


Shelter



The SHELTER Data Driven Platform



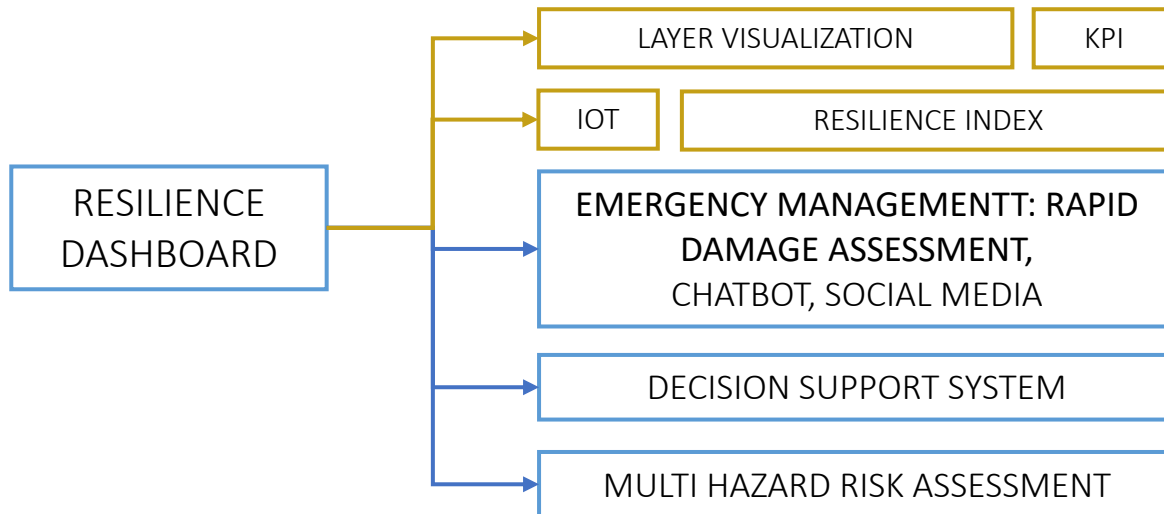
 This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821282

Main objective of the Data Driven Platform

Objective

The Data Driven Platform integrates all the services and solutions implemented within the project.

It results in the RESILIENCE DASHBOARD, the access point to all the tools and to three secondary dashboards that share the same authentication system



RESILIENCE DASHBOARD

estudios
gis



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Resilience Dashboard

The **Resilience Dashboard** is the main layout that assembles all the tools in one website.

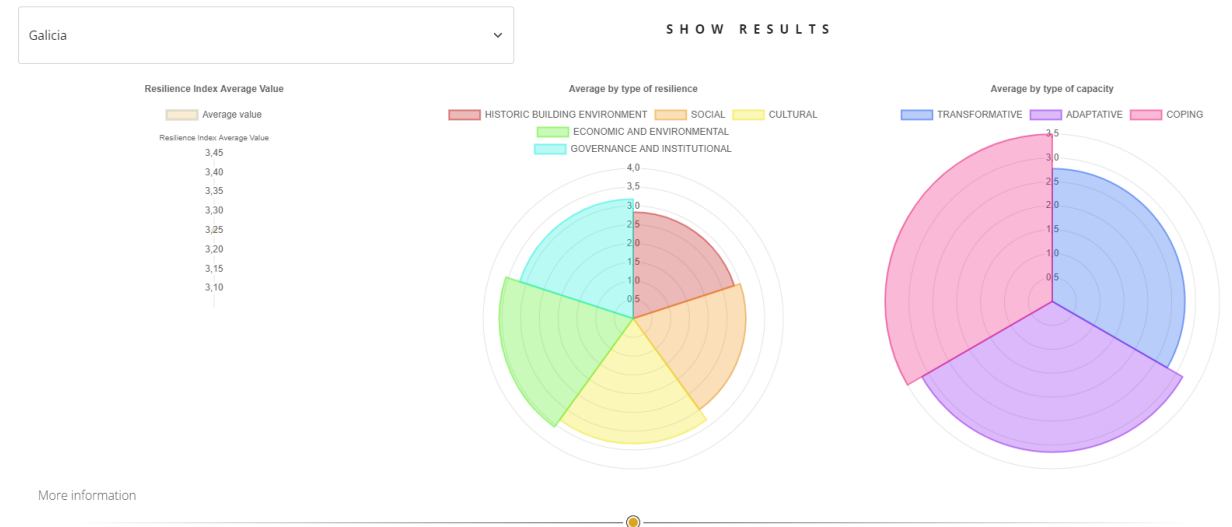
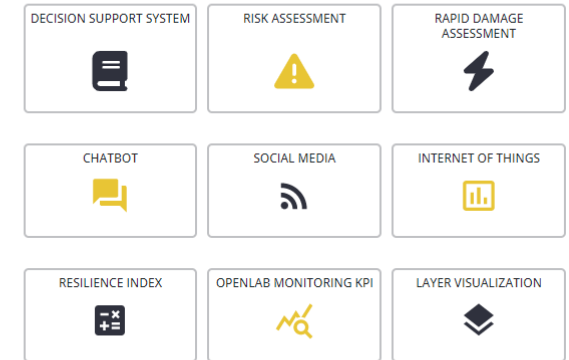
These tools allow the user to analyze the resilience of his/her respective location (also known as Open Labs).

