



Project Acronym: eENVplus
Project Title: eEnvironmental services for advanced applications within INSPIRE
Grant Agreement Number: 325232
Project type: Pilot A Pilot B TN BPN

ANNUAL PUBLIC REPORT

Version: 2.0

Period covered:

From 1st January 2015 to 30th Nov 2015

Project coordinator name, title and organisation:

Giorgio Saio, Geographical Information Systems International Group (GISIG)

Tel: +39 010 8355588

Fax: +39 010 8357190

E-mail: g.saio@gisig.it

Project website address: www.eenvplus.eu

Project Objectives

The eENVplus project, starting from the results of previous European experiences, 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, with the aim to support national and local policies and actions.



The 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 a SEIS and to keep this new adapted infrastructure operational.

Project Activities

The project was launched January 1st, 2013 and is about to end on December 31st, 2015 (3-year project). It is structured into 4 overlapped phases:

- Analysis phase (JAN – DEC 2013): resulted in a detailed set of requirements and documents that guided the design and implementation of eENVplus infrastructure;
- Initial Operating Capacity (JUL 2013 – DEC 2014): resulted in an interim version of the „eENVplus infrastructure“
- Validation (DEC 2013 – DEC 2015): results in a final version of the „eENVplus infrastructure“
- Advanced Operating Capacity (JAN – DEC 2015): results in the final version of the „eENVplus infrastructure“

Moreover, activities dealing with Building Capacity and Training, Dissemination, Exploitation and Sustainability and Management & Coordination are carried out along all the project's phases.

The project activities have covered:

- Initiation of the project with organisation of the Project Kick-off Meeting in January 2013 in Genoa (Italy);
- Collection of the pilots' scenario Use Cases (UCs) and their systematic analysis;
- Definition of user requirements of the eENVplus infrastructure and the pilots using the Redmine tool (www.redmine.org);
- Definition of the technical specifications of the several services to be implemented in the eENVplus Infrastructure;
- Collection of detailed information about the source data models, the format and the level of compliance of the source datasets/metadata with respect to the applicable requirements, as well as any further information related to the existing/foreseen workflows and processing to be run in the different Use Cases, as well as details about eventual IPR issues;
- A thorough analysis of the last version of the Data Specifications of the applicable INSPIRE data themes;
- A review of the tools available for spatial datasets and metadata harmonisation and validation;

- Harmonization and validation of datasets and metadata;
- Development of LusTRE Thesaurus Framework (TF):
 - o Integration of different vocabularies for the Environment and TF server deployment,
 - o Development of the Thesaurus Framework Exploitation Services and their deployment on the TF server;
 - o Development of explorative tool to search and browse the vocabularies concept;
- Initiation of harmonization of the first services and the 1st Integration (eENVplus prototype);
- Harmonization of the services and the Final Integration;
- Ingestion of pilot data in the eENVplus infrastructure;
- New QoS tests over the updated infrastructure;
- Fixing bugs, identified during the ingestion of pilot's datasets;
- Extensive benchmarking of the developed technology necessary to define a 'Service Level Agreement' (SLA);
- Monitoring the pilots progress, scenario demonstrator application, and publishing the 1st DEMOs, later on the final DEMOs;
- Analysis of training needs;
- Updating the Training Framework with training content and maintaining creation of the training content and organization of training actions (also) clustering with other initiatives (e.g. LINKVIT and smeSpire);
- Organization of National Training Workshops in Hungary, Slovakia, Slovenia, Italy; Iceland, France;
- Organization of online Training Actions involving all the pilot countries;
- Creation and maintenance of project web site (www.eenvplus.eu);
- Following the dissemination plan and publishing of awareness material (Newsletter, Proceedings, Public Deliverables) and Organisation of eENVplus Workshops;
- Communication with National, Local, Regional Environmental Authorities, and Thematic Communities, maintenance of the link with the experts of JRC (Joint Research Center) and with the CEN/TC 287;
- Invitation of representatives of EC, EEA and JRC to participate in project Committees (PMB, AC);
- Clarifying the licensing model and the terms of use of each of the sw components developed during the project;
- Organisation of the eENVplus Workshops (see below in the Main Results Table):
 - o June 24th, 2013 at the INSPIRE Conference in Florence (Italy);
 - o September 18th, 2013 at the Project Meeting in Leuven (Belgium);
 - o November 7th, 2013 at the ASITA Conference in Riva del Garda (Italy);
 - o March 12th, 2014 at the Project Meeting in Prague (Czech Republic);
 - o June 17th, 2014 at the INSPIRE Conference in Aalborg (Denmark);
 - o October 1st, 2014 at the Project Meeting in Athens (Greece);
 - o October 15th, 2014 at the ASITA Conference in Florence (Italy);
 - o March 19th, 2015 at the Project meeting in Budapest (Hungary)
 - o April 30th, 2015 in Reykjavik (Iceland);
 - o May 29th, 2015 at the INSPIRE – Geospatial World Forum 2015 in Lisbon (Portugal);
 - o September 15th, 2015 at the Project meeting in Ljubljana (Slovenia).
 - o November 25, 2015 at EIONET NRC Environmental Information Systems (EIS) Meeting in Copenhagen (DK).
- Preparation and organization of the eENVplus Conference on December 3rd, 2015 in Rome (Italy).

