

ECHO: Empowering and Connecting Diverse Communities for Multi-Hazard Resilience with Open Data, Open Models, and Open-Source Software

ECSCI 2nd Webinar – 21st September 2026

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Funded by
the European Union

ECHO ... at a glance

- + **ECHO** - Empowering and Connecting Diverse Communities for Multi-Hazard Resilience with Open Data, Open Models, and Open-Source Software
- + **GA No.** 101225575
- + **HEU Call:** HORIZON-CL3-2024-INFRA-01-02 (IA) (Resilient and secure urban planning and new tools for EU territorial entities)
- + **Budget:** 6M€ (LS)
- + **Coordinator:** Netcompany - RID



ECHO ... at a glance

30

partners across 10 countries

36

months, October 2025 to September 2028
2028

TRL 7

target maturity for the integrated
platform

4

pilots in three Member States, one cross-
cross-border

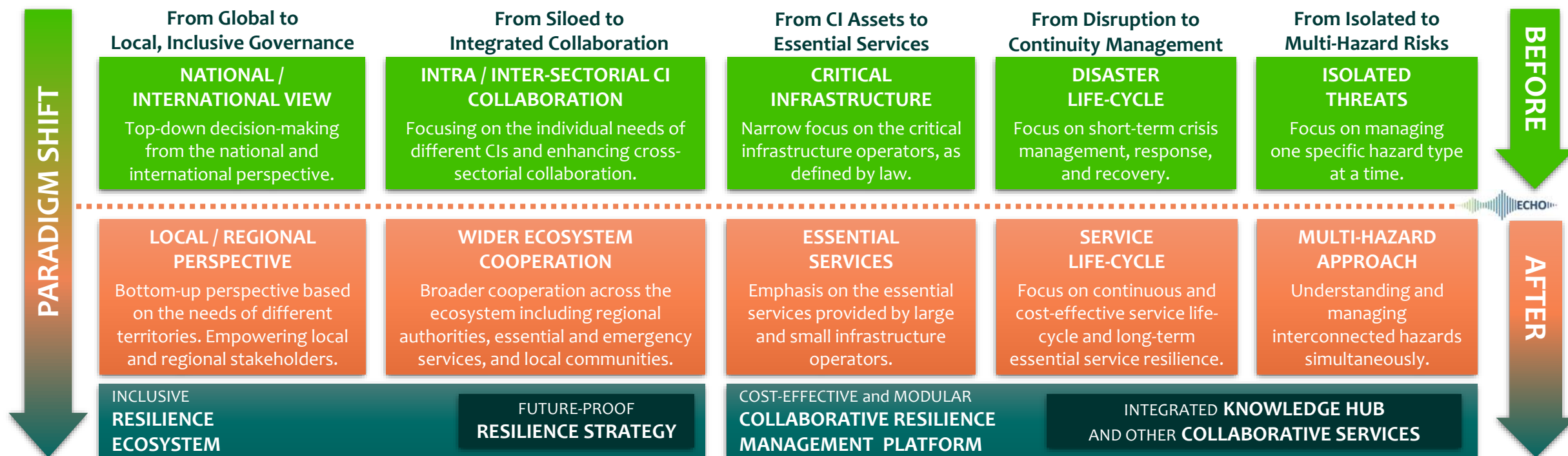
9

key exploitable results, open by design

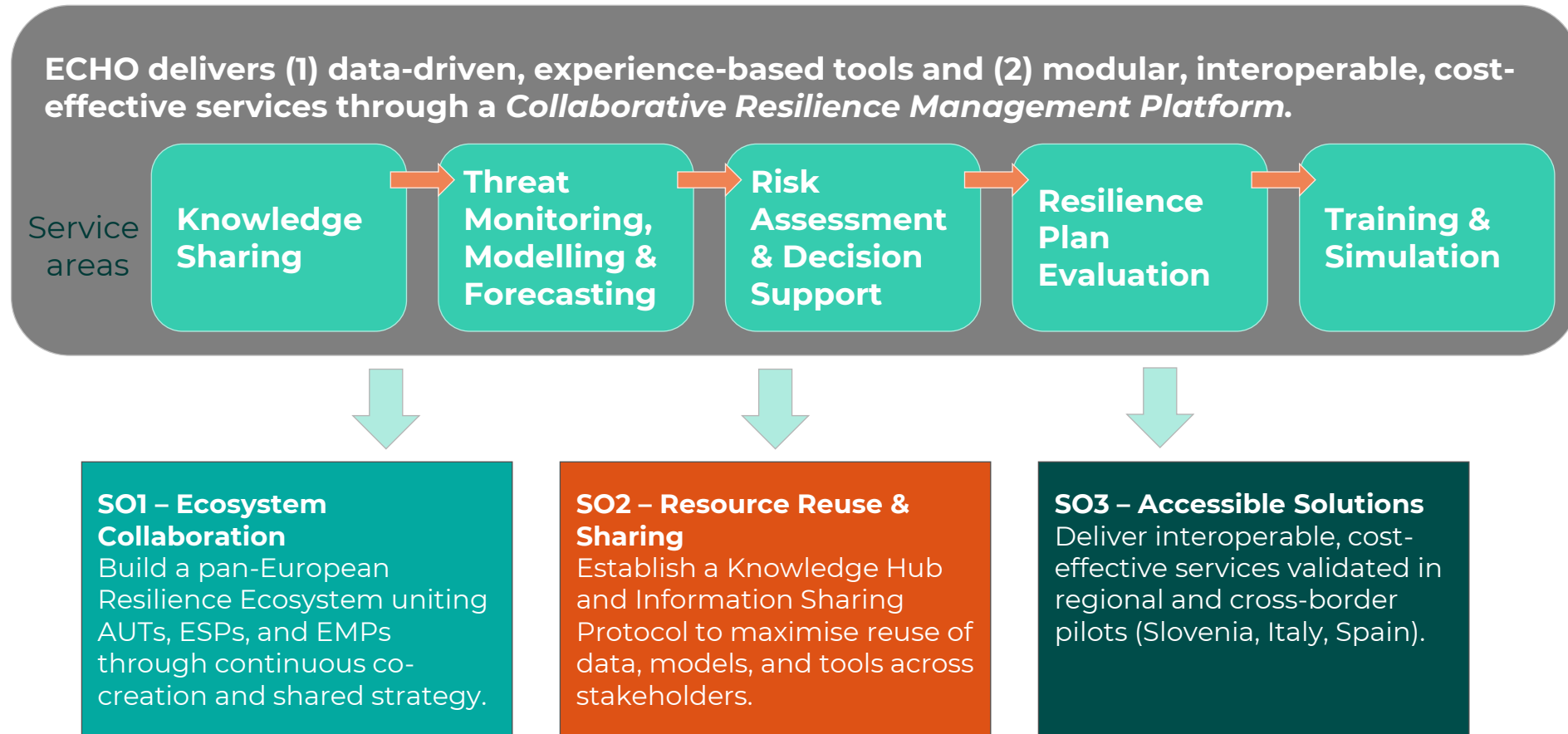
**Authorities, essential
service providers and
emergency services in
one working group**

Project Vision

- + ECHO develops and promotes a **pan-European, multi-level Resilience Ecosystem** for **integrated, proactive, and inclusive resilience planning and management** across diverse organisations, sectors, and territories.



