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Application scenarios

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VMM (IRCEL – CELINE)

Open Technical Meeting, 18th September 2013
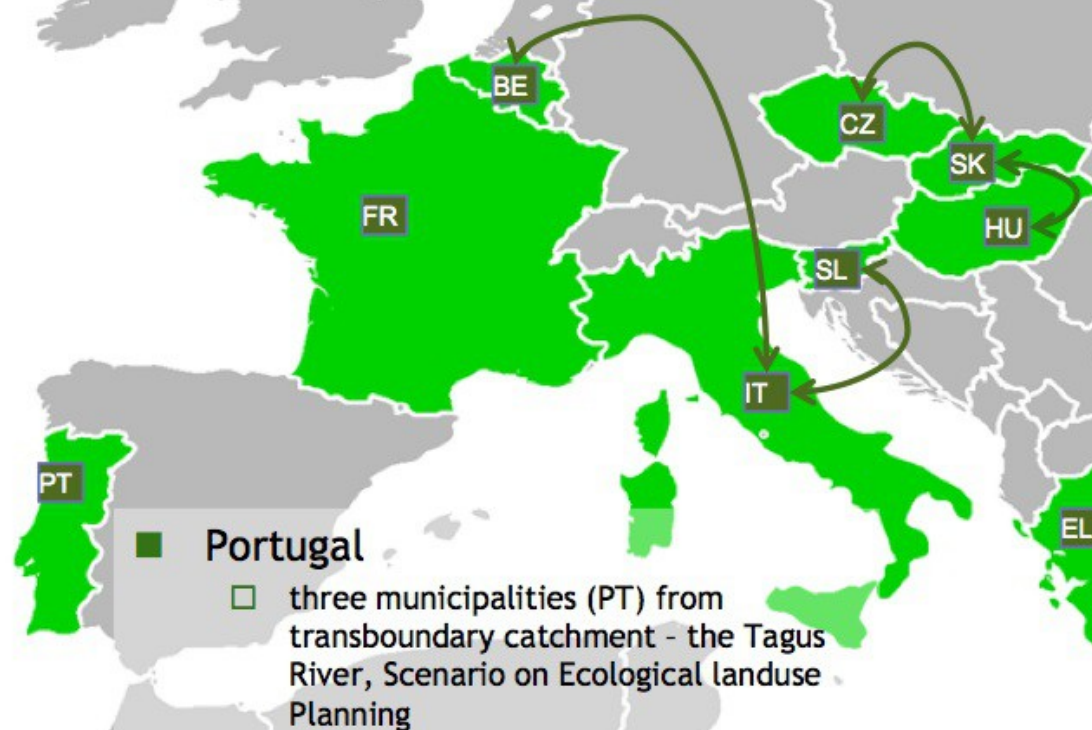
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Scenarios & Pilots

- **3 Cross-border Pilots:**
  - **Czech Republic/Slovakia** for everyday life issues connected to Environmental aspects
  - **Hungary/Slovakia** for Nature Conservation
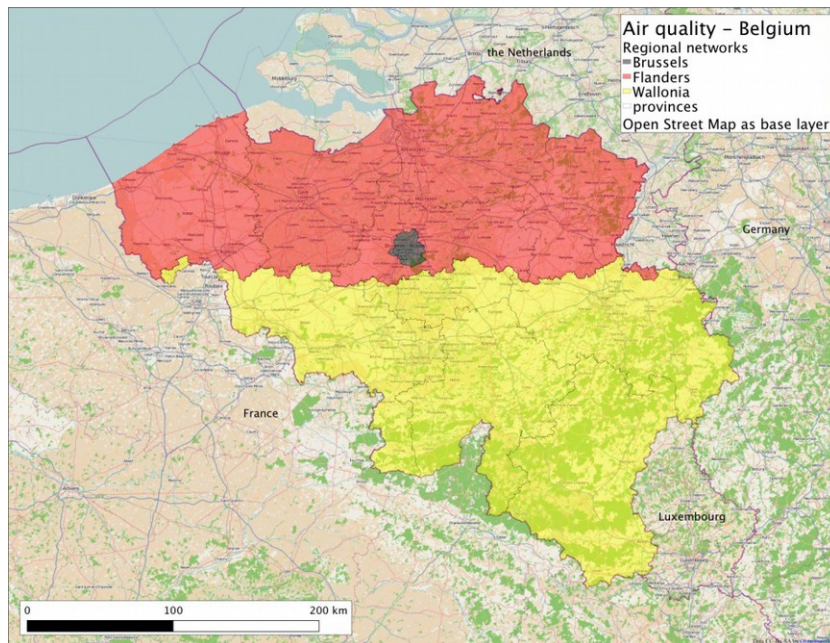 - **Italy/Slovenia** for Environmental Risk (Geohazard)

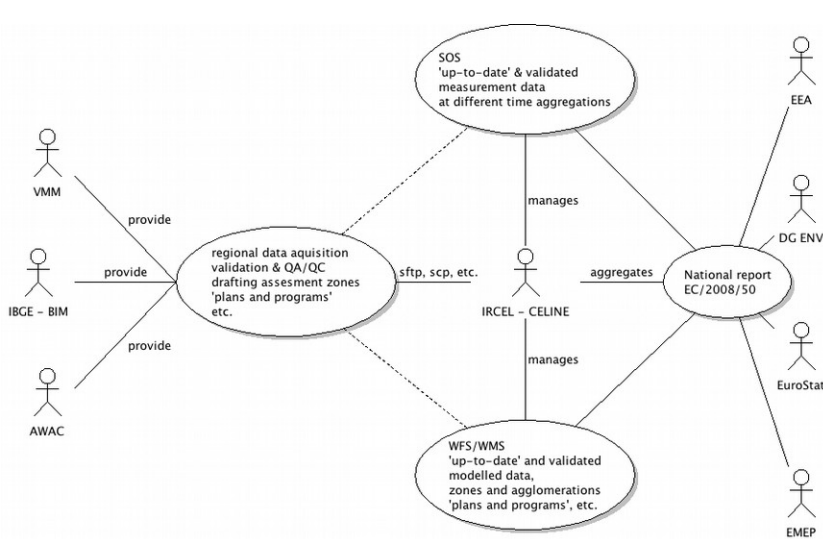- **1 Scenario in two Pilots**
  - Belgium and Italy for Air Quality

- **Portugal**
  - three municipalities (PT) from transboundary catchment – the Tagus River, Scenario on Ecological landuse Planning