In this website the tools may be **internal**, they are usable inside the Dashboard, or **external**, they need an external link to access and use their functionalities.

Welcome to the Historic Areas Resilience Dashboard

The Historic Areas Resilience Dashboard collects all the tools of the Shelter Project. By clicking in the login button above, you could use the different tools of the website.

The tools are diverse and englobes a wide range of different analysis and ways to gather information of the different OpenLabs. The tools vary from one another, here they are briefly presented so you can have a general idea of what you, as a user, could expect before using them:



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DECISION SUPPORT SYSTEM

The main objective of the DSS is to assess reduction strategies (risk or resilience) and their impact by identifying strategies for adaptation and recovery...




RISK ASSESSMENT

The risk assessment tool displays assessment results performed for assets on a geographical interface with the assistance of an adjustable legend...



RAPID DAMAGE ASSESSMENT

This task is aimed at developing rapid flooding and fire damage assessment technologies through satellite images and artificial neural networks...




CHATBOT

The Chatbot module allows end users (i.e., citizens or professional users) to exchange information with the control rooms. Users will send information...




SOCIAL MEDIA

The Social Media Module aims at extracting useful information related to natural hazards in the countries where we have our OLs. The extracted data is classified according to a taxonomy...



INTERNET OF THINGS

The first objective of the IoT Module is to focus on the design and development of the software components to integrate data coming from existing Internet-of-Things (IoT) devices or systems...



RESILIENCE INDEX

The Resilience Index will be included in the Shelter dashboard where the end users will perform the assessment through a questionnaire and results...




OPENLAB MONITORING KPI

The monitoring indicators were selected by the OLs to monitor progress within the project in six domains, namely collaboration, tools...



LAYER VISUALIZATION

The layer visualization functionality allows the user to select layers to be visualized from a list populated with the ones retrieved from the GeoServer...



EMERGENCY MANAGEMENT: RAPID DAMAGE ASSESSMENT, CHATBOT, SOCIAL MEDIA

EMERGENCY MANAGEMENT


RAPID DAMAGE ASSESSMENT: rapidly and automatically compute the delineation of areas impacted by floods and fires. Estimate the burned severity and the impacted elements.

INTELLIGENT CHATBOT: tool for *organization managers* to better manage the in-field forces and improve citizen awareness.

SOCIAL MEDIA: Allow *decision-makers* to extract disaster-related information (events, impacts, media) complementing the understanding of the ongoing situation and allowing the creation of a curated list of historical events.



