eENVplus - eEnvironmental services for advanced applications within INSPIRE

CIP – Pilot Actions
## Grant agreement no: 325232

Starting date: 01 January 2013

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GISIG

National workshop Athens, 1 October 2014

Key objective

- to support INSPIRE and SEIS implementation

- through deployment and integration of value-added eEnvironment services

- available at national level and through past/on-going key EC-funded project

- eENVplus provides Members State and the GI Communities, with tools addressing a **multi-level interoperability stack:**
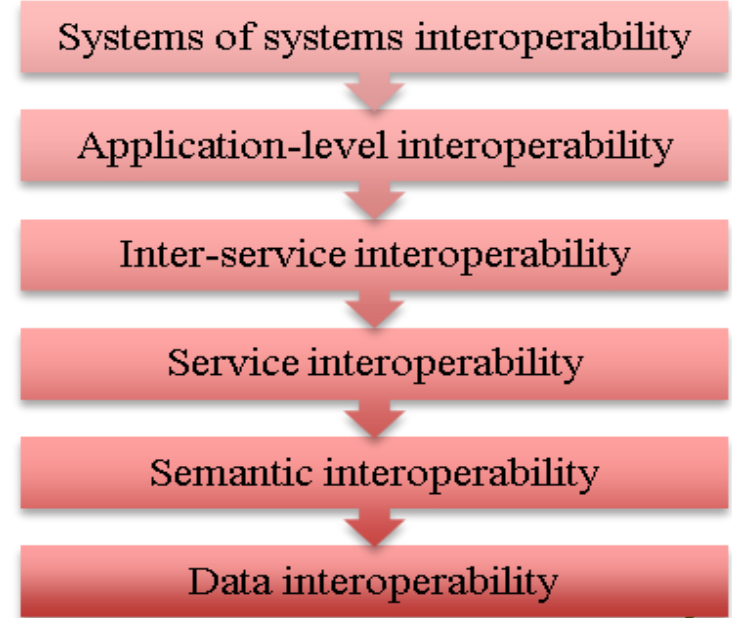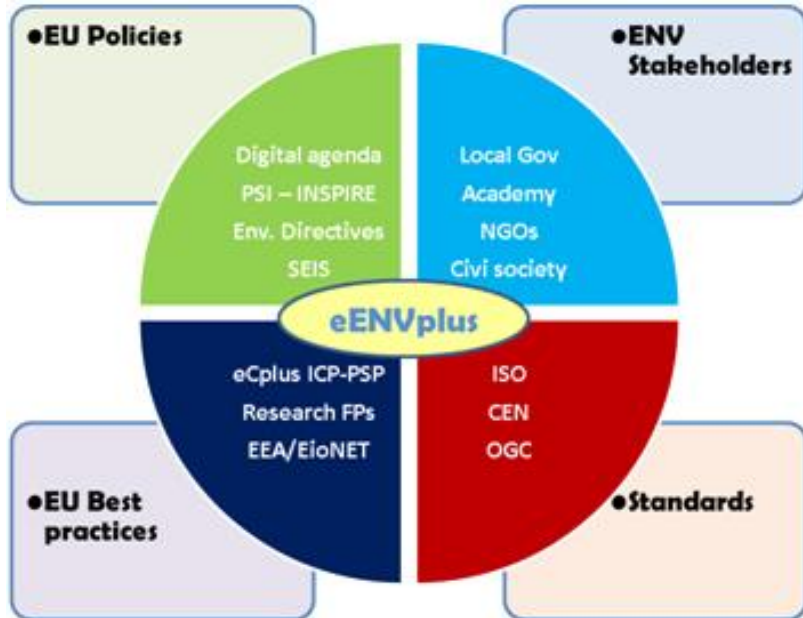
- The provision of an **interoperable** solution to share and process geo-spatial data in order to provide added value information and services to be shared in a cross-language, cross-scale and cross-thematic environment

- The provision of **re-usable** solutions, in term of open data, open services, open components, open infrastructures, open applications

- The **contribution to the European policies** and international standards in the frame of the European eGovernment actions, with a special attention to the EU Directives like INSPIRE, PSI, the Environmental Directives (Air, Water, Habitas, Flood, Waste, etc.) based on the best practices coming from the application in real and heterogeneous contexts of the eENVplus infrastructure.