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- UC-EP01-01: The reporting service
- UC-EP01-02: Validation and official submission
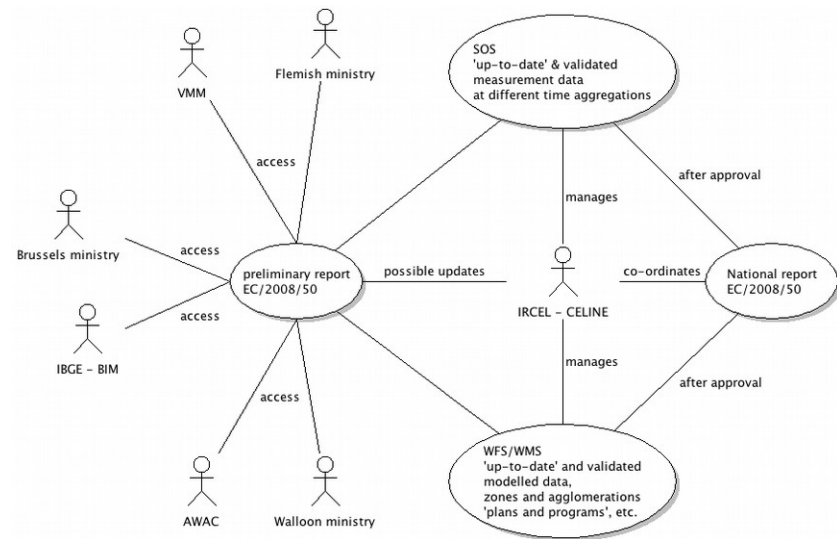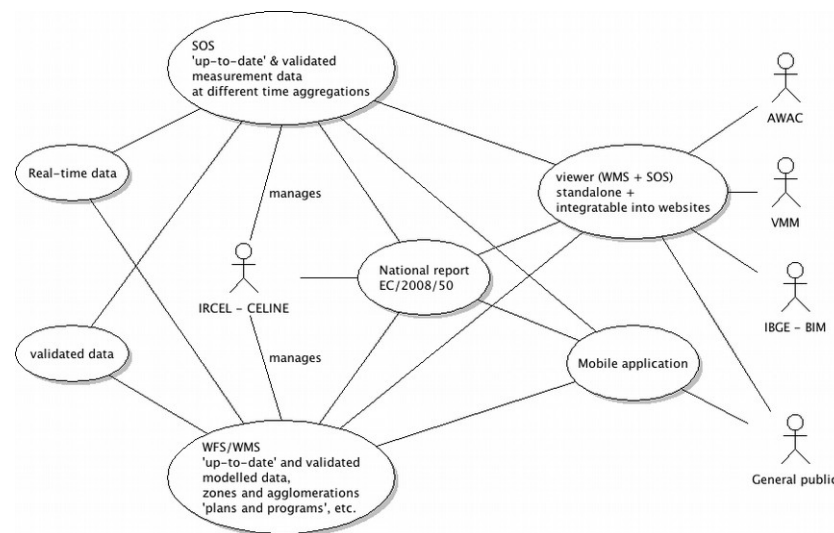- UC-EP01-03: Providing useful open services derived from the same data

Air quality – Belgium
Regional networks
- Brussels
- Flanders
- Wallonia
  provinces
Open Street Map as base layer

Datasets in BE

INSPIRE DT	Content	Metadata	IPR / Open Data
III.11.AM	Dataset B – "zones and agglomerations"	ISO 19115	Open data
III.11.AM	Dataset C – "assessment regime"	ISO 19115	Open data
III.11.AM	Dataset D – "assessment methods"	ISO 19115	Open data
III.7. EF	Dataset E1a – "primary validated assessment data – measurements"	ISO 19115	Open data
III.13 AC	Dataset E1b – "primary validated assessment data – modelled"	ISO 19115	Open data
III.7. EF	Dataset E2a – "primary up-to-date assessment data – measurements"	ISO 19115	Open data
III.13 AC	Dataset E2b – "primary up-to-date assessment data – modelled"	ISO 19115	Open data
III.7. EF	Dataset F1a – "aggregated data - primary validated measurements"	ISO 19115	Open data
III.13 AC	Dataset F1b – "aggregated data - primary validated modelled"	ISO 19115	Open data
III.7. EF	Dataset F2 – "aggregated data - primary up-to-date measurements"	ISO 19115	Open data
III.11.AM	Dataset G – "attainment of environmental objectives"	ISO 19115	Open data
III.11.AM	Dataset H – "air quality plans"	ISO 19115	Open data
III.11.AM	Dataset I - "source apportionment"	ISO 19115	Open data
III.11.AM	Dataset J – "scenario for the attainment year"	ISO 19115	Open data
III.11.AM	Dataset K – "measures"	ISO 19115	Open data

UC-EP01-01 - The reporting service

UC-EP01-02 - Validation and official submission

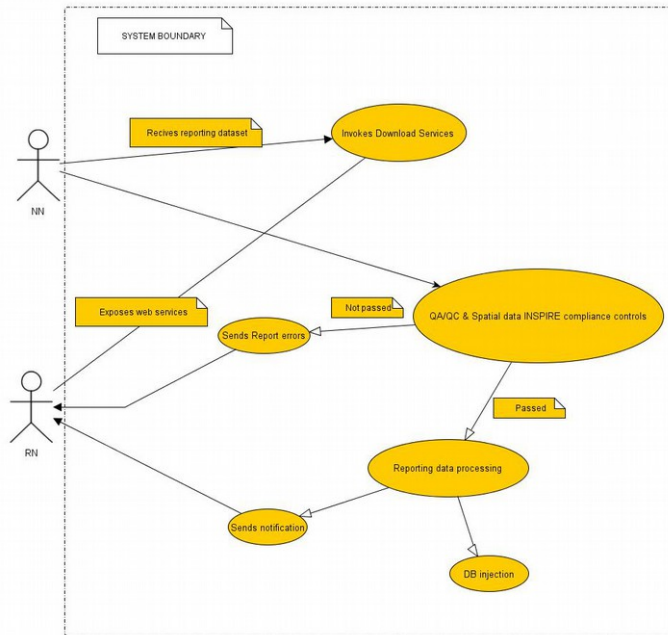UC-EP01-03 - Providing useful open services derived from the same data

![eENVplus logo]

