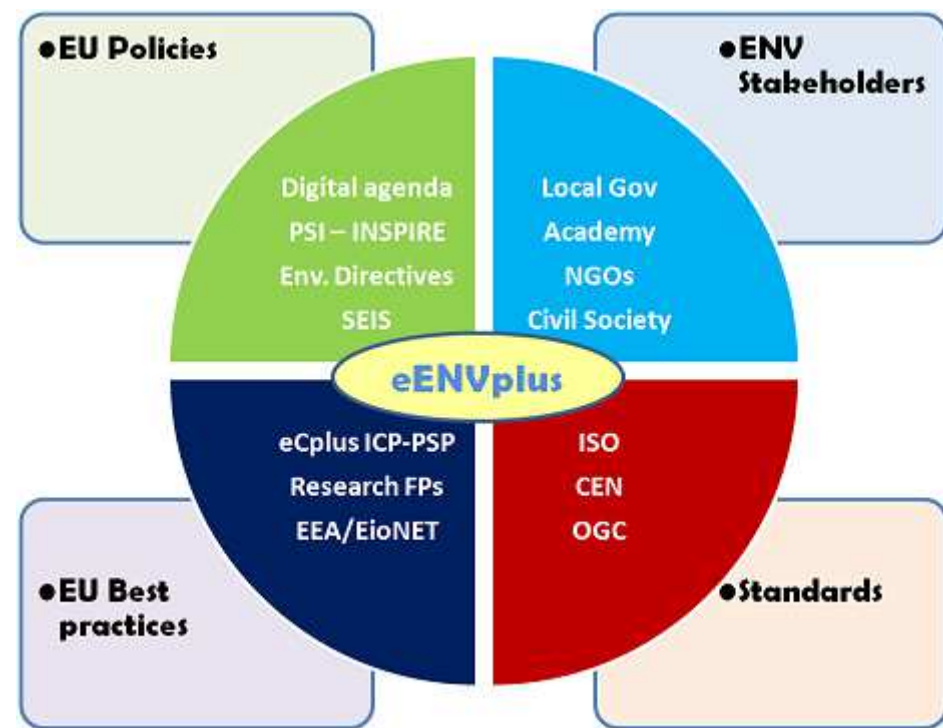# eENVplus

Il contributo di eENVplus all'implementazione delle politiche europee

Giorgio Saio
Carmelo Attardo
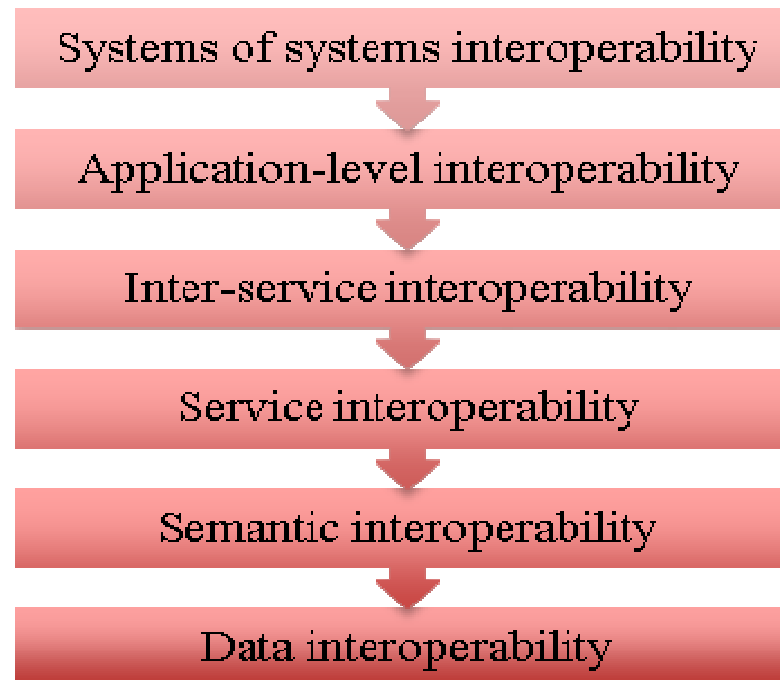Roderic Molina
GISIG

Asita 2013, November 7th 2013

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.