European projects background

- **NESIS** - A Network to enhance a European Environmental Shared and Interoperable Information System (ICT PSP project)

- **NATURE-SDIplus -** Best Practice Network for SDI in Nature Conservation (eContentplus project)

- **BRISEIDE** – Bridging services, information and data for Europe (ICT PSP project)

- **OneGeology Europe -** Making digital geological spatial data more easily discoverable, accessible and useable

- **HUMBOLDT** - Towards the Harmonisation of Spatial Information in Europe (FP6 GMES project)

- **CAFE** – Development and demonstration of technical IT solutions for data exchange and reporting under the CAFE Directive using INSPIRE services"

- **VESTA-GIS** – Development of a training infrastructure (LdV)

Partartnership

National Agencies:
- Environmental Agencies: VMM (BE), ISPRA (IT), CENIA (CZ), SAZP (SK), MRD (HU) with support of GEO (HU); moreover, EPSILON in close cooperation with GR EA
- Mapping Agencies: DGT (PT), NLSI (IC, in close cooperation with IC EA)
- Thematic Agencies: Geological (GeoZS, SLO), Nature (ATEN, FR)

Technical partners: CNR-IMATI, Epsilon, Sinergis, Graphitech, disy, EPSIT, PKH

University: GEO

Standardization Body: GISt (Secretary of CEN TC/287 Geographical Information)

European Association: GISIG (eENVplus Coordinator)

19 partners from 12 countries

Target Groups
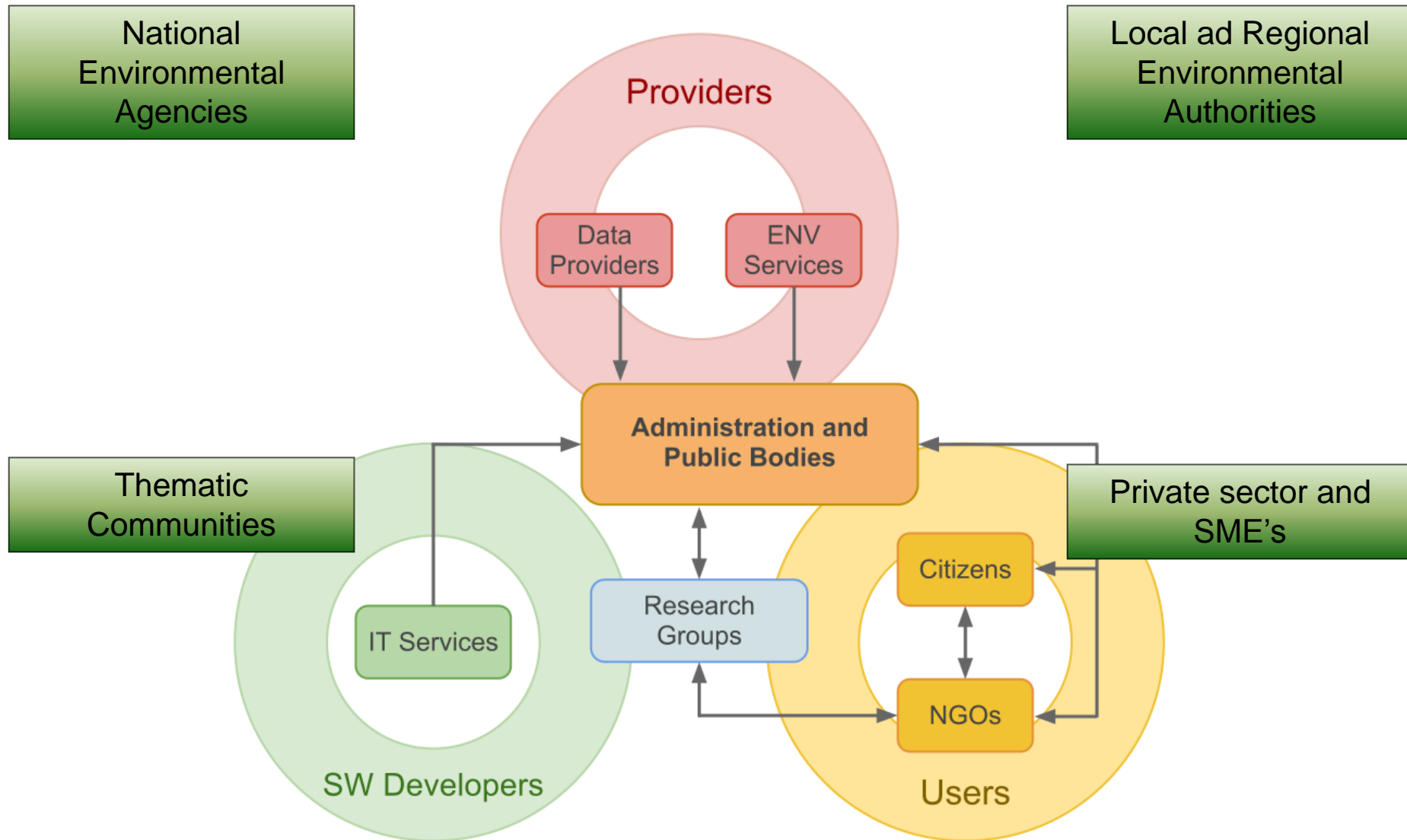
Pilots / Scenarios / Use Cases