Main Results Achieved

The main results, so far, are listed in the table below

Results	Reports (public reports highlighted in bold, available here)
25 Use Cases from 10 pilots	"eENVplus Use Cases"
>100 User Requirements	"Use Cases Analysis and User Requirements"
Collection of information on datasets/metadata	"Project Requirements"
Security Requirement definition	"Security requirements"
Set of System Specifications	"Services Deployment Plan" "System Architecture"
eENVplus Vision	"eENVplus Vision"
Datasets and metadata harmonisation and validation toolkits	"Datasets and metadata harmonisation toolkit" "Datasets and metadata validation toolkit"
LusTRE Thesaurus Framework	available at http://linkeddata.ge.imati.cnr.it "Search and access services prototype" "Thesaurus framework prototype" "Integrated prototype documentation for thesaurus exploitation"
eENVplus Infrastructure	"eENVplus infrastructure implementation n.2"
First Integration	"First integrated system and integration test results report"
Final Integration	"Final integrated system and integration test results report"
Services for eENVplus Infrastructure	"eENVplus Services (Final)"
Pilot applications	"General concept for Application Development" "Applications system specification" "Pilot applications progress" "Applications Demonstrator"
Training User Needs Survey	"Training Needs Analysis"
Training Curricula	"Training Curricula"
Training Framework	"eENVplus Training Framework (Interim Version)"
Training Workshops	Preliminary training initiative at the project Kick-off meeting (24-25/01/2013, Genoa, IT) Training session at eENVplus National Workshop (12/3/2014, Prague, CZ) Training session at eENVplus Workshop (17/6/2014, Aalborg, DK) Training session at eENVplus National Workshop (1/10/2014, Athens, EL) Training session at National CZ-SK INSPIRE Conference (25-26/11/2014, Prague, CZ)