Main Concept



A consortium built around the people who run the services

Technology and research

- Netcompany (LU)
- CERTH (EL)
- Engineering (IT)
- CS Group (FR)
- UBITECH (EL)
- ICS Ljubljana (SI)
- Resilient Worlds (UK)
- UPM (ES)
- Univ. of Udine (IT)
- Eclexys (CH)

Authorities and civil protection

- Friuli Venezia Giulia Region (IT)
- Gemona del Friuli (IT)
- Jesenice (SI)
- Kranjska Gora (SI)
- Malaga Provincial Council (ES)
- Estepona (ES)

Essential service providers

- Insiel (IT)
- FVG Strade (IT)
- CAFC (IT)
- Telekom Slovenije (SI)
- Elektro Gorenjska (SI)
- Cetaqua (ES)
- Hidralia (ES)

Emergency and health services

- Slovenian Firefighters Association (SI)
- Trieste Fire Brigade (IT)
- Servicio Andaluz de Salud (ES)
- FIMABIS (ES)

Impact, ethics and exploitation

- Timelex (BE)
- Incites Consulting (LU)
- Carr Communications (IE)

How the pieces fit together

Collaborative Resilience Management Platform

Web and mobile access, role-based collaboration across authorities, operators and emergency services

Threat monitoring, modelling and forecasting

Multi-hazard prediction of impacts before events occur

Risk assessment, situational awareness, decision support

Shared picture and coordinated response across organisations

Resilience plan evaluation

Automated comparison of plans for gaps, overlaps and obsolescence

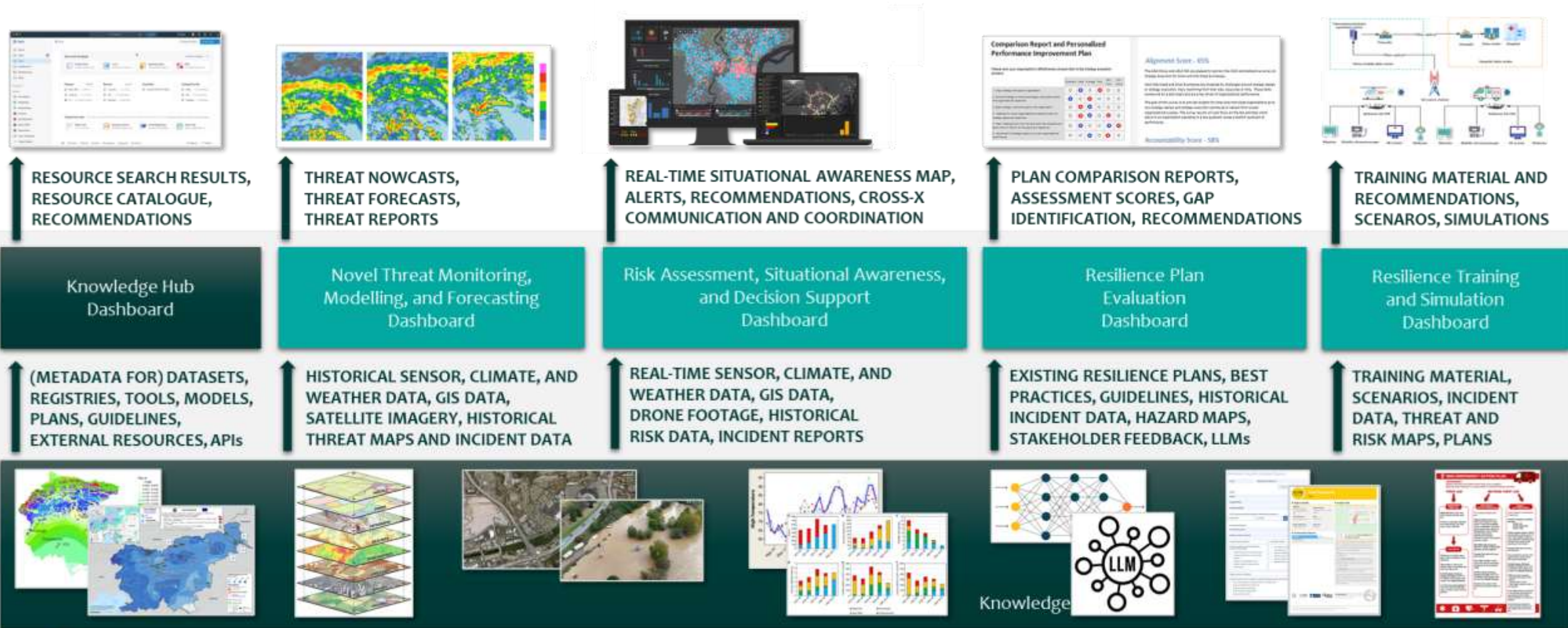
Training and simulation

Scenario generation and joint exercises, including cross-border

Knowledge Hub and Information Sharing Protocol

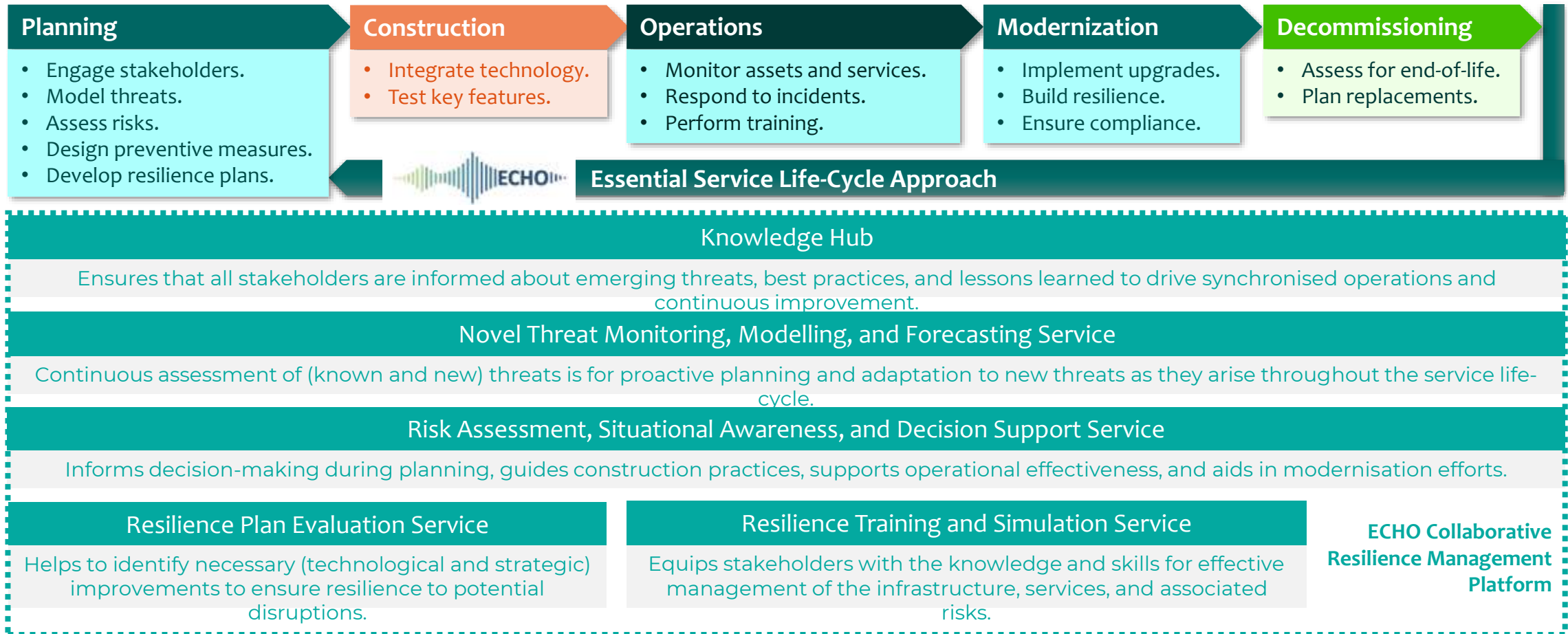
Catalogued datasets, models, tools and plans, with agreed rules for what is shared, with whom and under which conditions

