Interreg Co-funded by the European Union

Italy – Croatia

Digital Plan

Report on open data sources

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Project Acronym	Digital Plan
Project ID Number	ITHR0200430
Project Title	Civil Protection Plan Digitalization through Internet of Things Decision Support System based Platform
Specific objective	2.1
Specific objective Title	Promoting climate change adaptation and disaster risk prevention, resilience, taking into account eco-system based approaches.
Work Package Number	1
Work Package Title	Digitalization model of civil protection plans and IoT EDSS Platform Development
Activity Number	1.3.
Activity Title	Identification of cross border open data
Partner in Charge	GAL Molise, UNIVE, FESB
Partners involved	All partners
Status	Final
Distribution	Public

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About Digital Plan Project

The main objective of the project is the digitalization of civil protection plans, already operatives in the territorial areas of competence of the PPs, to improve the capacity of local authorities to investigate the risks present, to define common operational methods of action in the event of a disaster and in particular to share all the emergency planning with other bodies and agencies in charge of rescue, for compress intervention times, and with the population.

WP1: Digitalization model of civil protection plans and IoT EDSS Platform Development

WP1 aims to develop a cross border model for civil protection plan digitalization. It will be based on a set of activities, starting from collection of data from civil protection plans, selecting the risks affecting the plans, the emergency flow charts, open data sources like public and private platforms, websites and webcams, to carry out at preliminary analysis of the needs of each individual PPs and to study the local civil protection plans. Furthermore, WP1 also focuses on the development of a scalable and capitalizable IT platform that can achieve several goals: (i) digitization of civil protection plans; (ii) access to geolocated open data sources and IoT sensors; (iii) manage synthetic georeferenced environmental data.

Given the ongoing impact of climate change and its potential to increase the frequency and severity of extreme weather events, a key component of the platform will involve conducting multivariate statistical analyses.

Activity 1.3. Identification of cross border open data

LP1, in collaboration with PP4 and PP7, provide the PPs with a template to be filled with a source of open data (API) that, connected to the platform to support the EDSS functionality. LP1, PP2, PP3, PP5, PP6, and PP8 will complete the template with the requested data in the specified format. The data sources to be identified must be functional for emergency management and decision-making processes.

The data we are collected from various sources, including sensors and information sources from previous projects, public and private platforms, websites, webcams, etc., that are already existing and put in place in partner areas.

Report on open data sources

LP1, in collaboration with PP4 and PP7, provided all PPs with a questionnaire to collect information on the availability of geographical data in the territory under investigation and/or where the pilot area of application of the project initiatives is located.

In particular, the specific questions on this topic have been included in Section 5 of the questionnaire administered and described in deliverable 1.1.

In particular, it should be noted that the information collected could have facilitated the project activities, through the management of data present in various databases and shared through APIs, increasing the processing speed of this project phase.

The data sources to be identified had to be functional to emergency management and decision-making processes.

Among the data to be collected, those from various sources, including sensors and information sources from previous projects, public and private platforms, websites, webcams, etc., already existing and implemented in the partner areas. Unfortunately, as will be highlighted in the analysis of the individual answers, PPs do not all have the same level and quality of open data territorial information made available by individual public administrations.

Therefore, in the subsequent phases of the Project, a technological solution will have to be developed that can allow the different PPs to import data useful for civil protection purposes and support EDSS functionalities.

LP1, PP2, PP3, PP5, PP6 and PP8 completed the questionnaires with the required data in the specified format.

Section 5 of the questionnaire presented the following questions. For the analysis, the responses received from the PPs are reported.

Data management and storage – questionnaire results

1 - Is your civil protection emergency plan managed with GIS (Geographic Information Systems) tools?

PP	RESPONSE
LP	Municipality of Busso: NO
PP2	There is an online map Risks (Disaster Risk Assessment 2024) for the entire country, divided by counties, where risks are listed and categorized by severity – low, moderate, high, and very high. The risks include harmful plant and animal

	organisms in agriculture, extreme temperatures, epidemics and pandemics, landslides, nuclear accidents, marine pollution, floods caused by overflow of inland water bodies, earthquakes, open-type fires, radiological accidents, snow and ice, drought, and soil salinization. Data on risk intensity at the lower, municipal level is not available. Regarding the Zadar County, for the year 2024, the risks we selected are assessed as follows: Hydrogeological risks: Floods – moderate risk; Landslides – moderate risk Seismological risks: Earthquakes – very high risk Forest fire: Open-type fire – high risk
PP3	NO
PP5	Civil protection emergency plan is not managed with GIS (Geographic Information Systems) tools. There are GIS tools available but Civil protection emergency plan is not integrated in GIS.
PP6	There is an online map Risks Disaster Risk Assessment 2024 for the entire country, divided by counties, where risks are listed and categorized by severity – low, moderate, high, and very high. The risks include harmful plant and animal organisms in agriculture, extreme temperatures, epidemics and pandemics, landslides, nuclear accidents, marine pollution, floods caused by overflow of inland

	water bodies, earthquakes, open-type fires, radiological accidents, snow and ice, drought, and soil salinization. Data on risk intensity at the lower, municipal level is not available.
PP8	The graphics as integral and substantial parts of the PEC Municipal Emergency Plan were entirely processed with GIS. The municipality of Fermo is equipped with an internal web GIS for the exclusive use of technical staff.