- In 10 pilots, 3 cross-border
- Pilots (10): the actual implementation of the scenarios in a geographical area
- Scenarios (9): the different use cases considered by eENVplus, which the applications correspond to
- Use Case (26): a methodology used in system analysis to identify, clarify, and organize system and user requirements

- Offering examples on how the eENVplus outcomes can be utilized in a variety of different situations (ENV aspects) and users' needs
- Providing streamline of the tools available to the project into the main flow of INSPIRE compliance
- Proposing interoperability among applications (existing or planned)
- to create a more complete thematic (integration among complementary issues) or regional example (integration among cross-border cases)

![eENVplus]

Pilots in Belgium and Italy

SEIS for air quality data.

Pilot in France

Natural Areas INSPIRE Compliance Toolbox.

Pilot in Iceland

INSPIRE Geoportal.

Pilot in Belgium
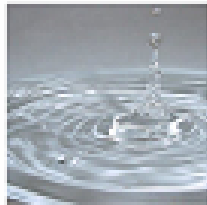
Utility services, the case of sewage networks in Flanders.

Pilot in Greece

Forest Fire Management.

Italy-Slovenia cross-border pilot
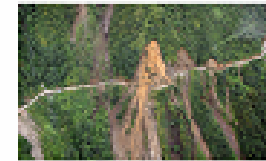
Geological Map Harmonization in Italy and Slovenia.

Czech-Slovak cross-border pilot

Csspire (Everyday life issues connected to Environmental aspects).

Hungary-Slovakia cross-border pilot

Window on the Protected Areas- Mobile Conservation Map.

Pilot in Portugal

Urban Landuse Planning.