Results	Reports (public reports highlighted in bold, available here)
	<p>Training for Managers (29/1/2015, Budapest, HU)</p> <p>Training session at eENVplus National Workshop (19/3/2015, Budapest, HU)</p> <p>Training for End Users (19/3/2015, Budapest, HU)</p> <p>Training Demonstration for End Users at Earth Day event (22/4/2015, Pecs, HU)</p> <p>Training Demonstration of Portuguese pilot geoportal (21/5/2015, Lisbon, PT)</p> <p>Training session at National SK Enviro-I-Forum 2015 (16/06/2015, Banska Bystrica, SK)</p> <p>Training Workshop (13/10/2015, Bologna, IT)</p>
Project web site	www.eenvplus.eu
Project Fact Sheet	in 12 languages (CS, NL, FR, DE, EL, HU, IS, IT, PT, SK, SI)
Electronic Newsletter	available upon subscription on the project web site
Dissemination Plan	"Dissemination Plan"
eENVplus Workshops	<p>eENVplus WS in Florence (IT), 24/06/2013,</p> <p>eENVplus National WS in Leuven (BE) 18/09/2013,</p> <p>eENVplus National WS in Riva del Garda (IT) 7/11/2013,</p> <p>eENVplus National WS in Prague (CZ), 12/03/2014,</p> <p>Clustering Workshop: in Aalborg (DK), 17/06/2014,</p> <p>eENVplus National WS in Athens (EL);, 1/19/2014,</p> <p>Clustering Workshop in Florence (IT), 15/10/2014,</p> <p>eENVplus National WS in Budapest (HU), 19/03/2015,</p> <p>eENVplus National WS in Reykjavik (IS), 30/04/2015</p> <p>eENVplus WS in Lisbon (PT), 29/5/2015</p> <p>eENVplus National WS in Ljubljana (SI), 15/09/2015</p>
Exploitation and Long Term Sustainability Plan	<p>"Exploitation Plan" (update in DEC 2015)</p> <p>"Long Term Sustainability Plan" (draft version, update in DEC 2015)</p>
Exploitation towards national, regional, local environmental authorities and thematic communities	<p>Several eENVplus members are National Focal Points using contacts among EIONET members; EC SEIS Task Force Members have been contacted and provided with essential information about the project; a strong link with the CEN/TC 287 (the European Standardization Body in Geographic Information) has been established.</p>
Exploitation towards SMEs	<p>It was established a formal liaison between the eENVplus project and the smeSpire FP7 Support Action. The present (600) and future SMEs members of the smeSpire Network will be constantly updated about the eENVplus progress.</p>

Other achievements:

- The **eENVplus won CEN/TC 287 Award for Excellence and Innovation at the INSPIRE Conference 2014**. eENVplus was selected as the winner for its continuous efforts to apply GI-standards from CEN/TC 287, ISO 211 and OGC to support the implementation of INSPIRE components in the environmental field ([more](#), [competition announcement](#)).
- Within the activity of services development, the WPS plugin for **QGIS v2.4** (also tested on **v2.6**) has been fixed by Sinergis: in particular, the work done makes the plugin compatible with the WFS implemented by GeoServer (<http://geoserver.org/>). This work provides users with an open source tool able to invoke the WPS services implemented inside Geoserver, as those developed within eENVplus, with a tangible benefit for the adoption of standards OGC.
- During the ingestion testing of dataset compliant with INSPIRE Annexes 2 and 3 Data Themes, Graphitech discovered a problem, among differences in the **Data Specification version 3.0 and version 4.0**. This issue has been reported to the JRC working group and it has been then fixed in the new release of version 4.0. The following link refers to the issue on the JRC bug track system: <https://ies-svn.jrc.ec.europa.eu/issues/2251>
- eENVplus has been very active during the INSPIRE-Geospatial World Forum Conference 2015, held in Lisbon, and a eENVplus booth has been organised within the exhibition of the event, thanks to the direct involvement of Epsilon Italia, GISIG and Sinergis.



Final Results, their Impact and Use

1. eENVplus Infrastructure

The eENVplus infrastructure is a standard Spatial Data Infrastructure (SDI) with Value-Added services provided to satisfy the Pilots' needs.

The general SDI technologies consist of a set of data services that provides geographic data and their attributes. These services and data are documented with metadata that offers the way to discover and visualize the data/services through the web using ad-hoc web services. Moreover, services are provided to access the data and different applications are built to solve specific needs on the data service layer.

The Spatial Data Infrastructure provides protocols to connect these applications with the appropriate data. The core component of SDI technologies responsible for this aim is the so-called Dissemination Layer.

Moreover, the Application Layer is the set of technologies that allows searching (Catalogue Services), accessing (Data Access Services) and processing (Processing Services) datasets contained in Data Layer.