EP02 - Pilot in Italy:
Scenario: Implementation of a SEIS for air quality data

- UC-EP02-01: National collection of reporting data
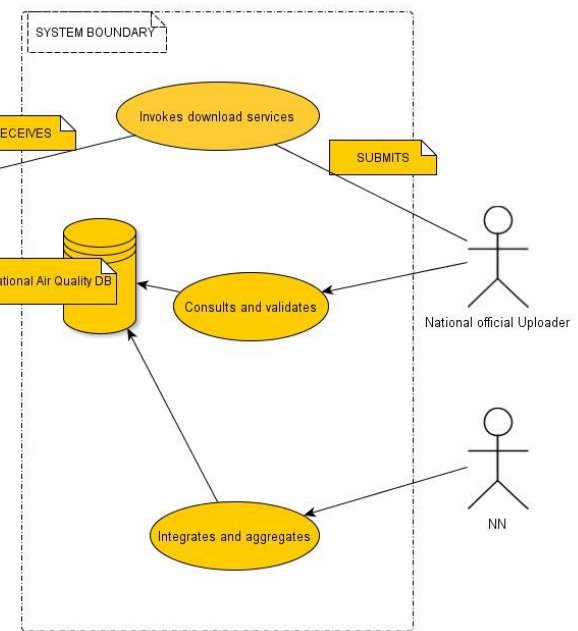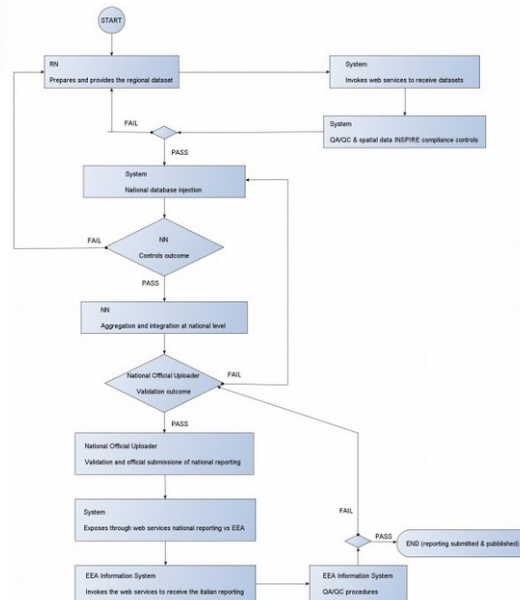- UC-EP02-02: Official submission of National Reporting

■ Web services (blue)
■ CSV/FTP (yellow)
■ Data not avaiable (grey)

Datasets in IT			
INSPIRE DT	**Content**	**Metadata**	**IPR / Open Data**
11. AM	Air Quality Zone and Agglomerations Information	ISO19115/INSPIRE	Free under specific agreement (IPR mention), data available for eENVPlus use

UC-EP02-01 – National collection of reporting data

Flowchart diagram
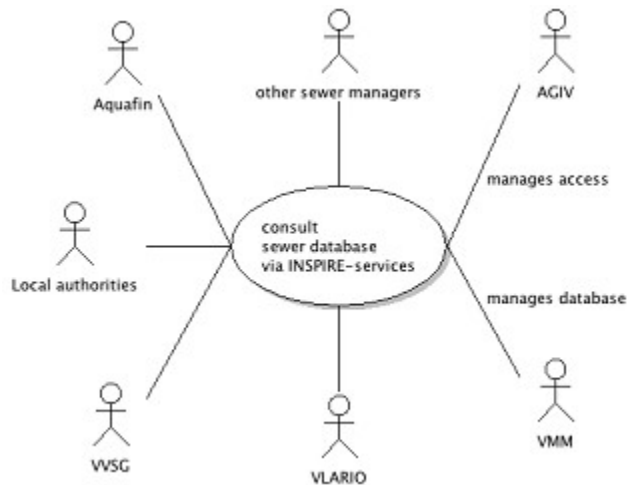
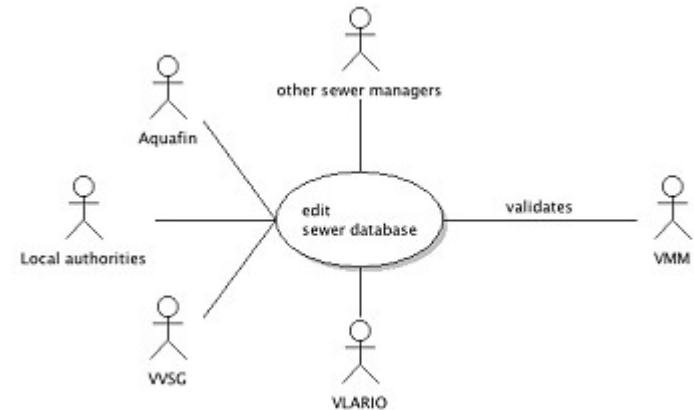UC-EP02-02 - Official submission of National Reporting

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- UC-EP03-01: Consulting the sewage database for the expansion and maintenance of the sewage system and wastewater treatment infrastructure
- UC-EP03-02: Joint management tool for the sewage database
- UC-EP03-03: Dissemination of information on sewage system to all stakeholders
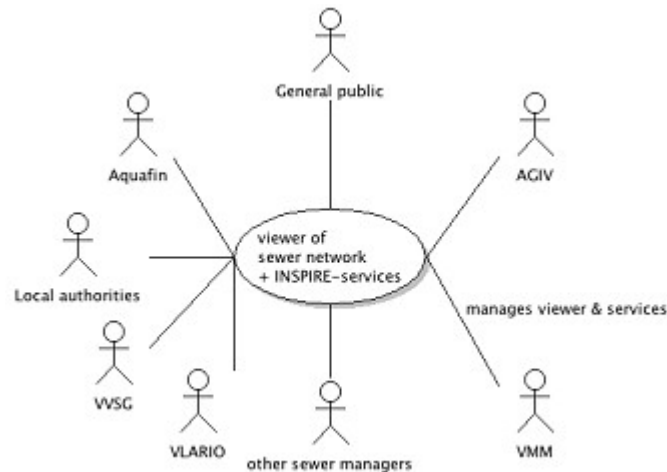
Datasets in BE			
INSPIRE DT	**Content**	**Metadata**	**IPR / Open Data**
III.6. US	Sewage database	No	Open Data
I.8. HY	Dataset Hydrography (WMS)	ISO 19115	Open Data

UC-EP03-01 – Consulting the sewage database for the expansion and maintenance of the sewage system and wastewater treatment infrastructure

UC-EP03-02 – Joint management tool for the sewage database

UC-EP03-03 – Dissemination of information on sewage system to all stakeholders

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EP04 - Cross-border Pilot in Czech R. / Slovakia
Scenario: CSspire - Everyday Life Issues Connected to Environmental Aspects