Underlying content, INSPIRE data Themes

- Various National datasets related to many INSPRE Annex I-II-III Data Themes, are considered for eENVplus (some are under IPR, many are Open Data)
- After the 1st data analysis, not all of them will be harmonised

| Pilot Applications:	EP01	EP02	EP03	EP04	EP05	EP06	EP07	EP08	EP09	EP10
ANNEX I										
1. RS: Coordinate reference systems								☐		
4. AU: Administrative units								☐		☐
6. CP: Cadastral parcels				☐						
8. HY: Hydrography			☐	☐			☐			
9. PS: Protected sites				☐	☐		☐	☐		
ANNEX II										
2. LC: Land cover				☐		☐				☐
3. OI: Orthoimagery										☐
4. GE: Geology								☐		
ANNEX III										
1. SU: Statistical units										☐
4. LU: Land use				☐						☐
5. HH: Human health and safety				☐						
6. US: Utility and governmental services			☐	☐						
7. EF: Environmental monitoring facilities	☐	☐				☐		☐		
8. PF: Production and industrial facilities				☐						
11. AM: Area mng/rest/reg zones & rep. units	☐	☐							☐	
12. NZ: Natural risk zones									☐	
13. AC: Atmospheric conditions	☐			☐						
14. MF: Meteorological geographical features						☐				
17. BR: Bio-geographical regions				☐	☐					
18. HB: Habitats and biotopes				☐	☐					
19. SD: Species distribution				☐	☐					

The HUMBOLDT Alignment Editor

- The HUMBOLDT Alignment Editor (HALE) is a tool for defining and evaluating conceptual schema mappings.

- HALE is currently being used intensively in the context of the eENVplus "WP3 Harmonisation and Validation" tasks.

- The Data Harmonisation Panel:
  - Supports a community of experts and organisations that have to deal with spatial data harmonisation.
  - Disseminates and exploits the HUMBOLDT Tools.
  - GISIG is one of the Data Harmonisation Panel Founding Members.

- A joint collaborative initiative between the eENVplus project and the Data Harmonisation Panel is under development.
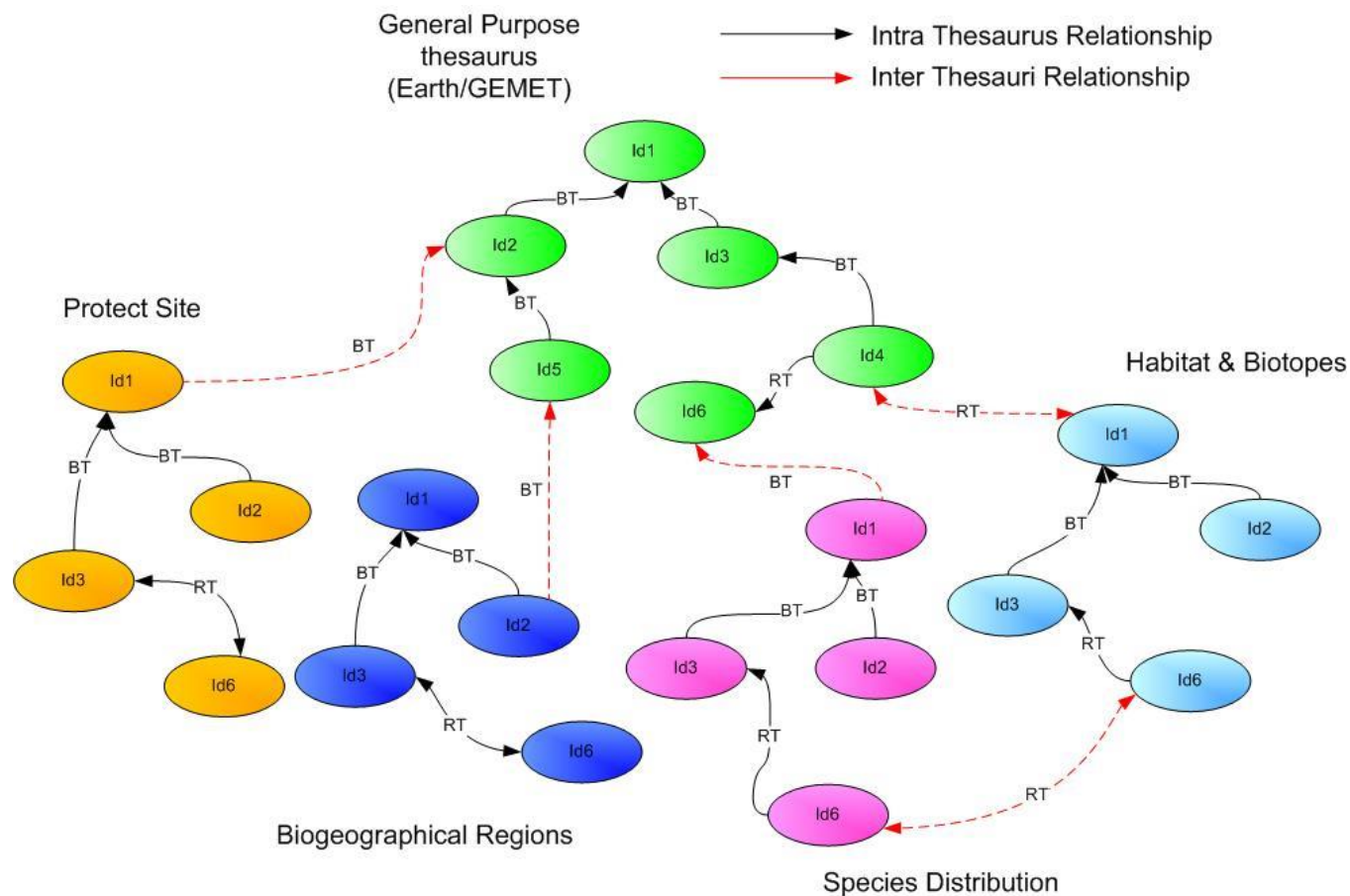
> integration of different available thesauri

