

Horizon Europe Partner Search Form

Topic

Topic we are interested in:

Call ID: HORIZON-CL4-2026-04-DIGITAL-EMERGING-09

Links: [EU Funding & Tenders Portal](#)

Deadline: April 15, 2026

Expected Outcome

- Enhanced protection of citizens from the natural hazard of flooding by facilitating proactive decision-making and effective disaster management through open AI-driven models for urban resilience strategies and planning that can help predict, respond to, and mitigate impacts before a disaster occurs.
- Improved modelling and prediction of urban and riverine flooding by expanding the capabilities of Local Digital Twins with sophisticated AI algorithms and relevant data detailing hydrological and hydraulic processes.
- Strengthened integration of diverse and essential datasets including detailed terrain, land cover, urban features, soil data, and real-time meteorological information (rainfall and temperature, river geometry, and flow) sourced from national hydrometric networks, urban drainage infrastructure, and flood protection assets. This integration aims to enhance flood analysis, simulation, and preparedness particularly in response to climate change and flood scenarios like heavy rainfall impacting nearby river basins.

Scope

- Proposals should focus on the development of innovative AI algorithms that move beyond rigid functions, employing instead a dynamic set of descriptive building features derived from digital models (e.g., geometrical parameters, urban morphology, socio-economic indicators). These algorithms should be integrated with advanced, high-resolution hazard models — including hydrological and hydraulic models — tailored to the specific characteristics of the local area.
- The Local Digital Twins will enable Flood damage models capable of calculating building-scale impacts, forming the basis for damage hotspot maps and Interactive user interfaces that allow components to be exchanged, modified, and reconfigured to estimate flood damage under various urban planning and risk management scenarios — for example, assessing the feasibility of proposed or existing constructions in flood-prone zones and recommending targeted mitigation strategies.

Short summary of my partner search:

I offer my expertise to participate

I am planning to coordinate a proposal, and I am looking for partners

Note:

Project information

Tentative title:

Advanced Local Digital Twins using AI for Early Warning and Preparedness

Potential contribution of my organisation to the project:

We have strong expertise on multi-satellite AI-based remote sensing models with state-of-the-art abilities to transfer knowledge across satellites and sensors (including SAR). Our AI models can fill a critical gap in early warning systems, as the availability of potentially low quality and non-optical data right after a disaster can be highly valuable.

Role in the project:

- Civil society representative
- Project management
- Communication, dissemination, and engagement
- Policy maker
- Research
- Training
- Other, please specify:

Experience as a coordinator:

- Yes
- No

Experience as a partner in a collaborative project:

- Yes
- No

Target Coordinator/Partner sought

Organisation type:

- Higher Education/University
- Public Research Organisation
- Large Scale Enterprise
- Small and Medium Scale Enterprise
- Public Body/Authority
- International NGO
- National NGO, Regional or local associations

Other, please specify: We are open to collaborate with all listed.

We are looking for the following expertise/competencies:

We are looking for a consortia applying to this call to offer our expertise.

Contact details

Contact person:	Hrant Khachatryan
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Additional information on the organisation (previous projects, publications, etc.):

Publication related to the call:

- Tamazyan, H., Vanyan, A., Barseghyan, A., Khosrovyan, A., Shelhamer, E., Khachatryan, H. (2025) "GeoCrossBench: Cross-Band Generalization for Remote Sensing" TerraBytes Workshop at ICML 2025; Under review at TMLR
- Barseghyan, A., Vanyan, A., Tamazyan, H., Shelhamer, E., Khachatryan, H. (2025) "Less is More? Data Specialization for Self-Supervised Remote Sensing Models" DataWorld and TerraBytes Workshops at ICML 2025
- Tamazyan, H., Vanyan, A., Galstyan, T., Barseghyan, A., Khosrovyan, A., Huroyan, V., Khachatryan, H. (2024) "Benchmarking Robustness of Foundation Models for Remote Sensing" ECCV 2024 OODCV Workshop
- Vanyan, A., Barseghyan, A., Tamazyan, H., Galstyan, T., Huroyan, V., Khachatryan, H., Hovakimyan, N. (2025) "Do Satellite Tasks Need Special Pretraining?" ICLR 2025 ML4RS Workshop; Under review at IEEE Geoscience and Remote Sensing Letters
- Vanyan, A., Barseghyan, A., Tamazyan, H., Huroyan, V., Khachatryan, H., Galstyan, T. (2024) "Analyzing Local Representations of Self-Supervised Vision Transformers" Submitted to IJCV