The entire eENVplus architecture has been designed according to the classical multi-tier (layer) system with a communication paradigm based on open source service oriented architecture, where each component (service), interacts with the others through a set of messages written in a standard format. With the term service, we do not only include each one of the three layers but also all the components inside them, allowing the integration of several multifaceted computational units inside a unique system.

IMPACT: the eENVplus infrastructure, based on a set of components interoperable between them according to the reference standards, provides a flexible environment where it is possible to activate those components needed to the users to fulfil their requirements

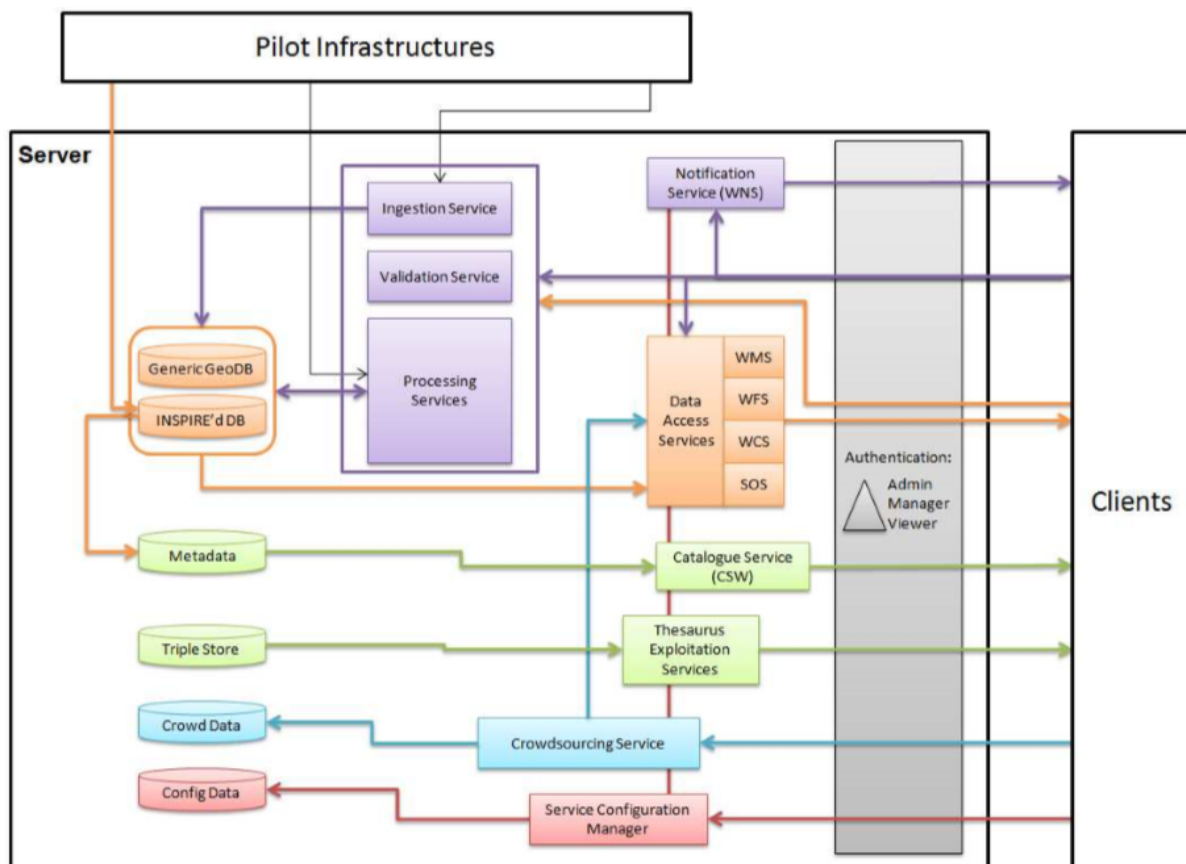


Figure 1 - The eENVplus System Architecture

2. eENVplus Services

The following services have been implemented:

Ingestion Service (IS)	Download Services for coverages (DS-c)
Validation Service (VS)	Crowdsourcing service (CrS)
Catalogue Services (CS)	eENVplus Processing Services (PS)
Thesaurus Framework Exploitation Services (TFES)	Notification Service (NS)
View Service (VwS)	Advanced Visualisation Service (AvS)
Download Services for vector data (DS-v)	e-reporting services

IMPACT: As the eENVplus Infrastructure, the eENVplus Services, interoperable according to reference standards, offer a flexible environment where it is possible to activate those components needed to the users to fulfil their requirements.

