime of individual projects.

Building resilience before the next cascading crisis

The conclusion of PARATUS comes as Europe faces increasingly complex emergencies in which extreme weather, critical infrastructure dependencies and societal vulnerabilities can interact. The project's message is clear: **preparedness cannot stop at predicting the next hazard. Europe must also be ready for what happens next.**

Through its **multi-hazard tools and methods, four case studies, a series of open-access papers, CEN standardisation work, stakeholder networks and Disaster Risk Stakeholder Hub**, PARATUS contributes to a more integrated approach to disaster preparedness – one capable of addressing not only individual hazards, but the complex chains of events they can trigger.

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About PARATUS

PARATUS is a European research project focused on improving disaster preparedness and societal resilience by addressing multi-hazard, compound and cascading risks. The project brings together researchers, practitioners and stakeholders to develop and test tools, methods and approaches supporting risk assessment, preparedness, communication and decision-making across hazards and sectors.

To bridge scientific research, policy, and operational response in the field of Disaster Risk Management, the PARATUS project brought together a **multidisciplinary consortium comprising 10 universities and research centres, 2 industry partners, 4 public authorities, and 2 NGOs.** Built on the principles of co-design, co-development, and co-evaluation, PARATUS brought academic experts and local stakeholders together to collaborate across four Application Case Studies: Istanbul, Bucharest, the Alps, and the Caribbean.

Discover the full list of project partners below:

1. University of Twente, Project Coordinator with wide experience in the application of spatial information in hazard, vulnerability and risk assessment
2. University of Bucharest, Coordinator of the Romania Case Study
3. Department of Emergency Situations, Ministry of Internal Affairs, main government organization responsible for the first response after disasters in Romania
4. Istanbul Technical University, Coordinator of the Istanbul Case Study

5. Istanbul Metropolitan Municipality, contributing to the Istanbul Case Stud
6. University of Vienna, Coordinator of the Alps Case Study
7. Royal Netherlands Meteorological Institute, governmental organization developing a multi-hazard early warning center for the Caribbean
8. 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
9. The Resilience Advisors Network, leader of WP5 “External cooperation, Impact and Transferability”
10. Technical University of Catalunya, leader of WP2 “Today’s future: how current hazard and risk may change”
11. EURAC Research Centre, leader of WP1 “Learning from the past: understanding the dynamic and interactive conditions of risk”
12. Centre for Systems Solutions, leading the co-development of serious games
13. 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”
14. Deep Blue, leader of Communication and Dissemination
15. German Aerospace Centre, leading the exploitation of satellite remote sensing data and artificial intelligence
16. International Institute for Applied Systems Analysis, leading the co-development of scenarios for future change
17. Asian Institute of Technology, vast expertise in web-programming and contributing to the development of the web-based tool for dynamic risk assessment
18. ASFiNAG Alpenstraßen GmbH, responsible for the operational management of motorways and expressways and contributing to the Alps Case Study

CALL TO ACTION

Visit the DRS Hub at www.DRS-hub.eu and reach out for further collaboration.

Links

1	Link to folder with downloadable press release and images
2	PARATUS website
3	YouTube channel with full interviews
4	CEN Workshop Agreement
5	Policy Brief - Strengthening Societal Resilience to Disasters
6	www.DRS-hub.eu

The company: Deep Blue Srl
Deep Blue is a Rome-based Italian SME that tackles some of today's most critical social and technological challenges through advanced research and high-value consultancy.
Its interdisciplinary team combines expertise in Human Factors, Safety and User-Centred Design to enhance organisational performance and safety. This is achieved by designing, developing and validating services, processes and systems that are robust, effective and aligned with real operational needs.
Since 2001, Deep Blue has played a key role in advancing European research and innovation, securing EU funding for over 130 projects, including 23 as coordinator. It is currently the leading Italian SME and ranks third in Europe for research and innovation projects awarded and delivered under the Horizon programmes (since 2014, source:European Commission).

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