WEBINAR

Refining Infrastructure Resilience through Visualization and Data Intelligence

Webinar under the ReCharged Project (HORIZON-MSCA-2021-SE-01)

Date: 10 Sep 2025	Time: 10:00 – 13:30 [CET]	Location: Online

Webinar Description

This webinar is organised within the framework of the **ReCharged Project (HORIZON-MSCA-2021-SE-01)**, which brings together a multidisciplinary consortium of researchers, engineers, and innovation experts aiming to enhance the **resilience and sustainability of interdependent infrastructure systems** – particularly energy and transport – through advanced digital technologies.

Titled **"Refining Infrastructure Resilience through Visualization and Data Intelligence"**, the webinar will introduce participants to the ReCharged project's core vision and methodology. It will present the project's achievements in leveraging **data-driven tools, AI-enhanced algorithms**, and an integrated **visualisation platform** to support decision-making for infrastructure managers and policy makers. The event will feature thematic presentations from project partners and a live interactive panel with stakeholders across Europe.

Target Audience

This webinar is open to all those interested in the future of resilient and climate-aware infrastructure. It is particularly relevant for:

- **Researchers and academics** in engineering, environmental sciences, urban studies, and data science
- **University students** at undergraduate or postgraduate level
- **Public authorities and policymakers** involved in infrastructure, resilience, and sustainability
- **Civil engineers and urban planners**
- **Technology developers** in AI, modelling, and visualisation tools

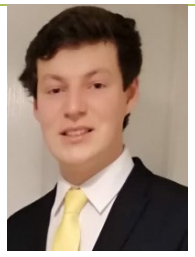
Organized by BEIA, this webinar combines a mix of speakers within the project partners and external stakeholders.
Location: Online ,

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmIwZDUzMGQtZDA2ZS00ZjE3LTg5NzctNGUwNDQwOGY4MGE2%40thread.v2/0?context=%7b%22Tid%22%3a%22187a28c6-8d9e-4bd2-849c-86b69e8e591b%22%2c%22Oid%22%3a%220192b4e1-43a0-45e2-9d26-bccefc655c95%22%7d

Moderator	Description
 **Dr. Eng. Cristina Mihaela Dobre** *BEIA Consult International, Romania*	She is a PhD scientific researcher III with over 15 years' experience in the field of climate change, environmental impact assessment, smart agriculture, data analysis, air quality modelling. She graduated from Faculty of Physics, University of Bucharest, specialization Physics and Environmental Protection, she is an engineer with a Master of Science in Meteorology and Earth Science from University of Bucharest, Faculty of Physics Romania and earned Ph.D. from 2011 in air quality modelling and telemetry from the Polytechnics University of Bucharest, Romania. She is the author of 1 book, published over 20 articles in ISI and BDI journals, 20 in proceedings and conference volume. Also, she is project manager at 6 international projects and team member of 10 national and international projects. Besides the research activities, she won the BENA fellowship in 2006 and 2007 and prize of Romanian Physics Society "Ion Agarbiceanu". She has a diploma of Project Manager from 2015, Certificat: Advanced ArcGIS obtained in 2006.

Time (CET)	Speaker	Activity
10:00–10:15 CET	Moderator  **Dr. Eng. Cristina Dobre** *BEIA Consult International, Romania*	**Opening Remarks. Welcome and Objectives** This opening session will introduce the purpose and scope of the webinar, outlining its connection to the ReCharged project's broader mission. Participants will be welcomed by the moderator, who will present the main objectives of the event, highlight the structure of the agenda, and set the stage for a productive exchange on infrastructure resilience, data intelligence, and sustainable development.
10:15–10:30 CET	 **Marianna Loli** *Grid Engineers, Greece* Dr Marianna Loli has 14 years of experience with multi-hazard engineering projects in several parts of the world. Her technical expertise involves flood impact modeling, seismic & climate risk, and design of mitigation and adaptation solutions for critical infrastructure networks. In Grid Engineers, she is currently the team leader of a development project aiming at producing a tool for the optimization of risk mitigation decisions in South Asia (funded by the World Bank) and the coordinator of two research and innovation projects with a	**Presentation of the ReCharged Project** This session will provide an overview of the ReCharged project, outlining its main goals, the interdisciplinary consortium behind it, and the anticipated impact on infrastructure resilience and climate adaptation. Participants will gain insight into how ReCharged aims to make use of digital innovation, collaborative knowledge exchange, and systems thinking to support decision-making in managing interdependent transport and energy infrastructures (iTESLA).