3. Advanced Thesaurus Framework

The Thesaurus Framework, namely LusTRE, is characterised by a knowledge infrastructure for an efficient terminological framework covering different data themes for the Environment and a set of services for its exploitation. Moreover, an explorative tool to access to the LusTRE content is available.

The knowledge infrastructure (LusTRE-VOC) integrates available vocabularies covering different INSPIRE themes (e.g. Geology, Air Quality, Protected Sites, Habitat, etc.) exposing them as Linked Data and establishing semantic interoperability (interlinking) between them. In particular, the LusTRE content is characterised by multilingual vocabularies such as EARTh, ThiST, AGROVOC, GEMET, EuroVoc, Air Quality code list, EUNIS Habitat and Species, INSPIRE registry etc., by the interconnection between them or between external vocabularies (e.g., those available in the LOD Clod DBPEDIA, etc.).

The set of LusTRE Exploitation services (LusTRE-ES) includes services permitting the Thesaurus Framework exploitation for data access activities (e.g., providing added value web services to editing metadata, searching and discovering geographic resources).

LusTRE explorative tool (LusTRE-WEBe) provides a human-accessible interface to search and browse the knowledge infrastructure by exploiting the LusTRE-ES services. One specific subcomponent of LusTRE-WEBe is a tool for visual browsing, thus enabling the semantic explorative search in interlinked thesauri (LusTRE-WEBe-VIS).

Thesauri framework services are applied for:

- Metadata Compilation/Editing:** To ensure compilation of homogenized metadata by the members of the project which guarantees the discoverability of these metadata based on the right search criteria;
- Data Discovery:** To be able to find all the data related to a certain keyword, the search engine must be enhanced by the knowledge of the semantic meaning of that keyword. With the use of this approach, the resources would be discoverable, as long as they address the same thesauri concept, i.e. have the same semantic meaning, regardless of which terminology is used and in which language the keyword is defined;
- Semantic Explorative Search:** The user will then be able to browse through the concept hierarchy and fine-tune his selection, for instance by going through the more general concept(s) or finding his precise concept under the narrower concepts of the abstract concept, or also checking related concepts.

IMPACT: It will be easier to use and reuse data supporting multilingual and multicultural issues. It will provide homogenization in the data description and advanced search for accessing and re-using the harmonised dataset against the linguistic barrier. In particular, it will allow to share and consume metadata, which in turn will facilitate the widespread adoption of open data for digital content in the environmental area.

4. Harmonisation and Validation Toolkits

Datasets and metadata harmonisation toolkit:

The harmonisation toolkit represents a project deliverable that provides guidance for data and metadata harmonization.

The guidance is given by means of procedures, tools and examples of data and metadata harmonization processes, to be applied to transform existing datasets/metadata according to the technical requirements of the applicable Implementing Rules and Technical Guidelines of INSPIRE.

The deliverable is intended as a living document, which will be updated according to new/updated available procedures, tools and examples.

January 2014 version 3.0 (previous version 2.0 released on 29/11/2013):

- the extension of the sub-section 4.2.2, containing now a new part relevant to the use of the groovy scripts, allowing an even more flexible and customised use of the HALE tool;
- the addition of a new section sub-section 4.2.3 “eXows”, presenting a new harmonization tool, of particular interest thanks to its capability to perform transformations directly at service level, extensively used by the partner ISPRA in the context of its transformation activities related to Geology datasets;

Datasets and metadata validation toolkit:

The validation toolkit represents a project deliverable that provides guidance for datasets and metadata validation.

The guidance is given by means of procedures, tools and examples of datasets and metadata validation processes, in order to claim the conformance of transformed datasets/metadata to the requirements of the applicable Implementing Rules and Technical Guidelines of INSPIRE.