> cross walking from a thesaurus to another

- eENVplus infrastructure is composed by a set of components combined into the nodes of the infrastructure

Software components

Harmonisation Toolkit	Validation Toolkit	Data Access Services	Ingestion Services	Processing Services
Crowdsourcing Services	Thesaurus Framework	TF Exploitation Services	Authentication Services	Notification Services
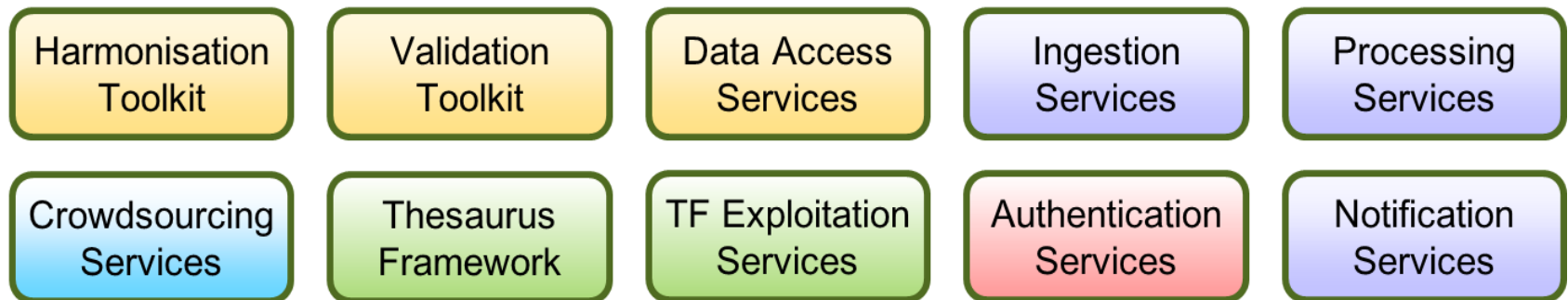
Data structure components

Geo DB	INSPIRE'd DB	Metadata	Triple store	Crowd data

eENVplus Training Framework

EU GI-related Directives and Initiatives

Copernicus · INSPIRE · SEIS · WFD

GeoSmartCity · LIFE+IMAGINE · LINKVIT

Data Harmonisation

HUMBOLDT · NESIS · eENVplus

TRAINING (e-learning)

Training within EU Projects · Leonardo Da Vinci VESTA-GIS · Leonardo Da Vinci eLEANOR