	total budget of 6 million euros (funded by the European Commission).	
10:30–11:00 CET	 **Professor Mathaios Panteli** *KIOS Research and Innovation Center of Excellence, University of Cyprus* Mathaios Panteli is an Assistant Professor in the Department of Electrical and Computer Engineering at the University of Cyprus (since 2021) and a faculty member of the KIOS Research and Innovation Centre of Excellence (since 2023). He also holds an Honorary Lecturer position at Imperial College London and serves as the Andre Jaumotte Chair Professor at Université Libre de Bruxelles (appointed by the Royal Academy of Belgium). His research in power systems has secured multi-million funding from research councils, industry, and the European Commission. He has published over 100 peer-reviewed articles and delivered invited talks to major conferences, regulators, industry, and organizations such as the World Bank. He received the 2018 Newton Prize, was shortlisted for the 2022 Innovation Radar Prize, and has been recognized since 2020 as a highly cited researcher by Elsevier BV and Stanford University.	**Weathering the Storm: Resilience at the Core of Future Energy Systems** As our energy systems face an era of unprecedented complexity driven by climate volatility and rapid decarbonization, resilience has become not just a design principle, but a necessity. This presentation explores the evolving landscape of power system resilience, highlighting key insights from global projects and groundbreaking research. Drawing on real-world applications, it will examine how integrated, risk-based, and digitally enabled strategies are redefining the way we design, operate, and plan future energy systems. From probabilistic security assessments to resilient microgrid networks, this talk makes the case for resilience not just as an add-on, but as a vital planning and operation criterion of future energy systems.
11:00–11:30 CET	 **Eng. Theodor Pintilie** *BEIA Consult International, Romania*	**Technical presentation - Visualisation platform to facilitate decision making toward resilient and sustainable iTESLA** This technical session will showcase the ReCharged project's visualisation

	Eng. Theodor Pintilie has 4 years of experience in Research and Development activities. He graduated from the University "Politehnica" of Bucharest, specialising in Earth Observation and GIS during his bachelor's thesis research. He made contributions in several of the company's projects in technical tasks, reports writing, etc. He has participated in several events and conferences presenting the company's projects and results. Co-author of more than five published research papers.	platform, designed to support informed decision-making for the management of interdependent Transport and Energy Systems, Lifelines, and Assets (iTESLA). The platform offers clear, interactive visualisations and provides a library of scenarios using realistic climate hazards and different adaptation and recovery strategies.
11:30–12:00 CET	 **Eng. Morgan Breen** *PhD Student, Brunel University, London* Morgan Breen is a doctoral researcher within the College of Engineering, Design and Physical Sciences. His work focuses on developing a comprehensive understanding of the unintended consequences of flood defences and potential implications on future flood risk management policy choices. Seeking to advise flood agencies and policy makers on unintended, and often unincorporated, social, economic, hydrological, and environmental consequences of coastal flood defences, and the challenges facing the UK, and other coastal countries, in a changing climate.	**Data-Driven Critical Infrastructure Exposure Analysis for Climate Adaptation** This session will focus on innovative methods for assessing the exposure and vulnerability of critical infrastructure systems to climate-related hazards using data-driven approaches. Participants will gain insight into how advanced analytics, historical datasets, and predictive modelling are used to quantify risk, evaluate interdependencies, and support strategic planning for infrastructure resilience.
12:00–12:30 CET	 **Professor Tatiana Kalganova**	**Thematic Session - Green Environmentally friendly AI in Construction: Move Forward** This session will explore how artificial intelligence (AI) can drive greener

