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www.eenvplus.eu

eENVplus

eEnvironmental services for advanced applications within INSPIRE

Project Background

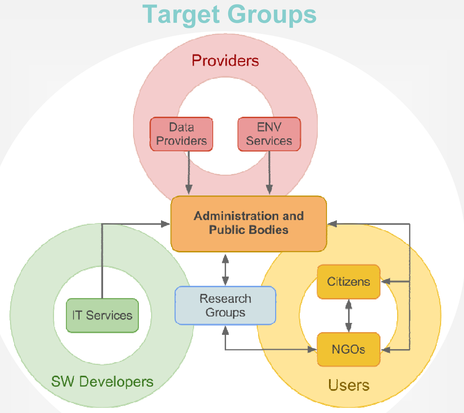
The eENVplus project aims to unlock huge amounts of environmental data, managed by the involved national and regional environment agencies and other public and private environmental stakeholders, through the integration and harmonisation of existing services. These data are not only collected to answer reporting obligations on the environment to the European Union, but also to support national and local policies and actions.

eENVplus interoperable infrastructure provides Member States and Geographic Information Communities with:

- A comprehensive, open and scalable infrastructure able to integrate existing infrastructures according to the INSPIRE requirements, open standards and interoperable innovative services;
- A common Environment Thesaurus Framework, supporting the integration of existing thesauri relevant for the environmental sector via Linked Data and providing added-value services for its integration and exploitation in pilot applications ;
- A comprehensive toolkit with procedures, guidelines and examples for data harmonisation and validation supporting Member States during INSPIRE implementation;
- A set of innovative on-line added-value interoperable services aiming to facilitate the development of innovative environmental applications;
- A Training Framework to support, with eLearning tools, the development of the necessary capacities and knowledge to implement INSPIRE, to develop SEIS and to keep this new adapted infrastructure operational.

The project does not design new services but rather, starting from the results of previous European experiences (funded projects, best practices, EU and national and local experiences), it integrates existing infrastructures into an operational framework able to overcome cross-border and language barriers. eENVplus provides not only the ICT infrastructure but also the description and the support to make this infrastructure operational and profitable through the provision of an organisational model and a tutored training framework.

Target Groups



Interoperability

eENVplus provides tools addressing multi-level interoperability stack:

Systems of systems interoperability	• through a comprehensive, open, scalable infrastructure able to link to existing infrastructures developed through international or national-level initiatives (e.g. the INSPIRE portal)
Application-level interoperability	• through a set of software components that allow communication, through interoperable standards, between existing legacy applications and the eENVplus service ecosystem
Inter-service interoperability	• through development of daisy-chained services to allow creation of high-level functionalities from interconnection of interoperable lower-level services
Service interoperability	• through a set of innovative on-line pre-built services facilitating the development of innovative applications
Semantic interoperability	• through a Common Environment Thesaurus Framework, supporting via Linked Data the integration of existing Thesauri for environmental application, which facilitates data sharing through a common understanding of the meaning of terms and concepts
Data interoperability	• through a comprehensive toolkit with guidelines and examples for data harmonisation and validation to support the Members States in the application of the INSPIRE implementation rules

eENVplus Partnership

eENVplus Pilot Applications | Scenarios | Use Cases

It is intended to implement 9 environmental scenarios in 10 pilots (BE, CZ, EL, FR, HU, IS, IT, PT, SI, SK). The implementation of scenarios in the pilots is intended to offer actual examples of how the eENVplus outcomes can be of help in a variety of different situations and users' needs.

The Scenarios foreseen in the eENVplus cover important environmental aspects (Air Quality, Water, Everyday life issues connected to Environment, Nature Conservation, Environmental Risk, and Landuse Planning) in line with EU policy. The pilots with their scenarios will allow to better streamline the tools available to the project into the main flow of INSPIRE compliance, with evident implications on interoperability among applications, existing or planned.

Scenarios: represent the different use cases considered by eENVplus, which the applications correspond to.

Pilots: represent the actual implementation of the scenarios in a geographical area.

Use Cases: A use case is a methodology used in system analysis to identify, clarify, and organize system and user requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal.

EP01 - Pilot in Belgium

Scenario: Implementation of a SEIS for air quality data

The pilot application addresses the following main issues:
•Promotion of public access to accurate and authoritative air quality information;
•Promotion of making use of spatial air quality data by decision makers (e.g. during the Environmental Impact Assessments), the scientific community, stakeholders in general, citizen, etc;
•Comply with reporting obligations to the European Commission under 2008/50/EC and according to 2011/850/EU;
•Making INSPIRE-compliant services available to other levels of government (the Regions, local authorities), other governmental agencies and the general public;
•Transparency of decision making: the information used during decision making is the same as the information being made available to the public.