Login



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English ▾

MULTI HAZARD RISK ASSESSMENT



ekodenge

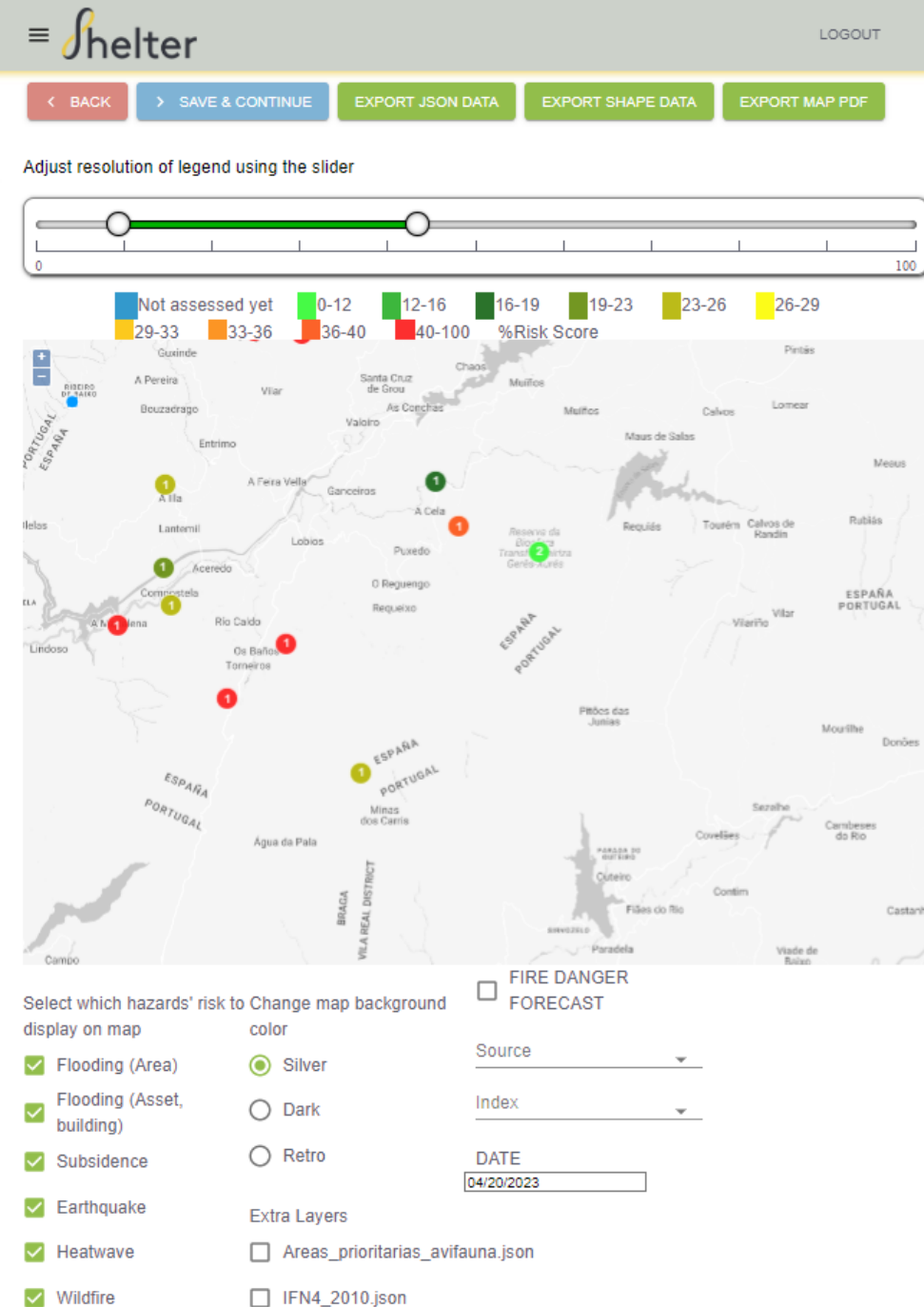
Multi Hazard Risk Assessment

To support SHELTER's aim of a holistic understanding of risks assets are under, a versatile **indicator based methodology** was developed and implemented in a tool that incorporates multiple hazards.

This tool visualizes risk scores as experts score the applicability of vulnerability, sensitivity, exposure and capacity indicators.

The output is a geographical representation that can be exported in multiple formats and used for policy discussions.

The output is also utilized by the decision support system.



The screenshot shows the SHELTER web application interface. At the top, there is a navigation bar with the SHELTER logo and a LOGOUT button. Below the navigation bar are four buttons: BACK, SAVE & CONTINUE, EXPORT JSON DATA, and EXPORT SHAPE DATA. A slider control is used to adjust the resolution of the legend, ranging from 0 to 100. Below the slider is a legend for the risk score, with color-coded categories: Not assessed yet (blue), 29-33 (yellow), 33-36 (orange), 36-40 (red), 0-12 (light green), 12-16 (medium green), 16-19 (dark green), 19-23 (olive green), 23-26 (yellow-green), and 26-29 (yellow). The main map displays a geographical representation of the region, with various locations labeled and risk scores indicated by colored circles. Below the map are several controls: a checkbox for FIRE DANGER FORECAST, a dropdown menu for Source, a dropdown menu for Index, a text input field for DATE (04/20/2023), and a section for Extra Layers with checkboxes for Areas_prioritarias_avifauna.json and IFN4_2010.json. On the left side of the map, there are checkboxes for selecting which hazards' risk to display on the map: Flooding (Area), Flooding (Asset, building), Subsidence, Earthquake, Heatwave, and Wildfire, all of which are checked.