- UC-EP04-01: I want to cut a tree down on land which is under my ownership (outside of the forest)
- UC-EP04-02: I want to use water from underground sources in a quantity greater than 500 qm/day (build a well and draw water)
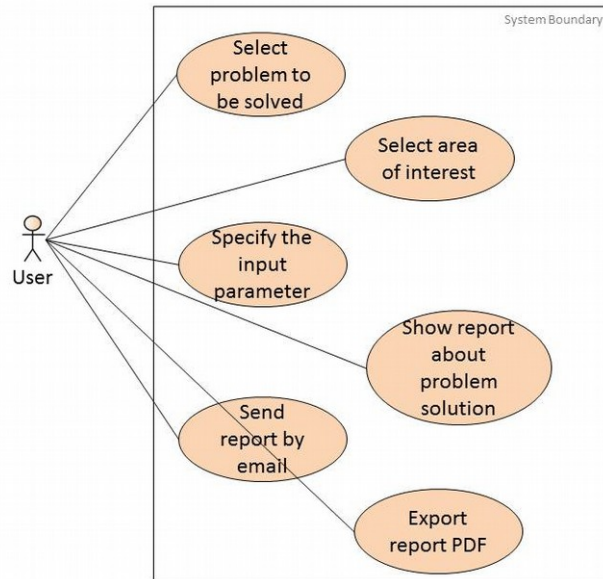- UC-EP04-03: I am seeking a quiet and clean place to build a cottage

Datasets in CZ

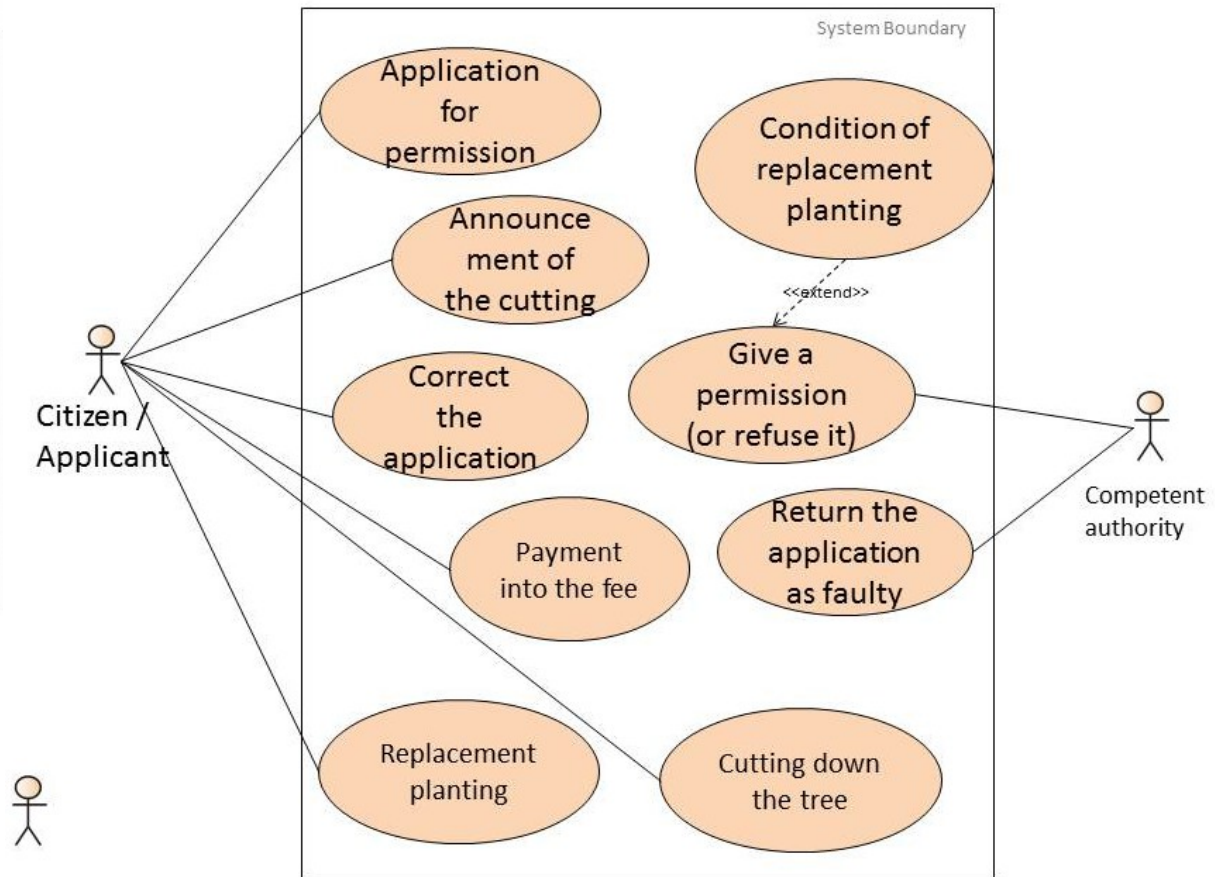| INSPIRE DT	Content	Metadata	IPR / Open Data
I.6 CP	Cadastral parcels	ISO 19115	Open data
I.9 PS	Protected areas	ISO 19115	Open (WMS), Free under the specific agreement, data available for eENVplus use
I.9 PS	Important landscape elements	ISO 19115	idem
II.2 LC	CORINE	ISO 19115	Free for research and education, data available for eENVplus use
III.8 PF	ePRTR	ISO 19115	Open data

Datasets in SK

INSPIRE DT	Content	Metadata	IPR / Open Data
I.9 PS	Protected areas	ISO 19115	IPR data, (Free for research and education), data available for eENVplus use
I.9 PS	Important landscape elements	ISO 19115	idem
II.2 LC	CORINE	ISO 19115	Free for research and education, data available for eENVplus use
III.4 LU	Local plans	ISO 19115	IPR, data available for eENVplus use
III.6 US	Responsibility of the Office state and public administration	ISO 19115	Open data
III.8 PF	ePRTR	ISO 19115	IPR, data available for eENVplus use

General diagram - Georeport

UC-EP04-01 – I want to cut a tree down on land which is under my ownership (outside of the forest)

UC-EP04-02 – I want to use water from underground sources in a quantity greater than 500 m3/day (build a well and draw water)

UC-EP04-03 – I am seeking a quiet and clean place to build a cottage

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- UC-EP05-01: Determine if the user is in or near a Protected site / a Biogegraphical Region or an Habitat / Biotope zone
- UC-EP05-02: I've seen a species – Is there other around me?

Datasets in FR

INSPIRE DT	Content	Metadata	IPR / Open Data
I.9 PS	Parcs Nationaux Terrains des Conservatoires d'Espaces Naturels Réserves Naturelles Nationales	ISO19115 / INSPIRE	IPR protected but free access and use (*).
III.17 BR	Régions Biogéographiques	idem	idem
III.18 HB	Inventaire des Zones Naturelles d'Intérêts Ecologiques, Faunistiques et Floristiques Type 1 (ZNIEFF Type 1)	idem	idem

(*) The text « Muséum national d'Histoire naturelle » must be mentioned whenever the layer is used. The use of the data is allowed for the user's own internal business use, not for any commercial purpose, and not for financial profit or gain. No modification of the data is allowed.