ECHO Collaborative Resilience Management Platform

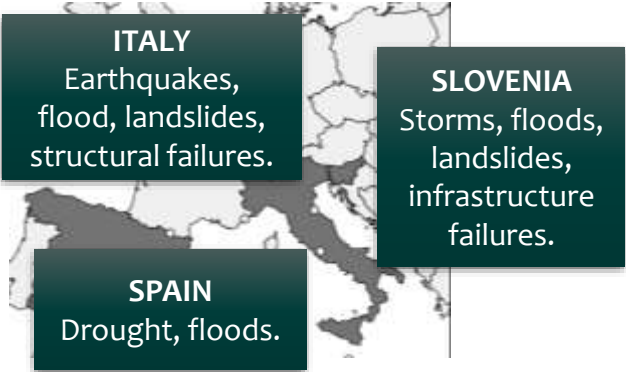
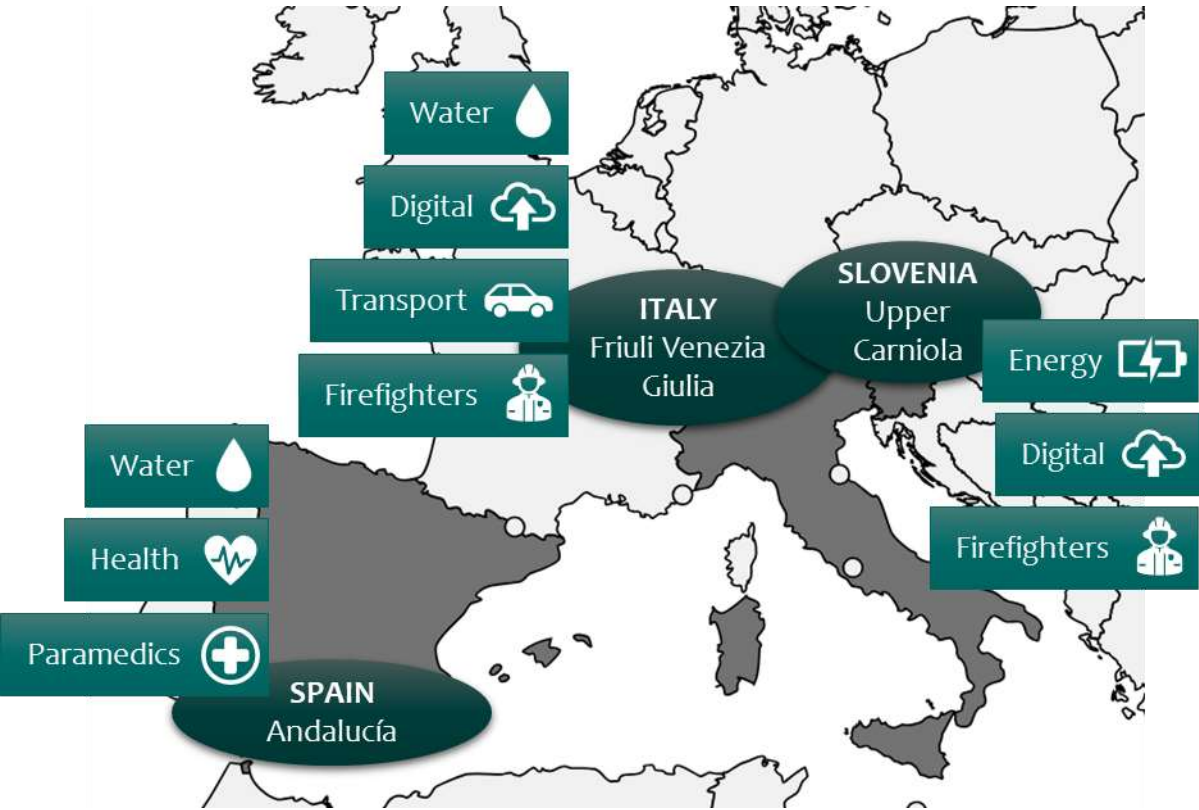


 Collaborative Resilience Management Platform (web & mobile)

ECHO Collaborative Resilience Management Platform - Service Life-Cycle Management



Pilots and piloting process



Different hazards.