The deliverable is intended as a living document, which will be updated according to new/updated available procedures, tools and examples.

IMPACT: Thanks to the use of the procedures and examples provided in the toolkits, the users are able to self-transform and self validate (with respect to the schema) their own datasets/metadata.

5. eENVplus Training Framework

It is being designed as a cornerstone of the project to make available existing knowledge and transfer developed skills to the target groups of users. In this context, training activities will strictly complement and support dissemination and exploitation, fostering Capacity Building. Training is implemented through an open source e-learning platform offering a training package based on specific and thematic vocational training curricula and different learning paths (based on results from the Training Needs Survey) aiming at maximising the re-use of existing tools and training materials successfully tested in the frame of previous EU funded projects.

IMPACT: It will provide to the National/Regional Environmental Agencies the advanced skills (in the form of training modules) required to cope with the INSPIRE implementation process, knowledge related to the new ICT dimension of the environmental data (e-environment) and the documentation and the necessary means to interact, benefit and adopt the eENVplus Infrastructure.

The Training Package (a complete training Module description - metadata) is available through project web site (section "[Training & Community](#)"). The Training Modules are accessible upon registration.

If not stated differently, all eENVplus training Modules are licensed under a [Creative Commons Attribution-ShareAlike 3.0 Unported License](#).

6. Pilot Applications

In order to exploit the implementation of the eENVplus outcomes in a variety of situations with different user needs, the aim is to implement 9 environmental scenarios in 10 pilots (see the project web site). 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 existing or planned applications.

IMPACT: Demonstration of the eENVplus outcomes implementation; geographical coverage (10 Countries and 2 of them are cross-border); the different INSPIRE Data Themes demonstrated, able to address with an increased access different kinds of stakeholders.



EP01 (BE): Implementation of a SEIS for Air Quality Data

This pilot is a system for INSPIRE compliant e-reporting and it is developed to serve data in accordance with a

data-model (cf. <http://aqportal.eionet.europa.eu>), which was developed for the implementation of the new “Implementing Provisions for Reporting (IPR – 2011/850/EU)” under the Air Quality Directive (2008/107/EC). To achieve this, a data flow collecting regional data in a central national SDI was adapted, establishing through this pilot an e-reporting production chain focused on the harmonisation, validation (including official approval by regional authorities), serving air quality data and indicators to the European Commission and at the same time making data available in diverse formats usable by other interested parties, including the public at large.

Client or Application URL: [viewer](#), [SOS client](#)



EP02 (IT): Implementation of a SEIS for Air Quality Data

The main goal of this pilot was to build, using the eENVplus services and infrastructure, a system that starting from the Regional nodes, collects in the National node the regional validation reports and GML files and creating a National Repository, where datasets and metadata are aggregated into national dataset according to the schema established by the EEA (ref. extended INSPIRE AM data theme corresponding to AQD schema). Such national GML file is ready to be transmitted to the EU node as INSPIRE compliant e-Reporting developed to serve data in accordance with a data-model (cf <http://aqportal.eionet.europa.eu>) which was developed for the implementation of the new “Implementing Provisions for Reporting (IPR – 2011/850/EU)” under the Air Quality Directive (2008/107/EC).

Client or Application URL: [client](#), [SOS client](#)



EP03 (BE): Providing INSPIRE-compliant Access to Utility Services: the case of the sewage networks in Flanders

The pilot makes the sewage data more easily available in Flanders and makes it possible for municipalities, sewage managers, to online report corrections (edit data) or to online create new sewage infrastructure using an INSPIRE compliant database. Thereby tools for harmonizing and validating processes are used. After the harmonisation process the data are made available with WMS- and/or WFS web service. Different authorization levels are created to manage and consult the database; the web services are also available for querying in a public viewer.