Welcome!

The risk assessment tool is made to assess the disaster related risk on heritage assets using an indicator based approach, visualized over a Geographical Information Systems (GIS) interface. With this tool, technical staff can select assets over a map, score their risk indicators for different hazards and obtain a superposed view of all assets in the region for all hazards involved. Other users would be policy makers who want to view these results and projects.

Here you can select or generate a project. In the next screen, you will be taken to the GIS interface where you can see the current project results and select assets on the map to perform analyses on. After selecting assets, you can score their indicators to generate their risk scores. Then you will be taken to the project GIS again with these results added.

[+ CREATE NEW PROJECT](#) [> SAVE & CONTINUE](#)

[SELECT](#) [ADD USER](#) [DELETE](#) dididi (undefined)

[ACTIVE](#) [ADD USER](#) [DELETE](#) GALICIA (GALICIA)

DECISION SUPPORT SYSTEM

tecnal:a



OBJECTIVE

Assess risk/resilience reduction strategies and their impact

HOW

Identifying strategies for adaptation and recovery, and determining their impact on the resilience indicators for each HA

OUTPUT

Thematic maps and visual maps of solution combinations (strategies), together with diagrams providing insight into the matching scores for different resilience dimensions

INPUTS

DELIVERABLES

Adaptation and reconstruction solutions characterization – T3.4

Prioritization Methodology Review – T3.3

Multiscale iterative vulnerability and resilience assessment methodology – T2.5 and T2.7

DATA DRIVEN PLATFORM

Portfolio of existing solutions

Multiscale multisource data model

Baseline Risk Assessment

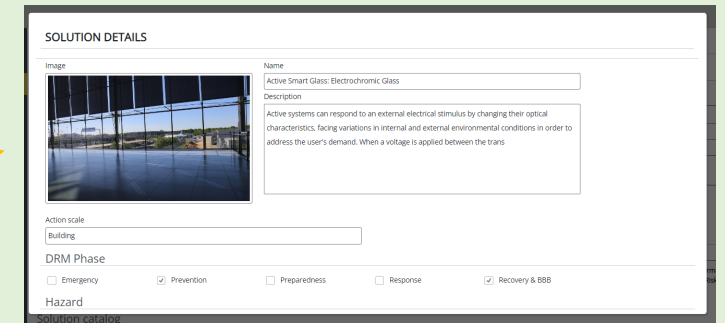
STRATEGIC DSS MODULARIZATION

① Solutions filtering

② Evaluation of the indicators applying the solutions

③ Multi-criteria analysis Prioritization

④ 2D/3D Viewer Diagrams



SOLUTION DETAILS

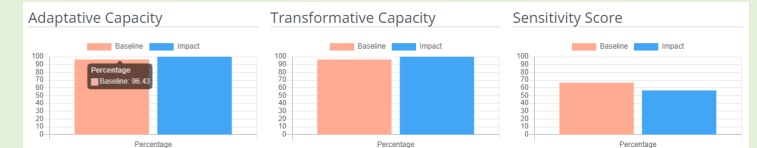
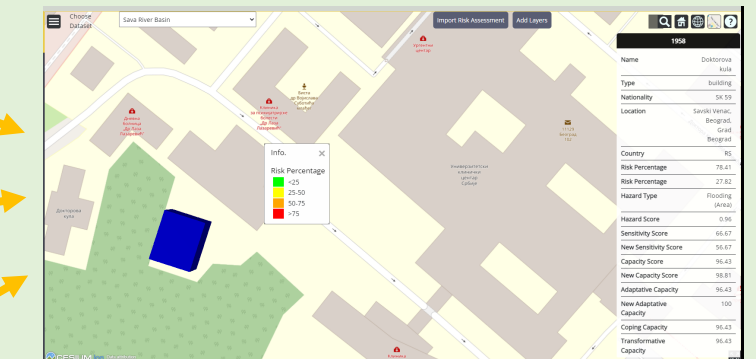
Name: Active Smart Glass: Electrochromic Glass





Description: Active systems can respond to an external electrical stimulus by changing their optical characteristics, facing variations in internal and external environmental conditions in order to address the user's demand. When a voltage is applied between the trans

