Funded by European Union Humanitarian Aid

Rapid Multi-Risk Needs Evaluation and Planning Platform

101193586 - EMERGE - UCPM-2024-KAPP-PV

Comprehensive Multi-Risk Assessment Platform for Needs Prioritization and Planning
EMERGE WBP Architecture

Work package:	02
Deliverable Number:	2.3 (Content Overview)
Lead Beneficiary:	EUCENTRE
Coordinator:	IZIIS
Contributing Beneficiaries:	IZIIS, CMC, IUSS, JBE, PPI, PRD, UPT, AKMC, INFRATECH, AUTH, NOA
Dissemination Level:	Public
Version:	1.0
Due Date:	October 31, 2025
Submission Date:	October 31, 2025

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EMERGE WBP Architecture

WP-02 | D.2.3

(Content Overview)

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October 31, 2025

Content Overview

This document broadly outlines the content of Deliverable 2.3, whose dissemination level is classified as sensitive.

Deliverable D2.3 of the EMERGE project defines the architecture of the EMERGE Web-Based Platform (WBP), designed as an enhancement of the platform developed under the CRISIS project (Comprehensive RISk assessment of basic services and transport InfraStructure, 101004830-UCPM-2020-PP-AG). Key improvements include: (i) near real-time (NRT) multi-hazard assessments, (ii) rapid NRT post-disaster needs evaluations, and (iii) expanded risk assessments to cover not just bridges, schools, and hospitals but also residential, commercial, and industrial buildings in the project Cross-Border Region (CBR).

This deliverable focuses on the technical specifications of the WBP to be developed within the framework of the EMERGE project. We opted for a web-based approach due to its combination of user-friendly accessibility through standard browsers and the powerful capabilities of geographic databases.

The field of Geographic Information Systems (GIS), particularly in the context of WebGIS, continues to evolve rapidly, both in terms of data processing tools and web-based geographic data publication. Therefore, we needed to carry out a preliminary comparative analysis and selection of the suitable GIS technologies, by paying particular attention to the tools developed for web-based geographic data visualization and publication. Specifically, the latter should be performed according to standards that are not tied to a particular software platform (Web Services) to ensure the widest availability and integration of geographic data.

In Deliverable 2.3 we identified the geographic standards for data exchange, the libraries for the Graphical User Interface (GUI), the format for updating geographic data, and the software components of the frontend and backend of the WBP that will be implemented in EMERGE.