	Brunel University of London, United Kingdom Professor Tatiana Kalganova is a distinguished expert in intelligent systems, with a strong academic foundation in evolutionary computing, digital hardware design, and neuromorphic computing. Her research spans a wide range of applied domains, including artificial intelligence, robotics, supply chain optimisation, and climate-resilient infrastructure. She has led and contributed to numerous interdisciplinary projects funded by UKRI, Horizon Europe, and industry, including work on spiking neural networks, swarm intelligence, and embedded AI systems. Plays an active role in academic leadership—supervising PhD researchers, teaching across undergraduate and postgraduate levels, and serving on editorial boards and international review panels. Her contributions bridge cutting-edge AI research with practical, real-world impact across sectors.	practices in the construction sector. Focusing on environmentally friendly applications, the presentation will highlight emerging AI tools that optimize resource use, reduce carbon emissions, and support sustainable infrastructure design.
12:30–12:45 CET	 **Mr. Tudor Drambarean** *Alba Iulia Municipality, Romania* A highly experienced professional in Public Management, Administration, and Public Policy, with a strong track record in EU project management within the context of urban development. Demonstrated expertise spans major EU funding programmes such as Horizon Europe, URBACT, and Interreg Europe.	**Alba Iulia Municipality's commitment to the sustainable growth through European projects** This session will highlight the efforts of Alba Iulia Municipality in advancing sustainable urban development through active participation in European-funded projects. The presentation will showcase the city's strategic initiatives to integrate smart technologies, enhance infrastructure resilience, and align with climate adaptation goals.

12:45–13:00 CET	 **Eng. Dragoș-Ioan Sacaleanu** *GEOSENSE Research Laboratory, Romania* Eng. SĂCĂLEANU is a lecturer at the Faculty of Electronics, Telecommunications and Information Technology of the National University of Science and Technology POLITEHNICA Bucharest, and co-founder of the Geospatial and Smart Sensors for Environmental Applications research laboratory (GEOSENSE) within the Campus Research Institute. He holds a Bachelor of Engineering in Electronics, Computer Systems Engineering, and a Ph.D. in Electronics and Telecommunications from POLITEHNICA Bucharest. In 2024, he received the Fulbright-RAF Scholar Award in the field of Agricultural Extension Services at the University of Georgia, USA. His research fields include wireless sensor networks and IoT systems .	**Geospatial and Smart Sensors for Environmental Applications** This session will explore the integration of geospatial technologies and smart sensor systems to support environmental monitoring and infrastructure resilience. It will highlight how real-time data from distributed sensors—combined with geospatial analysis—can enhance situational awareness, detect environmental hazards, and inform adaptive strategies for critical infrastructure. Applications will include air quality monitoring, urban heat island detection, and early warning systems, demonstrating how sensor networks contribute to data-driven sustainability and climate adaptation efforts.
13:00–13:15 CET	Moderator  **Dr. Eng. Cristina Dobre** *BEIA Consult International, Romania*	**Interactive Panel Discussion with Project Partners and Stakeholders** This interactive session will bring together key project partners and external stakeholders to discuss the challenges, opportunities, and lessons learned in advancing resilient and sustainable infrastructure through the ReCharged project. Panelists will reflect on cross-sector collaboration,

		the role of digital tools in infrastructure management, and how local and regional actors can contribute to climate adaptation. The audience will be invited to participate actively, and encourage dialogue across disciplines and sectors.
13:15–13:30 CET		**Q&A Session, Conclusions. Next Steps & Closing Remarks** In the closing segment, participants can engage with speakers in a live Q&A session, followed by a summary of key insights and outcomes from the webinar. Final remarks will outline next steps, future collaboration opportunities, and how to stay involved with the ReCharged project.