Use Cases
•The reporting service
•Validation and official submission
•Providing useful open services derived from the same data

EP02 - Pilot in Italy

Scenario: Implementation of a SEIS for air quality data

The pilot application addresses the following main issues:
•Fulfilment of data Reporting obligations towards EC/EEA;
•Promotion of the use of the integrated AQ spatial data related by scientific community, stakeholders and citizen;
•Creation of INSPIRE compliant services;
•Promotion of public access to AQ information;
•Spatial data integration in a geoportal for public use;
•Diffusion of data and information to Regions and Autonomous Provinces.

Use Cases
•National collection of reporting data
•Official submission of National Reporting

EP03 - Pilot in Belgium

Scenario: Providing INSPIRE-compliant access to utility services: the case of sewage networks in Flanders

The pilot application addresses the following main issues:
•Unlocking the information to all concerned stakeholders by means of INSPIRE compliant WMS and WFS;
•Installation of a hotline, where possible anomalies in the database can be reported through a web service;
•Integration of more detailed information available from other stakeholders in their database and dissemination of these data in an INSPIRE compliant way;
•Access to accurate and INSPIRE compliant data for all stakeholders involved in the planning, development and maintenance of sewage systems;
•Making the reporting to the EC and to the EEA possible through the INSPIRE compliant services.

Use Cases
•Consulting the sewage database for the expansion and maintenance of the sewage system and wastewater treatment infrastructure
•Joint management tool for the sewage database
•Dissemination of information on sewage system to all stakeholders

EP04 - Cross-border Pilot in Czech R. / Slovakia

Scenario: CSspire - Everyday Life Issues Connected to Environmental Aspects

The pilot application addresses the following main issues:
•To facilitate the general public with a better approach to ENV information primarily published by INSPIRE compliant systems and services;
•Enforcing a consistent and transparent performance of public tasks (clear information processed for reporting and administration purposes, e.g. georeports, indicators, etc.;
•Supporting relevant, easy to use and clear information on how to solve so called "situations in life" in formerly one, now two different countries (divided families, property ownership and heritage, job and business opportunities, popular holiday destinations, etc.).

Use Cases
•I want to cut a tree down on land which is under my ownership (outside of the forest)
•I want to use water from underground sources in a quantity greater than 500 m^3/day (build a well and draw water)
•I am seeking a quiet and clean place to build a cottage

EP05 - Pilot in France

Scenario: Natural Areas INSPIRE Compliance Toolbox

After successfully providing INSPIRE compliant services from the French National History Museum, the other data providers that have to be INSPIRE compliant will be beneficiating the experience and framework built within the project. Therefore, the availability of the datasets into the INSPIRE portal (national and European) would be accelerated. The reporting obligation would be easily accomplished and the decisions regarding natural areas management would be more efficient at a national and European level.
Moreover, the development of an end user application will bring INSPIRE compliant data to the public and data users. It will also demonstrate how to use INSPIRE compliant data in everyday life applications.

Use Cases
•Determine if the user is in or near a Protected site / a Biogeographical Region or a Habitat / Biotope zone
•I've seen a species – Is there other around me?

EP06 - Pilot in Greece

Scenario: Forest Fire Management

The Pilot Application: Forest Fire Management Scenario clearly contributes to the following impacts: It fosters wider use of spatial data by public and private organisations, through value added services; It promotes the use and re-use of harmonised and interoperable data sets, related to a number of themes within annexes I-II-III of the INSPIRE Directive; It contributes to the INSPIRE initiative promoting the use of time as variable; It delivers enabling services for visualization, processing and querying of time varying information.

Use Cases
•Awareness Phase, data acquisition, pre-processing and preparation
•Emergency Phase

EP07 - Cross-border Pilot in Hungary / Slovakia

Scenario: Window on the Protected Areas - Mobile Conservation Map

The pilot application is addressed to the wide range of citizens who are visiting the natural heritage of Hungary and the Slovak Republic. It will strengthen:
•the spatial thinking,
•to discover the connections between the I.8 hydrology and I.9 protected areas themes
•to support digital content development and e-learning

Use Cases
•Mobile Conservation Map (MCM) application

EP08 - Pilot in Iceland

Scenario: INSPIRE Geoportal - Nature conservation data in Iceland

In Iceland there are many small public authorities holding spatial data. Access to these data will be better in providing information/metadata in one place (geoportal) as well as providing direct access to data. As Iceland is only in the beginning phase of implementing INSPIRE, it is important to participate in a project like this. The expected beneficiaries are to get assistance and support in creating INSPIRE compliant datasets (according to INSPIRE guidelines) by using existing national data. At same time experience will be gained in providing access to data between national and international authorities. Through this pilot application we expect to provide access to three INSPIRE compliant datasets: coordinate reference systems, administrative units and protected sites.