Key objective

■ eENVplus provides Members State and the GI Communities, with tools addressing a **multi-level interoperability stack**:

Systems of systems interoperability

Application-level interoperability

Inter-service interoperability

Service interoperability

Semantic interoperability

Data interoperability

Expected impact

"Low cost availability of harmonized, public GI datasets"

The geographic information datasets made available by eENVplus will be:

- **public**, because they are owned by the participating National Agencies

- **harmonised**, because they will be harmonised and validated against the relevant INSPIRE Data Specifications (which set data models common across the whole Europe for each specific data theme)

- **available**, because any user can access them through one of the eENVplus services according to the standards

Expected impact

"Innovative value-added services allowing users to identify, access, use and reuse spatial data from local to European level"

- **eENVplus open** infrastructure exposing services on a single or in an aggregated base

- customised or "as-is"

- easily exploitable by public/private sector to create added value services for new businesses, based on the identification, access, use and **reuse** of spatial data

- the **eENVplus** services can be easily used to make accessible, usable and reusable spatial data coming form any part of Europe, from local to European level

Exploitation prospects

eENVplus ➜ **virtual framework of components** allowing deployment and creation of new and innovative applications

■ **Harmonisation services**: core interface which together validation services guarantees the openness of eENVplus to be integrated into a system of systems infrastructure

■ The **added-value specialised services** compose the base overlay for building advanced environmental application in order to provide an operational shared environmental information infrastructure

■ The **thesaurus framework** could improve the European competitive position in a multilingual digital market through the provision of better services to citizens and businesses

Exploitation prospects

- The applicability of the **validation** workflow and services by simply providing the configuration files, will enlarge the use of the validation services not only in the frame of INSPIRE compliances but also in the frame of national and regional directives

- eENVplus will upgrade the **training** facilities provided by the training framework and will provide additional knowledge bricks, enforcing the training framework to support the EU policy related to GI, also sustained by the liaison with CEN/TC287 (WG6 Education and training)

Scenarios & Pilots

- In 10 pilots, 9 Scenarios, 3 cross-border

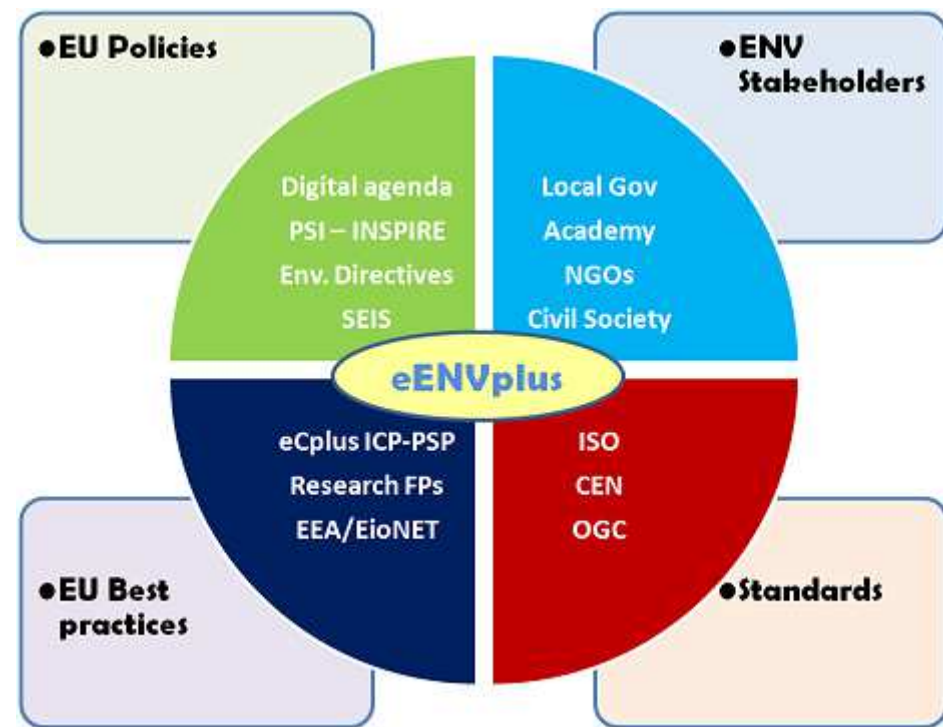| Scenario Title	ENV Aspect	Pilots
Implementation of a SEIS for air quality data	Air Quality	BELGIUM
		ITALY
Providing INSPIRE-compliant access to utility services: the case of sewage networks in Flanders	Water	BELGIUM
CSspire	Everyday life issues connected to Environmental aspects	CZECH REPUBLIC / SLOVAKIA
Natural Areas INSPIRE Compliance Toolbox	Nature Conservation	FRANCE
Forest Fire Management Scenario	Environmental Risk (Fire)	GREECE
Window on the Protected Areas - Mobile Conservation Map (WMA MCM)	Nature Conservation	HUNGARY / SLOVAKIA
INSPIRE Geoportal	Nature conservation	ICELAND
Geological Map Harmonization	Environmental Risk (Geohazard)	ITALY / SLOVENIA
Urban Ecological Landuse Planning	Ecological Landuse Planning	PORTUGAL