UC-EP05-02 – I've seen a species –
Are there others around me?
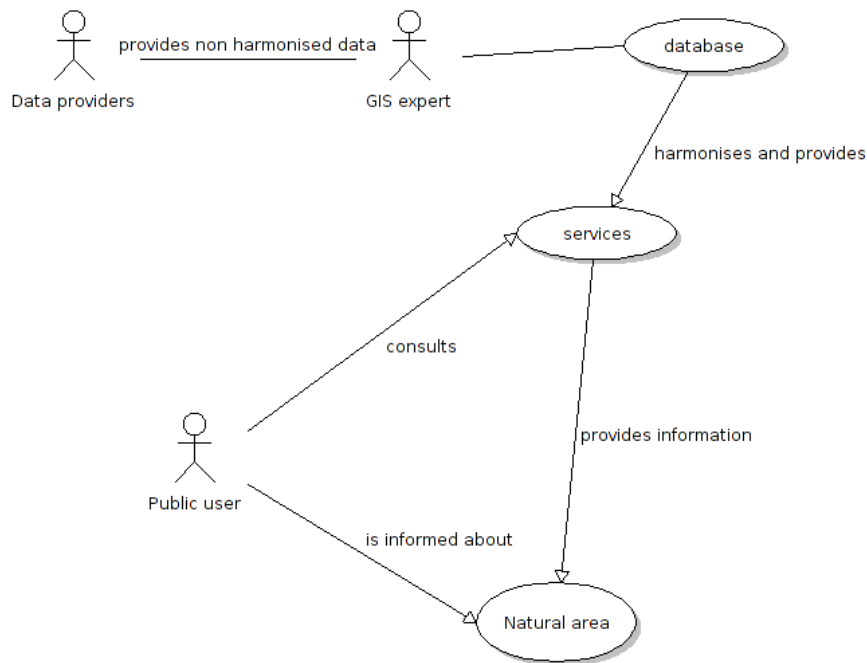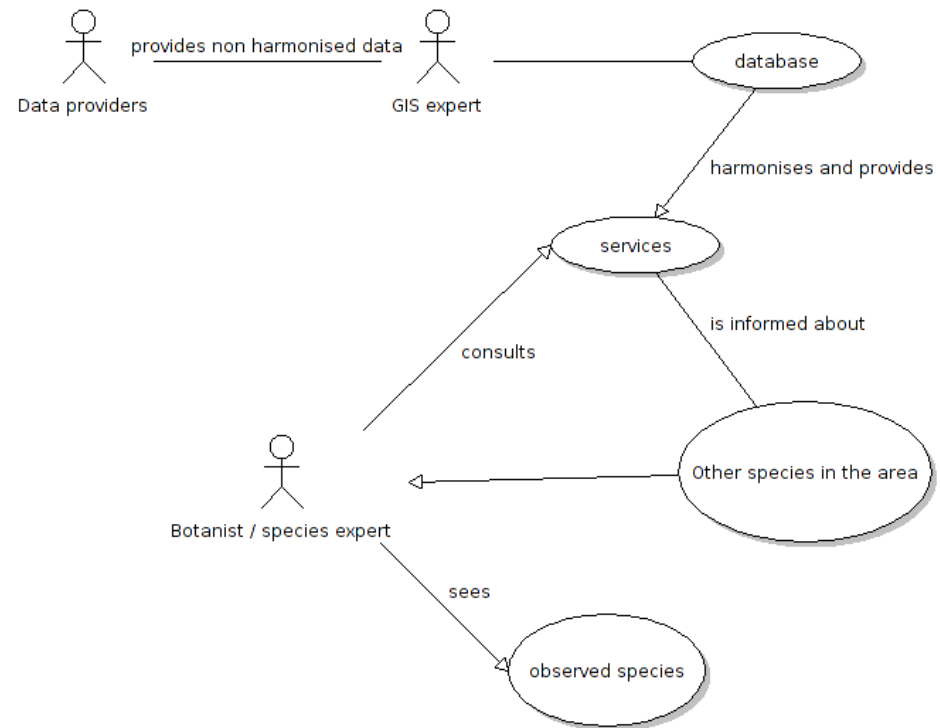
UC-EP05-01 - Determine if the user is in or near a
Protected site / a Biogegraphical Region or a
Habitat / Biotope zone

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EP06 - Pilot in Greece:
Scenario: Forest Fire Management

- UC-EP06-01: Awareness Phase, data acquisition, pre-processing and preparation
- UC-EP06-02: Emergency Phase

Datasets in EL

INSPIRE DT	Content	Metadata	IPR / Open Data
II.2: LC	Fuel types classification, using the INSPIRE LC Data Specification (COVERAGE: -National)	ISO 19115	IPR, data available for eENVplus
III.7. EF	Weather conditions and their measurements; precipitation, temperature, evapotranspiration, wind speed and direction (COVERAGE: Regional)	No	IPR, data available for eENVplus
III.14: MF	idem	idem	idem

Note: Additionally, the following datasets are included as well:
Spatial-temporal processed data:
- Fire Linear Intensity, BYR (Kw/m) / WCS
- Cloud Coverage, CLO (%) / WCS
- Dead Fuel Moisture, DFM (%) / WCS
- Air Relative Humidity, HRE (%) / WCS
- Probability of Ignition, PIG (%) / WCS
- Rain precipitation in the last hr, PPH (mm) / WCS
- Accumulated Precipitation, PPD (mm) / WCS
- Temperature, TEM (Celsius) / WCS
- Wind Speed, WSP (m/sec, integer) / WCS
- Wind Direction, WDI (Degrees Clockwise) / WCS

Spatial-static processed data:
- Aspect, ASP (Degrees) / WCS
- Slope, SLO (Degrees) / WCS
- Fuel Models, FMO (List of models) / WCS