Use Cases
•Discover and Viewing, INSPIRE compliant services for nature conservation purpose

EP09 - Cross-border Pilot in Italy / Slovenia

Scenario: Geological Map Harmonization

The pilot application addresses three main issues:
•Create a unique harmonized geological layer across the Italian-Slovenian cross-border based on the INSPIRE Geology model;
•Provide a standard access to geological data, regardless of how each provider manages these data, to improve accessibility to information to most users;
•Define a common semantic language to exchange geological data. This language has related to the content, mainly addressed by defining common vocabularies.

Use Cases
•Environmental risk (geo-hazard): landslide susceptibility map
•Environmental risk (geo-hazard): analysis of flooding phenomena
•Environmental analysis: geological and environmental features of karst area

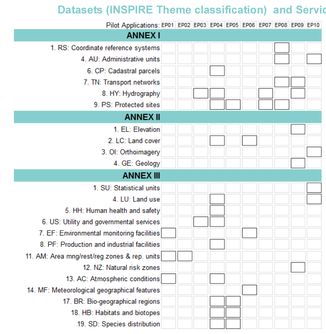
EP10 - Pilot in Portugal

Scenario: Urban Landuse Planning: INSPIRE'd land use planning Indicators to monitor good urban planning practices

The main benefits of the pilot derive from the accessibility of the citizen to updated air and water quality information for the three municipalities belonging to the Tagus river basin, a transnational catchment covering parts of Portugal and Spain.
The contribution of the Inspire Directive to accomplish the environmental legal framework is also one of the main concerns of this pilot. The pilot focuses in watershed management, urban sustainable growth; air quality in urban areas, which are European transboundary concerns.

Use Cases
•Delineation of study areas
•Evaluate urban and rural growth
•Evaluate and document data accuracy
•Evaluate spatial planning impact on urban growth
•Evaluate the impact of urban growth on air and water quality
•Integrate statistical data (time series)

Datasets (INSPIRE Theme classification) and Services/Other Elements by Pilots in scope of the eENVplus



eENVplus Exploitation

Exploitation towards National Environmental Authorities

National Environmental Agencies
National Focal Points – NFPs

EIONET Network
National EIONET
National Reference Centres - NRCs

EU Authorities
Representatives in project Committees (Project Management Board, Advisory Committee)
Presentations at international events

Exploitation towards Thematic Communities

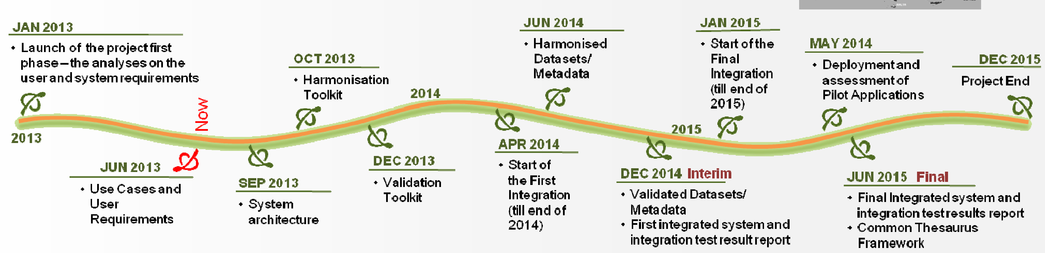
European Topic Centres – ETCs
ETC/ICM (Inland, Coastal and Marine waters, leader CENIA)
ETC/SIA (Spatial information and Analysis, partner ISPRA)
Other ETCs (partners in CZ-EIONET, HU)

Thematic Communities
INSPIRE (National Contact Points, SDI)
SEIS (National Coordinators – EC SEIS Task Force Members)

Exploitation towards Local and Regional Environmental Authorities

Existing Networks
SINAnet Regional Focal Points (Italy)
eENVplus Partners' Networks
through EIONET NFPs in other countries

Exploitation towards Private Sector and SMEs

Private Sector
GIS operators and users of Geographical Information with a particular attention to SMEs

Project Road Map