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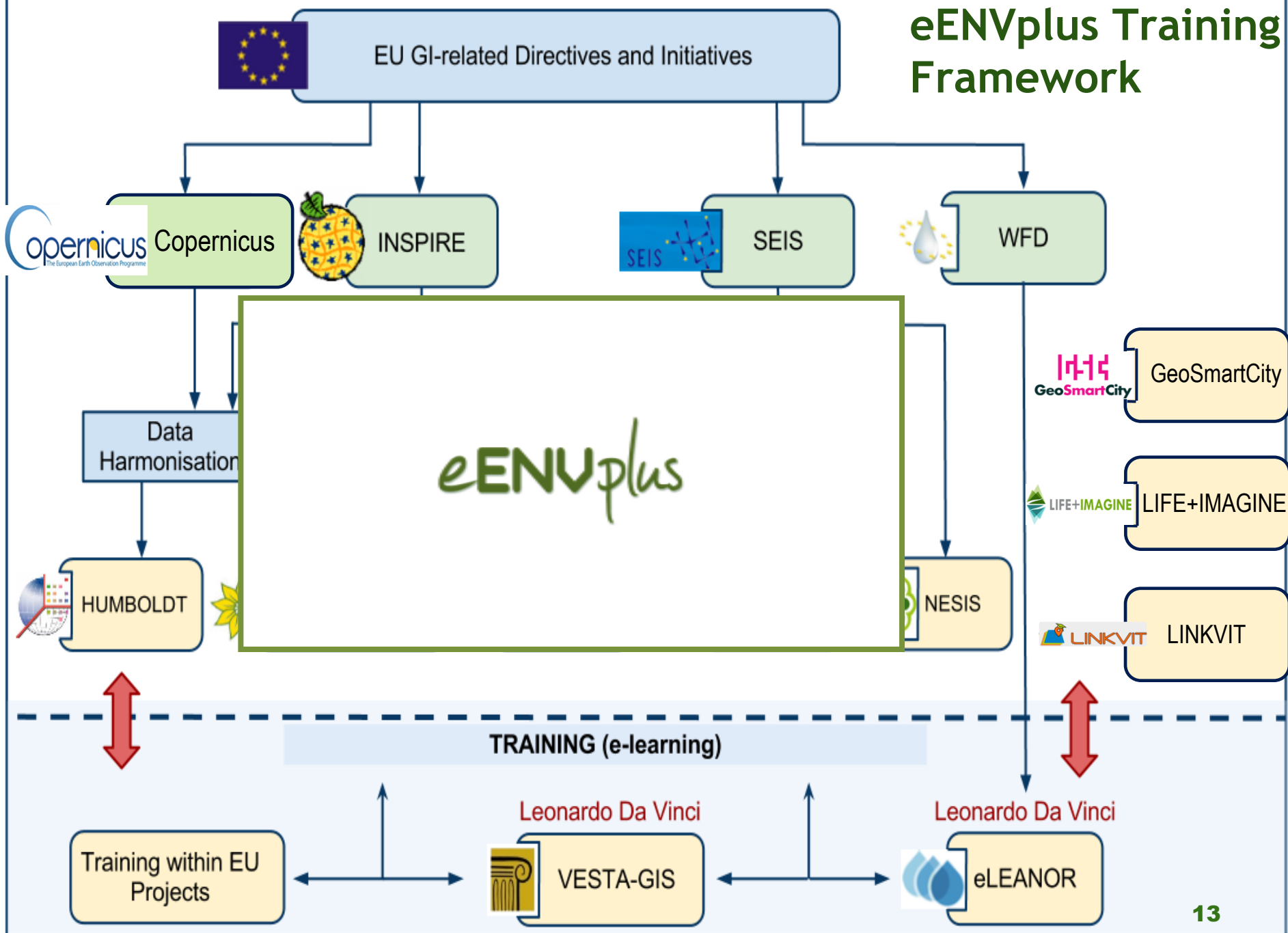
- eENVplus Infrastructure is the base for including new applications and new services also within future projects at a European and National level
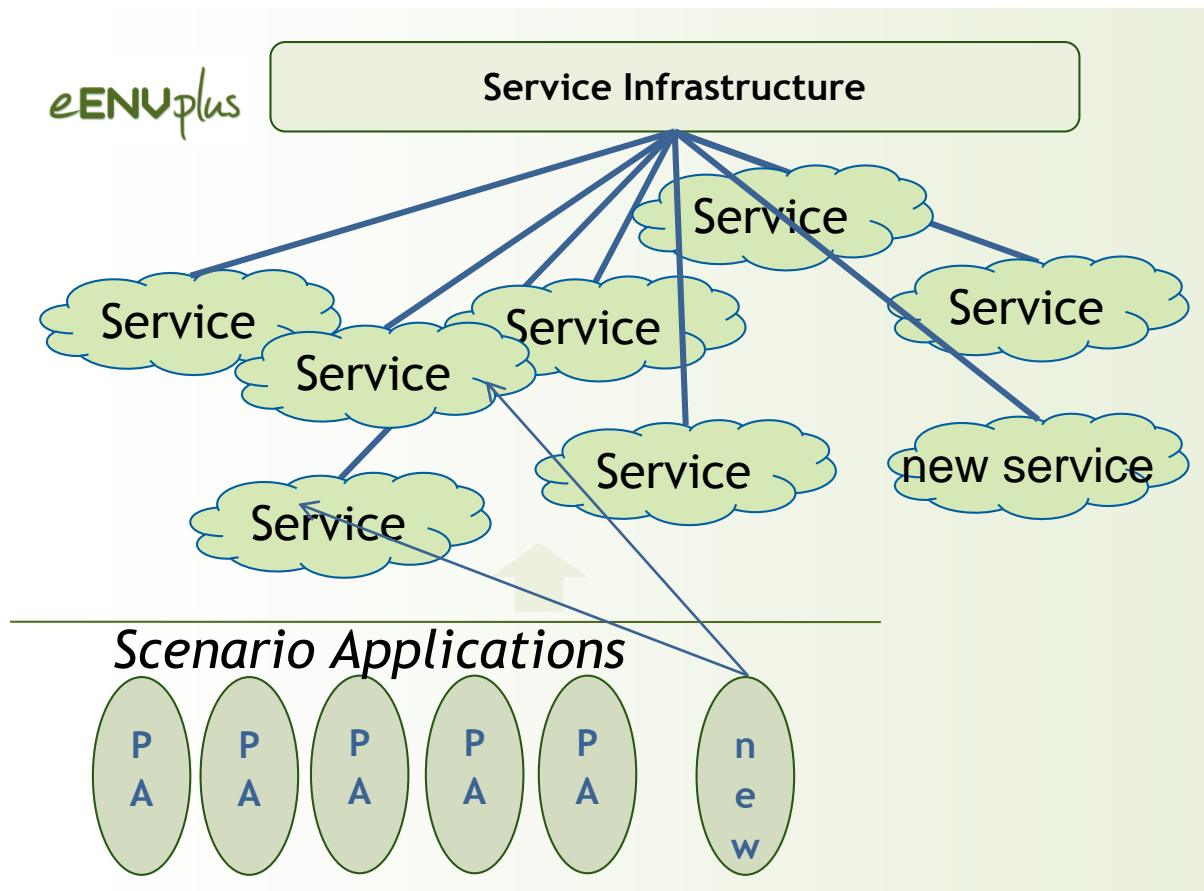
- eENVplus will be then the Framework for implementing/use/sharing eEnvironmental services