Underlying content, INSPIRE data Themes

- various National datasets related to many INSPRE Annex I-II-III Data Themes, datasets are made available for eENVplus (some are under IPR, many are Open Data)
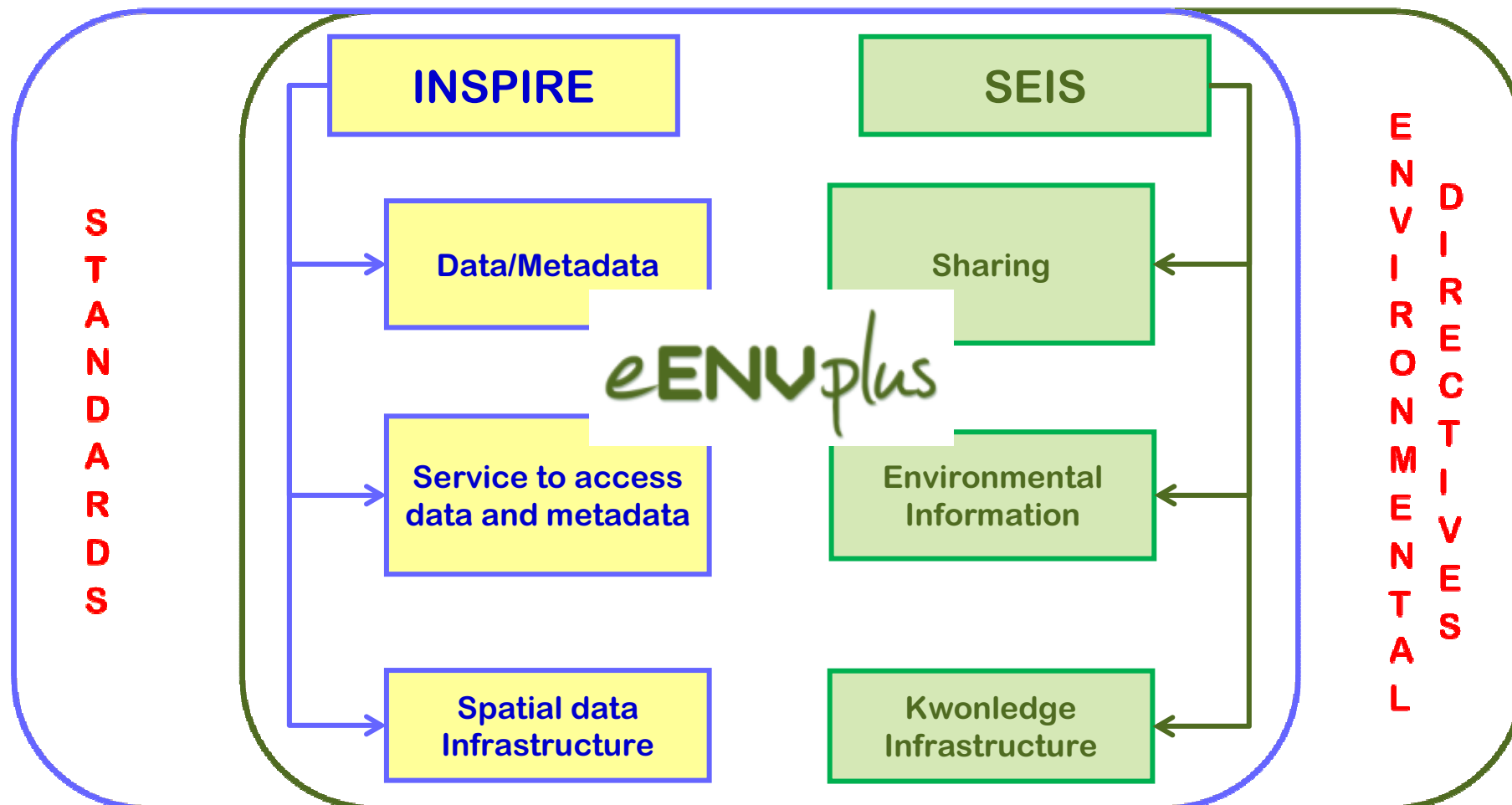
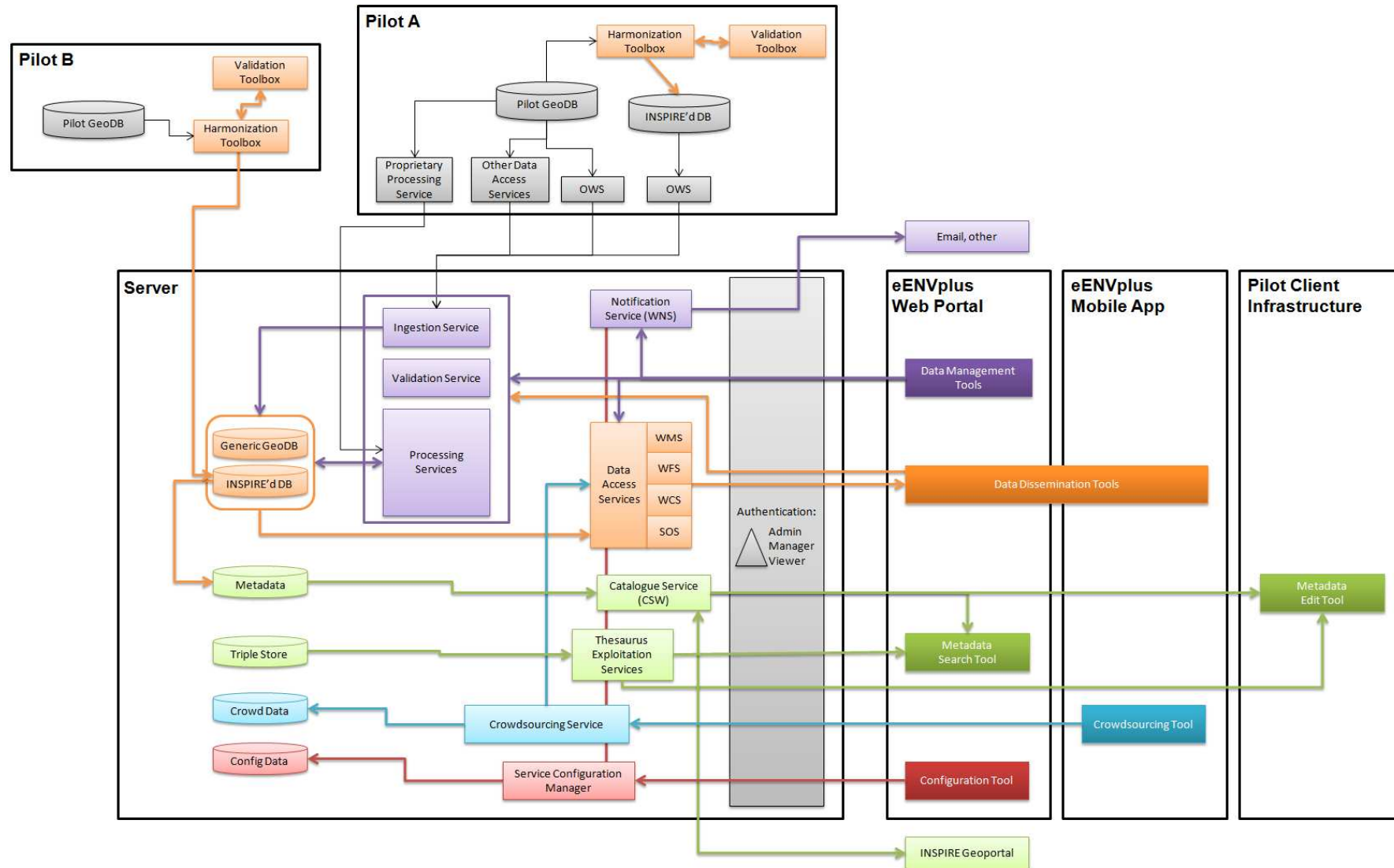| INPIRE Data Theme	Content	Metadata	IPR/ Open data
Area covered (national): Iceland			
I. 1. RS: Coordinate reference systems	Information of the Icelandic coordinate reference system (vertical and horizontal)	ISO 19115	Open data
I. 4. AU: Administrative units	Municipality boundaries (second level)	ISO 19115	Open data
I. 9. PS: Protected sites	Nature protected sites in Iceland (such as National Parks and reserved areas)	ISO 19115	Open data
Area covered (national): Italy			
II.4 Geology	Geological and structural map data at the scale 1:1,000,000	ISO19115/INSPIRE	Open data
II.4 Geology	Geological, lithological and tecnonic data at the scale 1:100,000	ISO19115/INSPIRE	Free under specific agreement, (IPR mention), data available for eENVplus use