Action scale: Building

DRM Phase: Emergency Prevention Preparedness Response Recovery & B&B

Hazard: SOLUTION catalog



-  Baseline
-  Risk Assessment
-  Filtering and Multicriteria
-  Project Solutions

Choose Dataset

Import Risk Assessment

Add Layers

Login

Email*

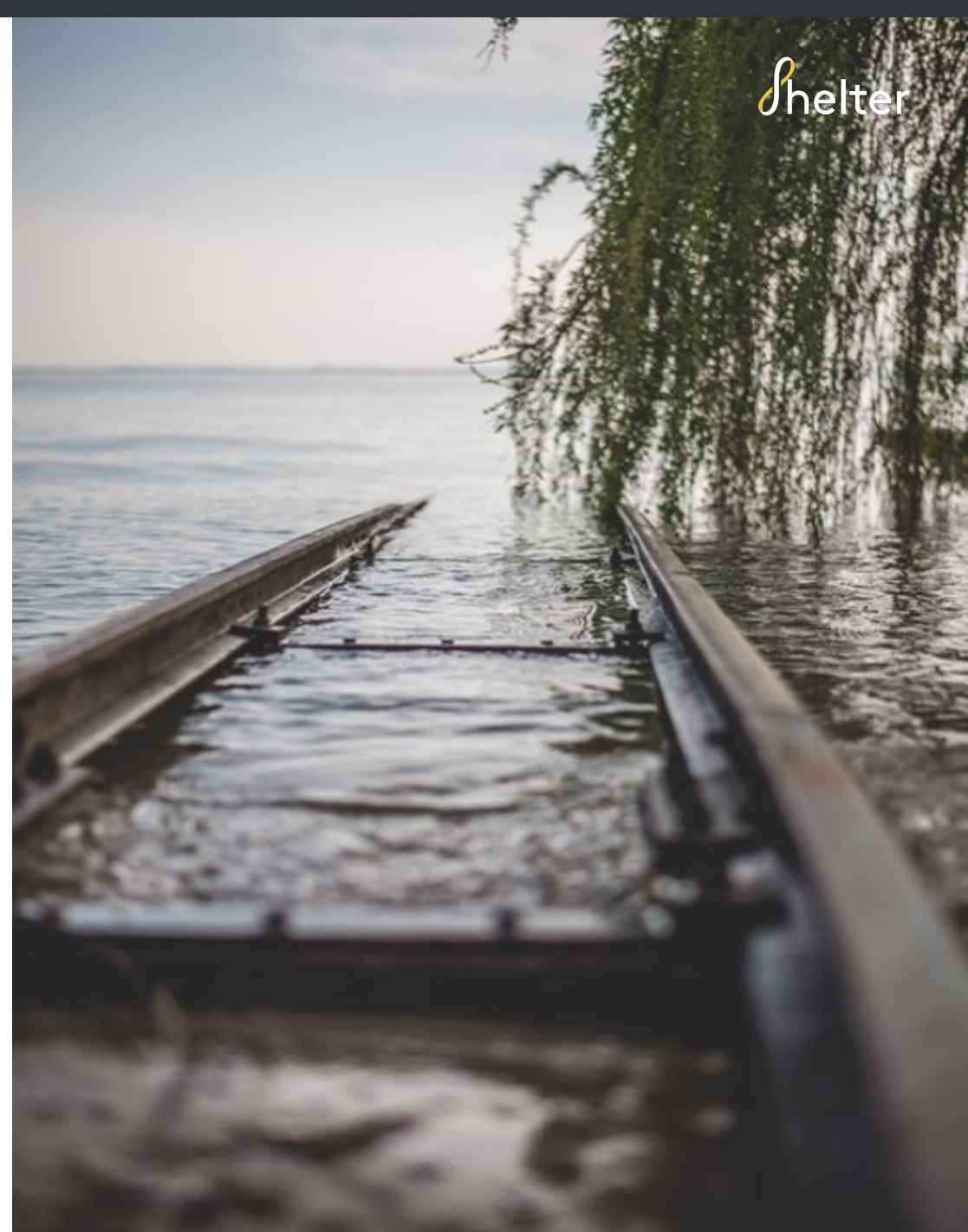
Password*

[Login](#) [Solutions Portfolio](#)

Conclusions

Conclusions

- Exploit the knowledge developed in SHELTER
- Offers a series of tools for the resilience of Cultural Areas
- Cover all the phases of resilience: **preparedness, response, recovery and prevention**



THANK YOU!

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