

A small green seedling with two leaves is growing out of a crack in dry, cracked earth. The background is a close-up of the cracked soil, with a soft purple and blue color cast.

# FLOODS AND DROUGHTS

GenAI-enabled  
solutions for water  
resilience and  
citizen-centered  
crisis management



---

## OUR PARTNERSHIP



---

# OUR IMPACT-DRIVEN APPROACH

- Floods and Droughts adopts a concrete, impact-driven approach, grounding the development of GenAI solutions in a real and urgent challenge: **resilience to water-related risks and extreme hydrogeological events.**
- High added value for the EU, **combining digital development policies with sustainable development policies:** a deep integration of AI capabilities to transform EU strategic objectives **into tangible regional impacts.**
- AI for Climate Resilience and Safety: Strengthening both the European generative AI supply chain and territorial expertise to **prevent and manage climate risks** through practical AI applications that save lives and infrastructures.
- Comprehensive solutions portfolio: **Developing horizontal (enabling) and vertical (stakeholder-focused) solutions** that address the diverse needs of regional authorities throughout the entire water management lifecycle.



# PROJECT OBJECTIVES

Design, develop and validate a modular and scalable GenAI-based architecture that empowers European PAs to prevent, manage and communicate risks linked to **water-related extreme events**

Deliver **impact-based early warnings and decision support**, by translating the complexity of forecasts and hydrological models into actionable scenarios



Support **operational intelligence during crises**, integrating heterogeneous data sources into unified dashboards within 15 minutes of event detection



Empower citizens and communities by reaching vulnerable populations, **delivering geo-localised alerts** while **collecting structured citizen reports**



Strengthen prevention, recovery, and governance by **providing dynamic vulnerability maps** and **speeding up post-event damage assessment**

---

# EXPECTED RESULTS AND IMPACTS

**Faster decision-making**, potentially reducing decision time by up to 50% during emergencies.

Improved **data interoperability** and cross-border information sharing, aligned with EU frameworks (EIF, FAIR, MIMs).

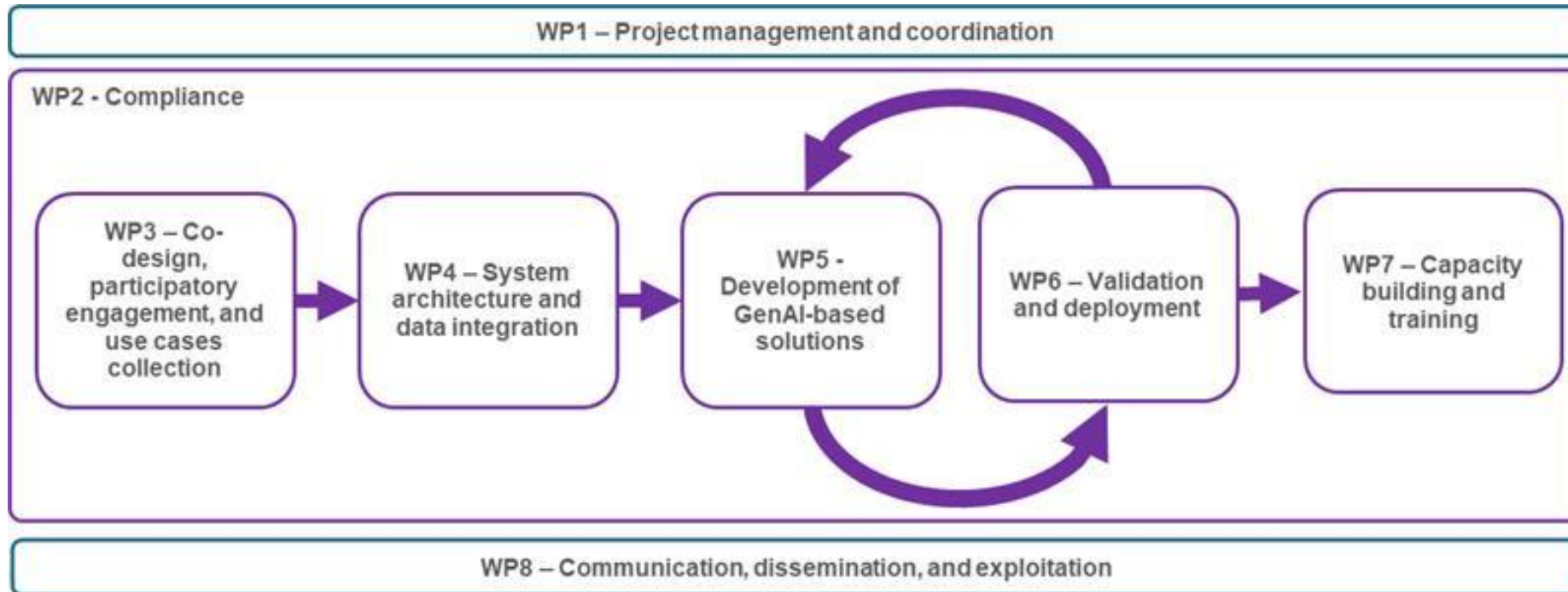
**Inclusive and accessible citizen communication**, reaching 80–95% of vulnerable groups with multilingual interfaces.

Strengthened **EU technological sovereignty** by reducing dependence on non-EU AI providers and producing reusable GenAI modules.