Client or Application URL: [viewer](#)



EP04 (CZ/SK): CSpire (Everyday life issues connected to environmental aspects in Czech Republic and Slovakia)

The aim of the pilot is to remove barriers which potential end-users have in obtaining information needed to solve “every day-life” situations. CSpire has been created as an easy to use decision support system providing end users not only with information but with relevant guidance as well - in a form of georeport. The system combines spatial (INSPIRE related) as well as non-spatial (statistics, and indicator based reports) data with other relevant information (legislative context, required administrative procedures etc.) and suggestions of further steps and/or contacts to relevant experts. The system is able to share and provide information from Czech and Slovak data sources.

The eENVplus infrastructure acts as a wrapper to pilot services, it collects the parameters from the clients, send it to the pilot interface and wait for the resulting PDF file.

Each georeport is composed from one or more geoprocessing services, which are running from the original spatial data. There is a process model for each georeport mapping all possible combinations of results, which is being used as a cornerstone for building the geoport template. Based on location inserted, the geoprocessing tasks run for that place; the results are taken over by the georeport engine that uses it as input for further set up of the georeport.

Client or Application URL: [CZ viewer](#), [SK viewer](#)



EP05 (FR): Natural Areas INSPIRE Compliance Toolbox

The Pilot constitutes an end-user application, useful for several purposes. Besides making available INSPIRE compliant datasets in the process, a method for producing INSPIRE compliant data is shared with other potential data providers.

Once the user has downloaded the developed mobile application, the user position is determined. The user can know if he is into a natural area (within INSPIRE thematic) or near one. Afterwards, he can access details about this natural area. After observing a species, he can enter this information into the application which will tell him if there are other occurrence of this species around him (buffer around his position). Afterwards, he can access details about this natural area.

Client or Application URL: [Mobile App](#)



EP06 (EL): Forest Fire Management

The main scope of this pilot was to create an application supporting Decision Making among Civil Protection Operators, Public Administrations and Forest Fire experts during the four life cycle phases of forest fire management. Additionally, the application will make use of already existing web services, which are necessary to calculate the Fire

Access Time map. To highlight the use of eENVplus service and infrastructure, two use cases have been designed: Awareness Phase, data acquisition, pre-processing and preparation and Emergency phase. To make this possible the user will have to set several parameters. The FAT calculated will be used as input parameter to run a routing service on top of INSPIRE Road Network compliant dataset, to provide users with the suggested paths avoiding road segments impacted by the fire during its evolution.

□ *Client or Application URL:* [viewer](#)



EP07 (HU/SK): Window on the Protected Areas - Mobile Conservation Map

Pilot application provides users with possibility of easy comprehension of nearby environmental situation (relative to user's actual position) via map and augmented reality visualisation. User is provided with "classic" 2D map for overall orientation in broader space on one hand and with augmented reality "window" into local environment on the other hand. Information provided to users through this pilot application are focused on environmental theme i.e. protected sites, protected monuments, public caves, present species distribution (crowdsourced), hiking trails and other possible point of interest for typical hiker. In addition, pilot application makes user involved in collecting data about species distribution within his actual location via easy to use crowdsourcing form. Intended target user group of pilot application is broad non-professional hiking public.

□ *Client or Application URL:* [Mobile App](#)



EP08 (IS): INSPIRE Geoportal

The Pilot provides a mobile application able to consume services according to INSPIRE implementing rules. A user, using the mobile application, must choose what he/she is going to report by choosing one of the following categories: Road Obstacles, Natural Objects, Damage to Nature or the Surface Type. After choosing a category, some choices are presented to the users within the category, i.e. what kind of Road Obstacles he/she wants to report (a washout, a river crossing, a locked gate, a rockslide, an avalanche, a snow drift, a flood or a traffic incident) or what Natural Objects he/she wishes to report (a waterfall, a spring, a hot spring, a mountain peak or other).

The user's location could be recorded using a geo-located picture of his/hers mobile device. Where possible (reporting Natural Objects and Damage to Nature), a user can extend his/hers reporting using a description box within the App. A picture of an object, taken by a user can also be uploaded with the reporting.