Background map
- CORINE Land Use / WCS
- OSM Road Network / WFS

Infrastructures
- Infrastructures related to forest fires / WFS
- Building blocks / WCS
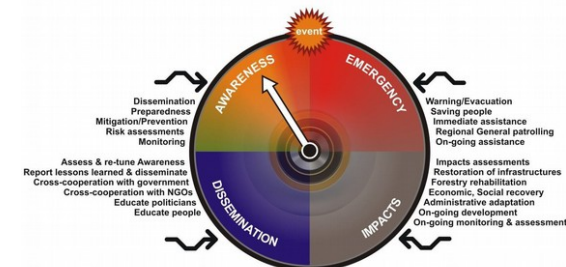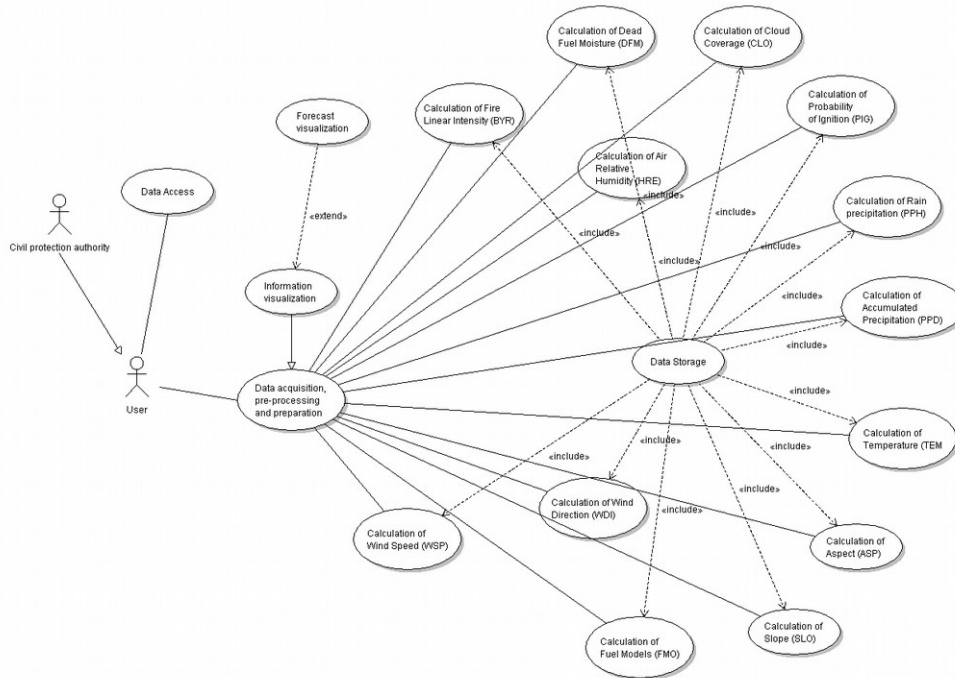
UC-EP06-01 - Awareness Phase, data acquisition pre-processing and preparation

UC-EP06-02 - Emergency Phase
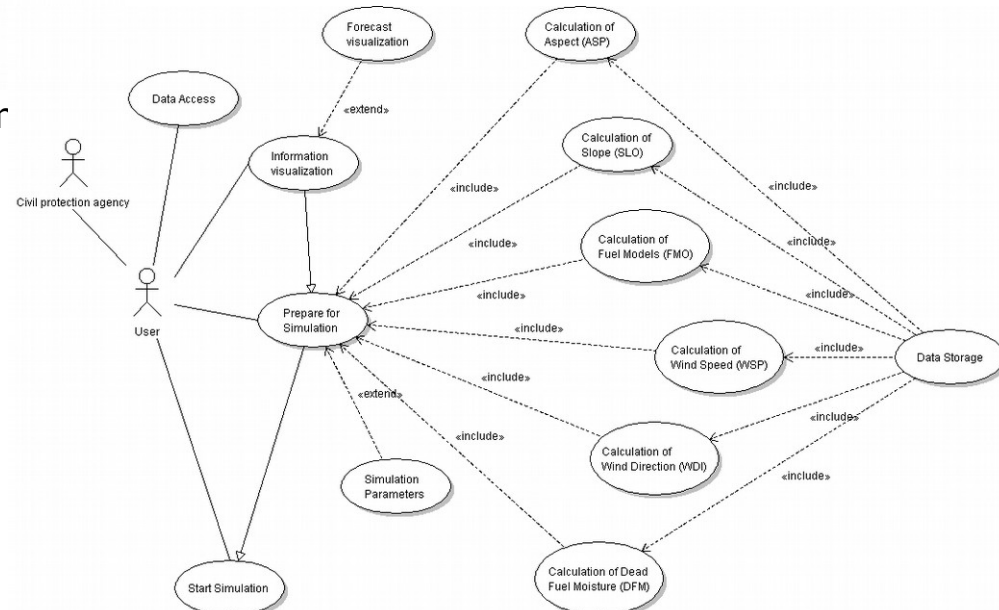
EP07 - Cross-border Pilot in Hungary / Slovakia
Scenario: Window on the Protected Areas - Mobile Conservation Map

- UC-EP07-01: Mobile Conservation Map (MCM) application

Datasets in SK (Area covered: Slovak Republic)			
INSPIRE DT	**Content**	**Metadata**	**IPR / Open Data**
I.9. PA	Protected areas, important landscape elements	ISO 19115	IPR data (Free for research and education), data available for eENVplus use
I. 8. HY	Surface and ground water	ISO 19115	idem

Datasets in HU (Area covered: Hungary)			
INSPIRE DT	**Content**	**Metadata**	**IPR / Open Data**
I. 8. HY	Lakes (surface over 10 km^2), River water body, River catchments (over 500 km^2), Water authority administrative boundaries	ISO 19115	Open data for eENVplus use
I.9. PA)	Protected sites IUCN, Natura 2000 sites, Ramsar sites, UNESCO Biosphere Reserves, UNESCO World Heritage Sites	ISO 19115	Open data for eENVplus use

EP08 - Pilot in Iceland:
Scenario: INSPIRE Geoportal - Nature Conservation data in Iceland

- UC-EP08-01: Discover and Viewing, INSPIRE compliant services for nature conservation purpose

UC-EP08-02: Crowd sourcing on environmental objects in Iceland

Datasets in IS (Area covered (103.000 km3): Whole Iceland)			
INSPIRE DT	**Content**	**Metadata**	**IPR / Open Data**
I. 1. RS	Information of the Icelandic coordinate reference system (vertical and horizontal)	ISO 19115	Open data
I. 4. AU	Municipality boundaries (second level)	ISO 19115	Open data
I. 9. PS	Nature protected sites in Iceland (such as National Parks and reserved areas)	ISO 19115	Open data
I. 7.TN	Road database of Iceland (from the NLSI)	ISO 19115	Open data

Note: And Topographic map IS 50V (WMTS)