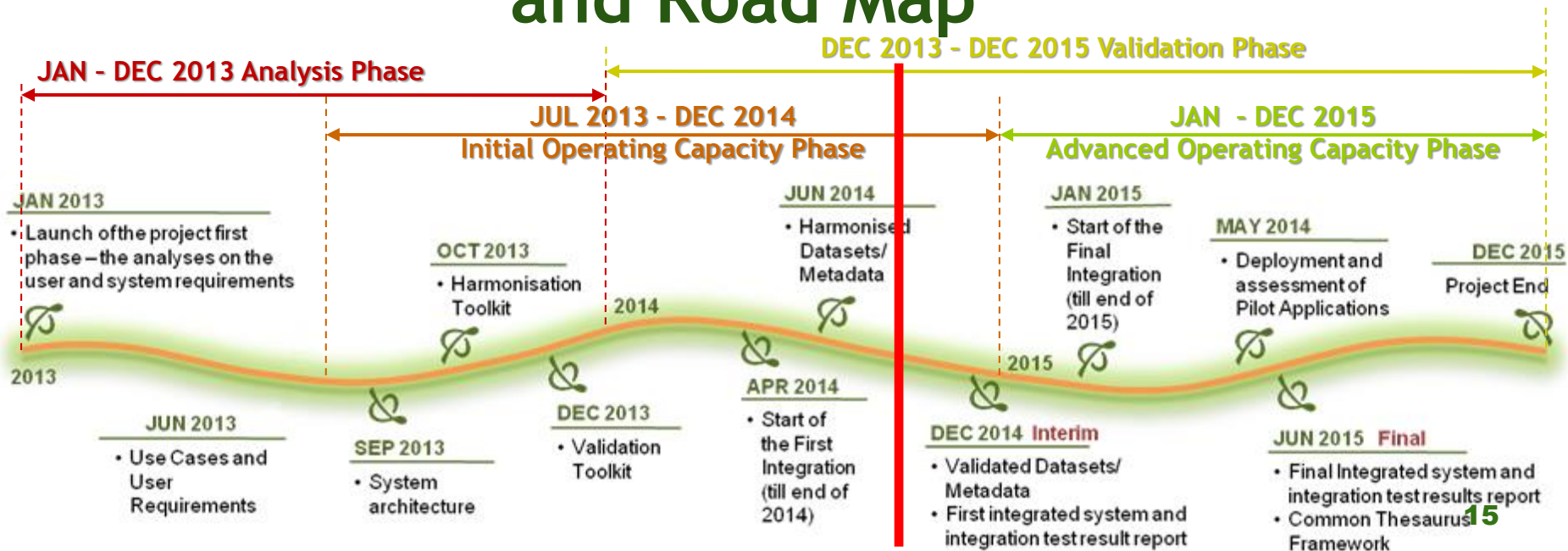- That will be part of the long term sustainability plan after the project conclusion