□ *Client or Application URL:* [client](#), [Mobile App](#)



EP09 (IT/SI): Geological Map Harmonisation

The pilot application aims at supporting an expert user in geohazard analysis concerning a certain area. In the pilot application fundamental part is the geological harmonised map, which is available at two different scales (the generic one uses INSPIRE GE Data model, and the other one uses GeoSciML extension). The user, in a single integrated widget that supports all the procedure, can select the two UC. After the user has selected in sequence: Geohazard, bbox extension and geological layer; a geohazard probability/susceptibility map will be produced to be analysed by the users. In the pilot, the user in several steps can manipulate parameters to better re-fine the results.

□ *Client or Application URL:* [viewer](#)



EP10 (PT): INSPIRE'd Land Use Planning Dynamic Indicators to Improve Planning Achievements

The aim of this pilot is to create an application that supports the analysis of land cover changes over time, namely the evolution of urban growth, enabling to relate this analysis with human activities and socioeconomic data.

The relevance of the platform relates with the capability of including LULC evolution among the last decades in a combined statistical approach, given the user the possibility to understand and explore different harmonised datasets.

The application aims to evaluate the fitness-for-purpose of various available official datasets that deal with urban landscape evolution in multiple time series.

Client or Application URL: [viewer](#)

All the pilots (EPxx = eENVplus Pilot *number*) have been developed , as well as the related services and are currently in the test phase. Some services are under the responsibility of the Pilot Partners, here below only the eENVplus Services/components and their implementation in the Pilots.

	Pilots - EP									
	01	02	03	04	05	06	07	08	09	10
Harmonisation and Validation Toolkits	X	X	X	X	X	X	X	X	X	X
Ingestion Service (IS)			X		X		X	X		
Validation Service (VS)		X	X							
Catalogue Services (CS)	X			X			X			
TF Exploitation Services (LusTRE-ES)	X	X	X	X	X	X	X	X	X	X
View Service (VwS)		X	X			X	X	X		
Download Services for vector data (DS-v)		X	X			X	X		X	X
Download Services for coverages (DS-c)						X				X
Crowdsourcing Service (CrS)					X		X	X		
eENVplus Processing Services (PS)		X				X			X	X
Notification Service (NS)		X		X		X			X	X
Advanced Visualisation Service (AvS)					X		X			
e-reporting Service	X	X								

eENVplus Showcase

The eENVplus showcase has been created to demonstrate and consume, through a general point of view, the eENVplus services. The showcase consists in a web site including the entry points to access the different components produced by eENVplus project representing the different bricks of the eENVplus infrastructure. For this purpose open source software have been reused, configured and optimized.

PLEASE VISIT <http://showcase.eenvplus.eu/>

Infrastructure & Services

Environment Thesaurus
Search of Concepts
Insert the keyword in the text field a press the search
Concept: soil
Search in Thesaurus: [Search]

The Linked Thesaurus Framework for Environment (LusTRE) aims to provide a common terminology solution to face with the multilingual and multicultural issues in environmental data sharing.

Metadata Editor
Metadata on metadata
Classification Keys
Metadata point of contact (*)

The European Open Source Metadata Editor EUOSME helps to create metadata compliant with the INSPIRE Metadata Regulation. In the context of eENVplus it has been extended to support the eENVplus.

Pilot Applications

A SEIS for Air Quality Data in Belgium
4260
last month
Time
5/15/15 12:00 AM 5/16/15 12:00 AM 16-05-2015 00:00:00 CEST 11

Through this pilot, a system for INSPIRE compliant e-reporting is developed to serve data in accordance with a data-model which was developed for the implementation of the new "Implementing Provisions for Reporting" under the Air Quality Directive.

A SEIS for Air Quality Data in Italy
Region: PIEMONTE
Select a xsl file: [Scegli file] Nessun file selezionato
Select a shp file: [Scegli file] Nessun file selezionato
[Create AqD GML]

The main goal of this pilot was to build, using the eENVplus services and infrastructure, a system that collects the regional validation reports and GML files in a National Repository according to the schemes established by the EEA (ref. extended).