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- UC-EP09-01: Environmental risk (geo-hazard): landslide susceptibility map
- UC-EP09-02: Environmental risk (geohazard): analysis of flooding phenomena
- UC-EP09-03: Environmental analysis: geological and environmental features of karst area
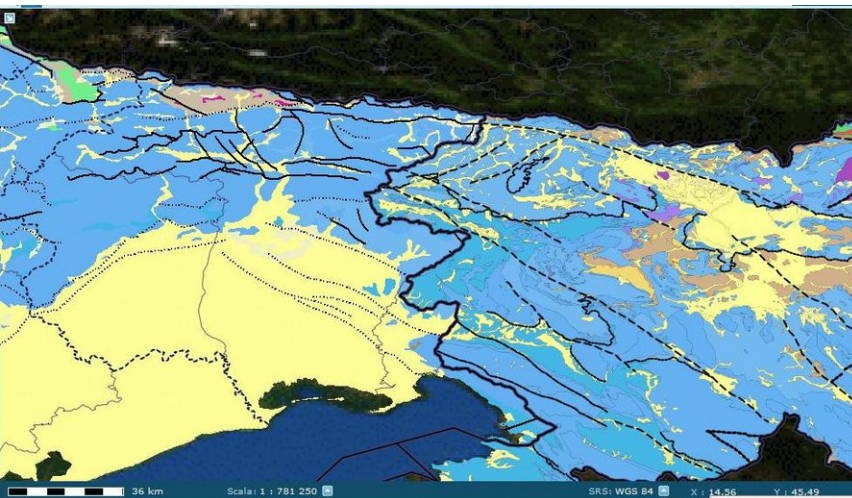
Datasets in IT

INSPIRE DT	Content	Metadata	IPR / Open Data
II.4. GE:	Geology 1M	ISO 19115	Open Data
II.4. GE:	Geolithology 100K	ISO 19115	No commercial use
II.4. GE:	Geology 25K	ISO 19115	No commercial use
II.4. GE:	IFFI Landslide	ISO 19115	No commercial use
II.4. GE:	Sinkholes	ISO 19115	No commercial use
II.4. GE:	ITHACA	ISO 19115	No commercial use
II.1. EL:	DEM	ISO 19115	No commercial use
I.7. TN:	Road and Railway network	ISO 19115	No commercial use
III.12. NZ	Landslide susceptibility map	No	No commercial use
III.12. NZ	EEE Catalogue	No	No commercial use

Datasets in SI

INSPIRE DT	Content	Metadata	IPR / Open Data
II.4. GE:	Geological and structural map	ISO 19115	Open Data
II.4. GE:	Basic geological map 1:100 000 sheet Beljak and Pontebba	ISO 19115	Copyright
II.4. GE:	Basic geological map 1:100 000 sheet Tolmin and Videm	ISO 19115	Copyright
II.4. GE:	Basic geological map 1:100 000 sheet Gorica	ISO 19115	Copyright
II.4. GE:	Basic geological map 1:100 000 sheet Trst	ISO 19115	Copyright
II.4. GE:	Geological map of Slovenia 1:250K	No	Copyright
II.4. GE:	Structural-tectonic map of Slovenia 1:250K	ISO 19115	Copyright
III.12. NZ:	Landslide susceptibility map of Slovenia 1:250K	ISO 19115	Copyright
III.12. NZ:	Debris-flow map of Slovenia 1:250K	No	Copyright
I.8. HY:	Hydrogeological map of Slovenia 1:250K	ISO 19115	Copyright
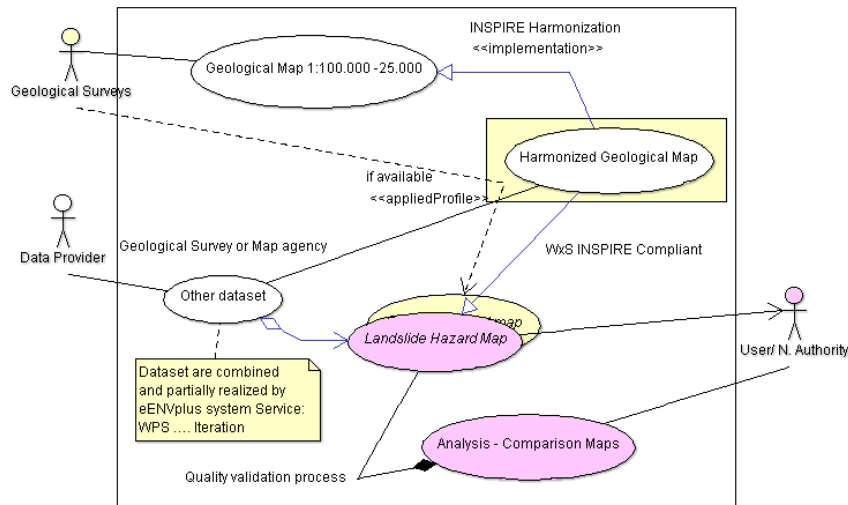
UC-EP09-01 - Environmental risk (geo-hazard): landslide susceptibility map
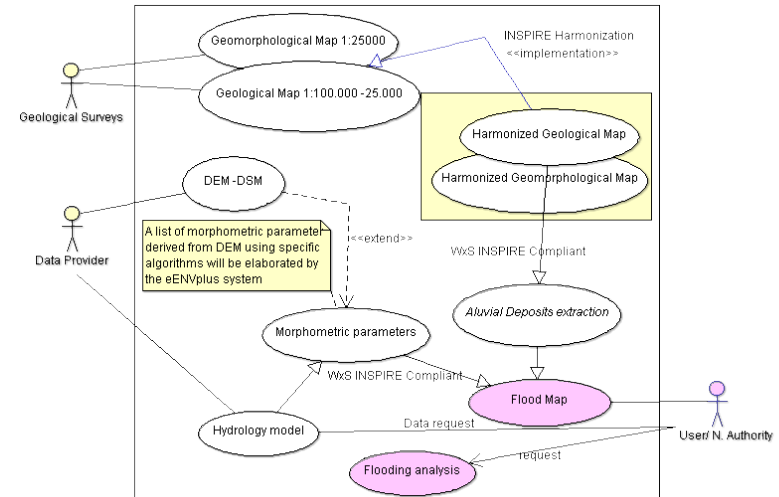
UC-EP09-02 - Environmental risk (geohazard): analysis of flooding phenomena
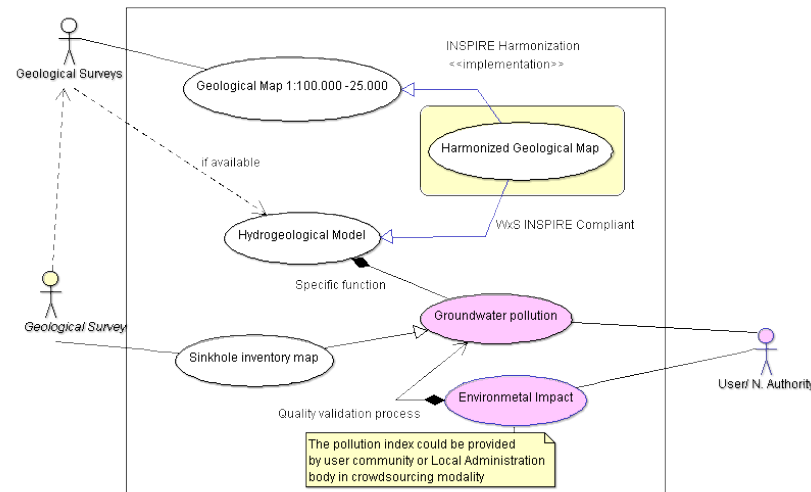
UC-EP09-03 - Environmental analysis: geological and environmental features of karst area