Four pilots, three test cycles, three Member States

Pilot	Hazard family	Capabilities under validation
Slovenia	Heavy storms, floods, landslides	Multi-level coordination, plan evaluation
Italy	Natural and technological disasters	Infrastructure interdependency, threat monitoring and forecasting
Spain	Heavy storms, floods, drought	Multi-municipality preparedness, plan evaluation
Italy and Slovenia, cross-border	Cyber attack and large fire	Concurrent cyber and natural hazard events

Targeted innovation and key results

KER ID	Title	Nature / Focus
KER1	Resilience Ecosystem	Multi-level collaboration & governance network
KER2	Resilience Strategy	Co-created actionable policy & operational framework
KER3	Information Sharing Protocol	Standardised framework for cross-stakeholder data & resource sharing
KER4	Knowledge Hub	Central repository of datasets, models, and best practices
KER5	Threat Monitoring, Modelling & Forecasting Service	Real-time multi-hazard monitoring and prediction
KER6	Risk Assessment, Situational Awareness & Decision Support Service	Data-driven operational coordination and decision-making
KER7	Resilience Plan Evaluation Service	Automated analysis and benchmarking of resilience plans
KER8	Resilience Training & Simulation Service	Immersive, scenario-based training and simulation tools
KER9	Collaborative Resilience Management Platform	Integrated TRL7 platform combining all services
KER10	Know-how, Best Practices, Recommendations	Knowledge capital and replicable methodologies

The Resilience Ecosystem is already running

RESULT ONE

64

organisations actively participating
(target 40+)

87

individual experts and practitioners
(target 100+)

10

Member States covered (target 10+)

10

critical sectors represented (target
8+)

16

municipalities and regional
authorities engaged (target 20+)

90%

positive feedback on event
usefulness (target 80%+)

From workshops to requirements, and a method you can reuse

4

workshops. One European, three local, one per pilot region

28

participants on average, from authorities, operators, responders

4

regions profiled, each with a current state and a target state

01

Ask by phase

What works today and what should change, for each phase of the service life-cycle.

02

Keep the views apart

Authorities, operators and responders recorded separately, never merged.

03

Tag to a service

Every statement mapped to the ECHO service it should shape.

04

Score the baseline

Each region scored against the ten UNDRR Scorecard essentials.

Use cases and requirements for all five service areas, and the first input to the Resilience Strategy.

The workshop protocol, the tagging framework and the scoring template are available to other projects.

Six well-documented gaps the services are built to close

DESIGN RATIONALE

Data exists but is not discoverable

Relevant datasets are held somewhere in the region. Few actors know what exists, who owns it or how to request it.

Plans lack a maintenance cycle

Resilience and emergency plans are produced to meet obligations, with no routine mechanism to keep them current or consistent with one another.

Collaboration peaks, then decays

Cooperation is strong during an emergency and weakens once it ends, so nothing accumulates between events.

No shared baseline for comparison

There is no common indicator set for comparing plans, or for tracing whether preventive action actually reduced impact.

No agreed basis for sharing aggregates

Confidentiality and data protection are assessed case by case, with no common framework for which aggregated indicators can be shared and on what basis.

Training does not mirror daily work

Exercises use formats and tools that differ from the checklists, dashboards and channels people use every day.

Challenges widely reported across European resilience practice, and consistent with what ECHO stakeholders describe

Where we are, and what comes next

DONE, MONTHS 1 TO 12

- Resilience Ecosystem established and growing
- First round of local and European workshops completed
- Requirements, use cases and the technical roadmap to TRL5 agreed
- Data management and validation planning in place

NEXT, MONTHS 13 TO 18

- Initial Knowledge Hub and platform prototypes
- First integrated release of the four services
- First pilot cycle in a laboratory environment
- TRL5 validation report and the initial Resilience Strategy

Thank you for your attention!



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Join the ECHO Resilience
Ecosystem:

Open to organisations outside the
consortium.

<https://echo-horizon.eu/#contact>



This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101225575.