

Consultation, Participation, Augmented Reality & Training = CoPART

Would you be interested in using our Artificial Reality-driven (AR) functionality to assess likely patterns and impact of rising water levels in your (and other) regions? If so, we invite you to contact us for further information about the functionality, the associated training involved and the potential impact on local and regional communities that such joint developments can deliver. An overview can be found in the documents associated with this proposal. Local, regional authorities are invited to participate in our proposal. We would like to submit the proposal in the INTERREG-BSR call which closes in Jan 2023, and would be pleased to hear back from you.

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The Climate and Research Division of the Lithuanian Hydrometeorological Service notes that precipitation in the Baltic Sea region is set to radically change. CoPART leverages Augmented Reality (AR) technology to support decision makers and stakeholders in regional communities by making the projected impact of extreme weather events tangible to stakeholders.

Using participative workshops, CoPART employs a two-step approach to focus on water management. Today's planning processes leverage 2D topographical maps, static visualisations and statistical figures and graphics, often difficult to intuitively understand for laypeople. CoPART uses AR to integrate scientific modelling data, current vulnerabilities and response options for user-selected areas to realistically and immersively present simulations of the impact of potential changes in water quantities. CoPART tools are currently used by German, Italian and Spanish regional authorities in training of first responders.

Our presentation of likely developments, proposed solutions and potential interventions will increase engagement with and acceptance of climate-related infrastructure measures within communities by using a participative, co-creation approach. CoPART informs infrastructural planning, delivering input to adaptation of existing infrastructure, building renovation, relocation of infrastructure and impact of new building projects, amongst others.

CoPART provides simulation data in sufficient granularity to model likely developments in chosen areas and to demonstrate the impact of mitigating remedies proposed by users. The platform includes a damage assessment model developed by GFZ. IT provider SaferPlaces delivers city/location-specific, exploiting available open data and integrating uploaded end-user data. Public authorities, planners, relevant stakeholders and other users modify orography by adding or removing barriers, creating depressions, removing selected buildings etc. to visualise the projected impact on the local environment.

CoPART generates digital twins of urban areas to provide input for 3D rendering and flood modelling, using existing technologies. Project partners have developed oKat-SIM, providing professional participative training for civil protection and civil security using AR, and the SaferPlaces functionality provides crisis training as part of a large-scale EU-funded Climate-KIC, leveraging geospatial, satellite, climate data and AI-based modelling to provide flood risk intelligence.

CoPART tools will allow improved communication and transmission of information to all stakeholders including citizens, by providing compelling and understandable 'playable' scenarios of proposed developments and remedies. Scenarios may include past, present and future depictions of all water-related issues.

CoPART will allow proposed solutions to be immediately visualised and their potential impact assessed. Real-time updates (i.e. from weather reports) will allow assessment, adaptation and management of responses to real-world developments. Such responses will be presented using AR to achieve an understandable immersive demonstration of the impact of selected courses of action.

CoPART addresses local and regional authorities needing to develop urban or rural areas; national/regional/local water management; relevant stakeholders include agriculture, aquaculture, fishery, forestry, waste management, industry stakeholders and households.

Users will include first responders (emergency services), public authorities, urban planners, civil protection/security, local decision-makers. Secondary users will include second responders, citizens, regional communities and business organisations. Partners from local and regional authorities may use CoPART tools to address real and currently existing urban development problems and issues, in addition to revisiting past events and exploring potential developments.

Consortium:

- [Filmuniversitaet Babelsberg](#) KONRAD WOLF, Germany (consortium leader, video technologies)
 - FBKW is Germany's oldest film school and is a leading practitioner of film- and video-related technologies, with a particular focus on AR/VR technology. FBKW has been involved with multiple EU-funded projects including the recent oKat-SIM which developed the demonstration version of the application on which this proposal is based.
- [Climate Media Factory](#), Germany (workshop development)
 - Climate Media Factory develops media formats and communication tools that bring scientific knowledge and innovative concepts for sustainable futures to decision-makers and into society to shape societal discourses about the future. In the project, the CMF will be responsible for information curation, communicative interventions and scenario narration.
- University of Warsaw/ [Nature-based Solutions](#), Poland (scientific input)
 - The University of Warsaw (Department of Urban Geography and Spatial Planning at the Faculty of Geography and Regional Studies) is currently involved in adaptation of urban spaces to climate change using green infrastructure and nature-based solutions.

To be still identified and added:

- Selected public authorities from the Baltic region (data, validation, consultation, participative training)
 - Public authorities will provide the use cases and will host the planning workshops.

Plus:

- Sub-contractor: [SaferPlaces](#), Italy (technology)
 - GECOsistema is a specialist company providing advanced engineering cloud-web, data-science and modelling studies and services in the field of environmental, climate risk and geospatial intelligence. SaferPLACES AI-based Digital Twin Solution for flood risk intelligence in cities is developed and made available on the market by GECOsistema srl.