EP10 - Pilot in Portugal
Scenario: Urban Landuse Planning

- UC-EP10-01: Delineation of study areas
- UC-EP10-02: Evaluate urban and rural growth
- UC-EP10-03: Evaluate and document data accuracy
- UC-EP10-04: Evaluate spatial planning impact on urban growth
- UC-EP10-05: Evaluate the impact of urban growth

Datasets in PT (Area covered: Tomar, Abrantes and Loures)

INSPIRE DT	Content	Metadata	IPR / Open Data
I. 4. AU	Administrative units of the country: CAOP dataset	ISO 19115	Open data
II. 3. OI	Ortho imagery	ISO 19115	IPR, data available for eENVplus use
III. 1. SU	Official statistics related to housing and demography	ISO 19115	idem
III. 4. LU	COS90	ISO 19115	Open data
III. 4. LU	COS2007	ISO 19115	IPR, data available for eENVplus use

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Scenarios & Pilots

- ■ 3 Cross-border Pilots:
    - □ **Czech Republic/Slovakia** for everyday life issues connected to Environmental aspects
    - □ **Hungary/Slovakia** for Nature Conservation
    - □ **Italy/Slovenia** for Environmental Risk (Geohazard)

- ■ 1 Scenario in two Pilots
    - □ Belgium and Italy for Air Quality

- ■ **Portugal**
    - □ three municipalities (PT) from transboundary catchment – the Tagus River, Scenario on Ecological landuse Planning

eENVplus use case definition and user requirements collection

- 26 use cases were defined for each of the Pilot Applications
- A Technical Team was established to analyse the provided use cases and extract user and system requirements.
- These requirements (ca. 190) are the basis for the specifications of the eENVplus software products.
- A collaborative software environment (bug tracker and project management tool) has supported the requirements collection phase.
- A strong communication effort between all partners has been of great importance.

Step 1
- collection
Use Case descriptions

10 Pilot Applications

26 Use Cases

EP01 - Pilot in Belgium:
Scenario: Implementation of a SEIS for air quality data

- UC-EP01-01: The reporting service
- UC-EP01-02: Validation and official submission
- UC-EP01-03: Providing useful open services derived from the same data

EP02 - Pilot in Italy:
Scenario: Implementation of a SEIS for air quality data

- UC-EP02-01: National collection of reporting data
- UC-EP02-02: Official submission of National Reporting

EP03 - Pilot in Belgium:
Scenario: Providing INSPIRE-compliant access to utility services: the case of sewage networks in Flanders

- UC-EP03-01: Consulting the sewage database for the expansion and maintenance of the sewage system and wastewater treatment infrastructure
- UC-EP03-02: Joint management tool for the sewage database
- UC-EP03-03: 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

- UC-EP04-01: I want to cut a tree down on land which is under my ownership (outside of the forest)
- UC-EP04-02: I want to use water from underground sources in a quantity greater than 500 qm/day (build a well and draw water)
- UC-EP04-03: I am seeking a quiet and clean place to build a cottage

EP05 - Pilot in France:
Scenario: Natural Areas INSPIRE Compliance Toolbox

- UC-EP05-01: Determine if the user is in or near a Protected site / a Biogeographical Region or an Habitat / Biotope zone
- UC-EP05-02: I've seen a species – Is there other around me?

EP06 - Pilot in Greece:
Scenario: Forest Fire Management

- UC-EP06-01: Awareness Phase, data acquisition, pre-processing and preparation
- UC-EP06-02: Emergency Phase

EP07 - Cross-border Pilot in Hungary / Slovakia
Scenario: Window on the Protected Areas - Mobile Conservation Map

- UC-EP07-01: Mobile Conservation Map (MCM) application

EP08 - Pilot in Iceland:
Scenario: INSPIRE Geoportal

- UC-EP08-01: Discover and Viewing, INSPIRE compliant services for nature conservation purpose
- UC-EP08-02: Crowd sourcing on environmental objects in Iceland

EP09 - Cross-border Pilot in Italy / Slovenia
Scenario: Geological Map Harmonization

- UC-EP09-01: Environmental risk (geo-hazard): landslide susceptibility map
- UC-EP09-02: Environmental risk (geohazard): analysis of flooding phenomena
- UC-EP09-03: Environmental analysis: geological and environmental features of karst area

EP10 - Pilot in Portugal
Scenario: Urban Landuse Planning

- UC-EP10-01: Access to data and definition of study areas
- UC-EP10-02: Evaluate urban and rural growth
- UC-EP10-03: Evaluate and document data accuracy
- UC-EP10-04: Evaluate spatial planning impact on urban growth
- UC-EP10-05: Evaluate the impact of urban growth

Step 2

- Matrix mapping Use Cases to functionalities

eENVplus

- Project management via a tracking system

… ca. 190 requirements where defined

eENVplus user & system requirements are tracked in a shared system, stimulating & structuring communication between partners

Redmine (http://www.redmine.org/) project management and bug-tracking tool
GNU General Public License v2 (GPL)

Example of requirements:

✔	# ▲	Subject	Use Case ID	Assignee
☐	15	Metadata Compilation for time-aggregated datasets	UC-EP01-01 UC-EP01-02	
☐	16	Service Discovery	UC-EP01-03	
☐	17	Semantic Explorative Search	UC-EP01-03	
☐	35	WMS support for web-based mapping client	UC-EP01-01 UC-EP01-02 UC-EP01-03	Stefano Piffer
☐	36	WFS support for web-based mapping client	UC-EP01-01 UC-EP01-02 UC-EP01-03	Stefano Piffer
☐	54	Mobile app for Air quality dataset	UC-EP01-03	Stefano Piffer
☐	58	Advanced Visualization in Web Client	UC-EP01-03	Stefano Piffer
☐	60	SOS support for browser-based mapping client	UC-EP01-01 UC-EP01-02 UC-EP01-03	Stefano Piffer
☐	90	Integrate Download Service into INSPIRE infrastructure	UC-EP01-03	
☐	91	Integrate View Service into INSPIRE infrastructure	UC-EP01-03	
☐	109	Ingestion Service for air quality data	UC-EP01-01, UC-EP01-02, UC-EP01-03	Stefano Pezzi
☐	140	Validation Service for air quality data	UC-EP01-01	Giacomo Martirano
☐	141	Transformation service for air quality data	UC-EP01-01	

Thank you!

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