Macro-actions foreseen by eENVplus

1. Analyse existing operational processes	→	2. Collect existing technologies (from EU projects)	→	3. Collect data (from EU agencies)	→	4. Harmonise data	→	5. Make existing technology interoperable

10. Implement long-term sustainability mechanisms	←	9. Define recommendations	←	8. Train staff	←	7. Deploy pilots and assess them	←	6. Release of the open source toolkit

and Road Map

JAN – DEC 2013 Analysis Phase

DEC 2013 – DEC 2015 Validation Phase

JUL 2013 – DEC 2014
Initial Operating Capacity Phase

JAN – DEC 2015
Advanced Operating Capacity Phase

JAN 2013
• Launch of the project first phase – the analyses on the user and system requirements

OCT 2013
• Harmonisation Toolkit

JUN 2014
• Harmonised Datasets/ Metadata

JAN 2015
• Start of the Final Integration (till end of 2015)

MAY 2014
• Deployment and assessment of Pilot Applications

DEC 2015
Project End

JUN 2013
• Use Cases and User Requirements

SEP 2013
• System architecture

DEC 2013
• Validation Toolkit

APR 2014
• Start of the First Integration (till end of 2014)

DEC 2014 Interim
• Validated Datasets/ Metadata
• First integrated system and integration test result report

JUN 2015 Final
• Final Integrated system and integration test results report
• Common Thesaurus Framework

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Thanks for your interest in eENVplus !

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