Enhanced **resilience to floods, droughts, and climate risks**, supporting Green Deal and Crisis Management Data Spaces.

---

# THE PROJECT IN A NUTSHELL



# PROJECT STRUCTURE

Compliance, Ownership and Sustainability

Co-design, participatory, engagement  
and use-case collection

System design & data integration

Cross cutting GenAI solution / Platform

Decision support  
GenAI solutions

Process  
improvement  
GenAI solutions

Administrative  
simplification  
GenAI solutions

Citizen oriented  
GenAI solutions

CAPACITY  
BUILDING

Outreach and  
mainstreaming



# POTENTIAL FOR SYNERGIES

Maturity of the proposal, also in terms of relations within the EU digital ecosystem (EU institutions, EuroHPC infrastructures, Living-in.eu, LORDIMAS community, Data Spaces, AI Factories, EDICs, ERRIN network)

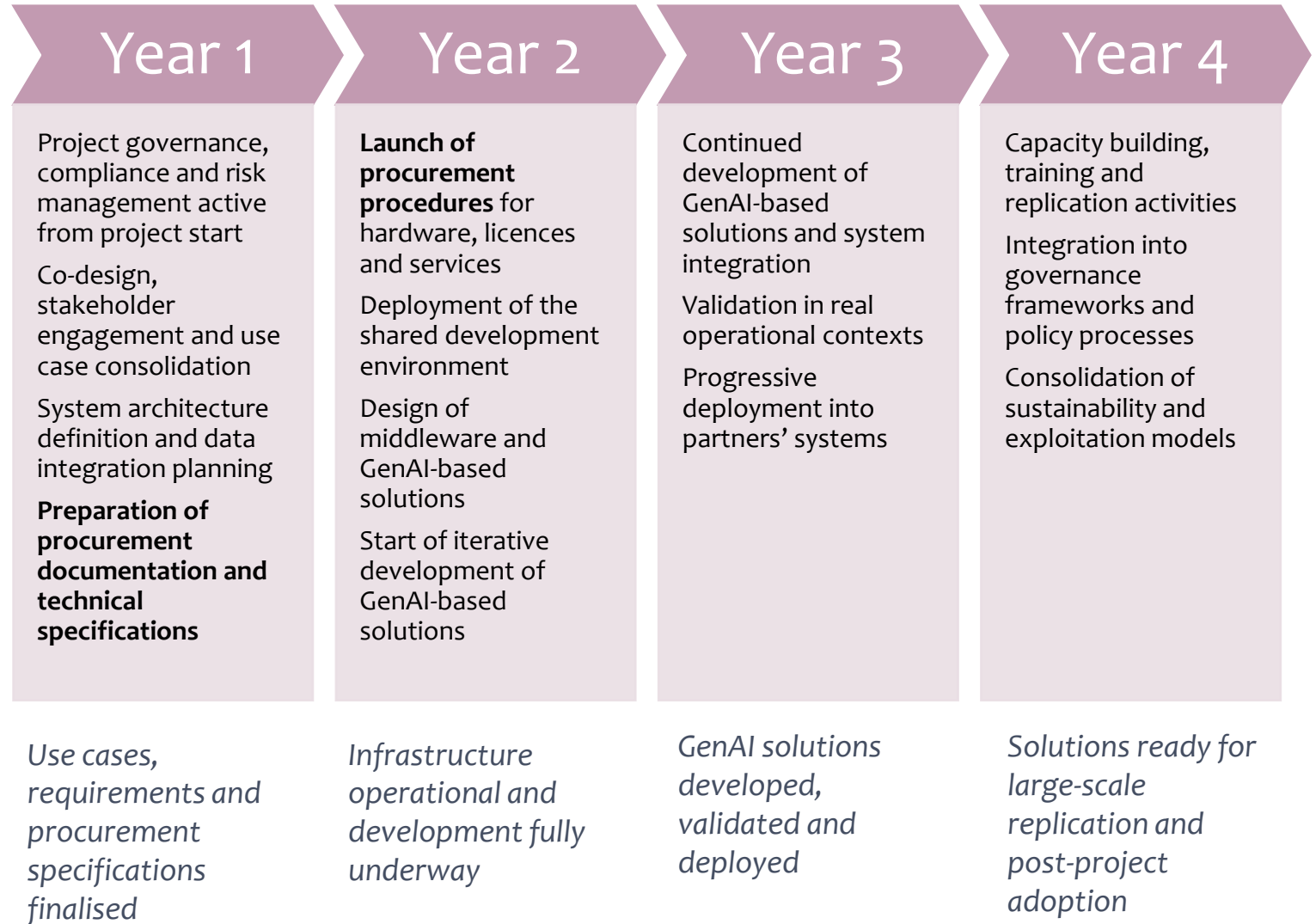
## Expected support from the CSA

- Identify needs shared by the selected GenAI pilot projects and promote consistency in their efforts
- Support the construction of a sustainable GenAI ecosystem and community of practice
- Buttress activities for capacity-building, outreach and mainstreaming of the GenAI solutions



---

# PROJECT TIMELINE





# CONTACTS



Andrea Pareschi

[RerBruxelles@regione.emilia-romagna.it](mailto:RerBruxelles@regione.emilia-romagna.it)

[DGREll@regione.emilia-Romagna.it](mailto:DGREll@regione.emilia-Romagna.it)