The critical analysis shows that all PPs do not have specific experience in full management of the civil protection emergency plan with GIS tools.

Wanting to go into more detail, some have no experience, others have partial experience through the use of some GIS tools, but which cannot be shared in other platforms.

2- Does your institution have a cloud space for the management of spatial data?

PP	RESPONSE
LP	Municipality of Busso: NO
PP2	NO
PP3	NO
PP5	Yes, the City of Dubrovnik utilizes cloud-based systems for managing spatial data, enhancing accessibility and efficiency in urban planning and public services. Key features of data storage system include: Web-Based GIS Platforms: The city offers online Geographic Information System (GIS) portals, such as the Web GIS Portal and the 3D Smart Portal, enabling users to access spatial data and interactive maps remotely. Comprehensive Data Integration: These platforms integrate various datasets, including urban plans, infrastructure details, and environmental information, providing a holistic view of the city's spatial data. User-Friendly Interfaces: The systems are designed with intuitive interfaces, allowing both professionals and the public to navigate and utilize spatial information effectively.

	Real-Time Updates: The cloud-based nature of these platforms ensures that data is updated in real-time, reflecting the latest changes and developments within the city. Enhanced Collaboration: By centralizing spatial data in the cloud, different departments and stakeholders can collaborate more efficiently, improving decision-making processes related to urban development and emergency planning.
PP6	NO
PP8	The Municipality of Fermo has a cloud space for the exclusively internal management and visualization of territorial data called "Silver Browser". In this management portal all the territorial data collected are merged "validated", therefore official such as, PRG, PAI, coastal area, house numbers, perimeters, roads, services, emergency areas, wooded areas, cadastral areas, etc...

The critical analysis of the results shows that most of the PPs do not have cloud space for the eventual repository of spatial data, only 2 PPs have manageable cloud space available for spatial data.

3 - Does your territorial data management system have data exposed through API, WMS, and WFS services etc., for the management of spatial data?

PP	RESPONSE
LP	Municipality of Busso: NO
PP2	NO
PP3	Pilot Area: Maiella NEW The spatial data of the municipalities of the Maiella NEW pilot area are not managed by API, WMS and WFS systems. On the other hand, the territorial data (vector or raster) that contribute to making up the Geographic Information System of the Abruzzo Region are freely accessible through the WMS protocol. Using this mode, the user can access over 180 services that can be consulted with open source or commercial GIS programs. The topics for which data are available are grouped into "Agriculture – Land use", "Aerial photo archive", "Raster background cartography", "Vector background cartography", "Soil protection, Geology and Pedology", "Planning and constraints" and "Civil protection". http://geoportale.regione.abruzzo.it/Cartanet
PP5	WMS/WMTS
PP6	NO

PP8	We currently do not have API, WMS and WFS services for data management.

The critical analysis of the results shows that to the main question for this issue all PPs did not give a useful answer for the sharing of territorial data.

In addition, the information provided highlighted the almost complete absence of open data initiatives useful for emergency planning, so in the subsequent phases of the Project technological solutions will have to be identified to be able to share territorial data not present in shareable formats.

4 - Is your civil protection emergency plan already displayed on online platforms?

PP	RESPONSE
LP	Municipality of Busso: NO
PP2	There are maps that display each county in a color corresponding to the severity of a specific risk, as well as national maps showing whether counties have their own action plans. https://www.zadarska-zupanija.hr/civilna-za%C5%A1tita for Zadar County https://zeoscz.mup.hr/portal/apps/dashboards/3dc1f9d8394d4e82a3d3ccba9ce7cfc2 for Republic of Croatia
PP3	Pilot area name: Maiella NEW No, but Radar-DPC is the platform of the Civil Protection Department that allows you to visualize, on a national scale, both the phenomena in progress and those recorded in the last 24 hours through the processing, in real time, of raw data from the national radar network, from the network of rainfall and thermometric stations, from satellite data and from the lightning network. The Regions participate in the production of these data, together with the Department, through

	the Network of Functional Centers, the ENAV-National Agency for Flight Assistance and the Air Force. https://mappe.protezionecivile.gov.it/it/mappe-rischi/piattaforma-radar/
PP5	https://www.dubrovnik.hr/uploads/pages/220/Plan-djelovanja-civilne-zastite.pdf
PP6	Pilot area name: Žrnovnica (City of Split) Risk Assessment for Major Disasters for the City of Split Civil Protection Action Plan for the City of Split Pilot area name: Rupotine (Municipality Klis) Risk Assessment for Major Disasters for the Klis Municipality Civil Protection Action Plan for Klis Municipality In addition to local plans and assessments for both pilot areas, there are also Split Dalmatia County documents:

	Risk Assessments for Major Disasters for Split Dalmatia County Civil Protection Action Plans for Split Dalmatia County - not published on the website
PP8	The Fermo municipal emergency plan can be consulted online at the following link: https://www.protezionecivilefermo.it/piani-di-emergenza/

The critical analysis of the response shows that almost all PPs declare that they have the civil protection plan online, but the contents of the same are not available to be shared on EDSS platforms or GIS software and tools.