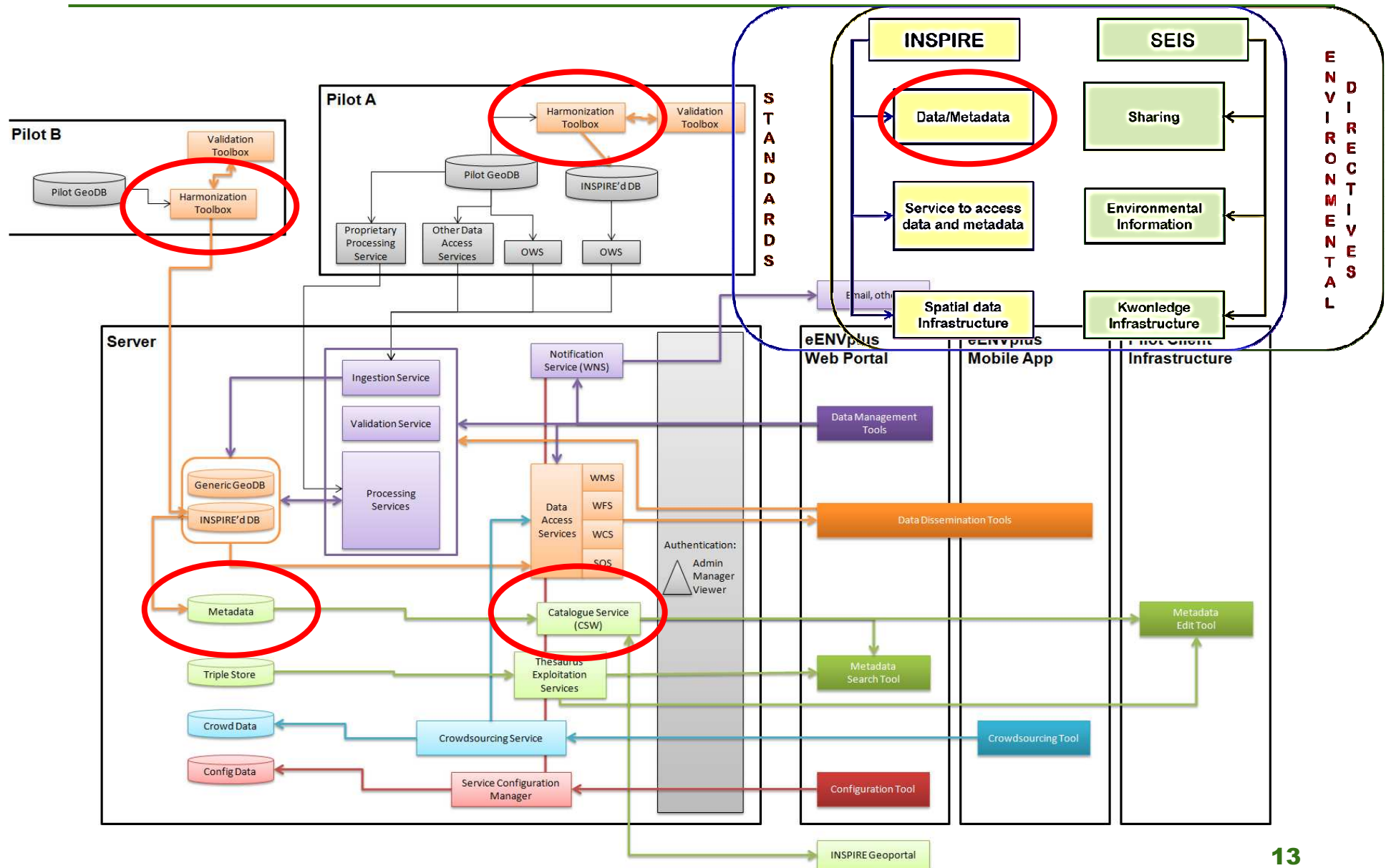|	BE	CZ	FR	GR	HU	IS	IT	PT	SK	SL
ANNEX I										
1. RS: Coordinate reference systems							✔			
4. AU: Administrative units							✔	✔		
6. CP: Cadastral parcels		✔								
8. HY: Hydrography	✔	✔			✔				✔	✔
9. PS: Protected sites		✔	✔		✔				✔	
ANNEX II										
2. LC: Land cover		✔		✔					✔	✔
3. OI: 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 management/ restriction/ regulation zones & reporting 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			✔							✔

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.
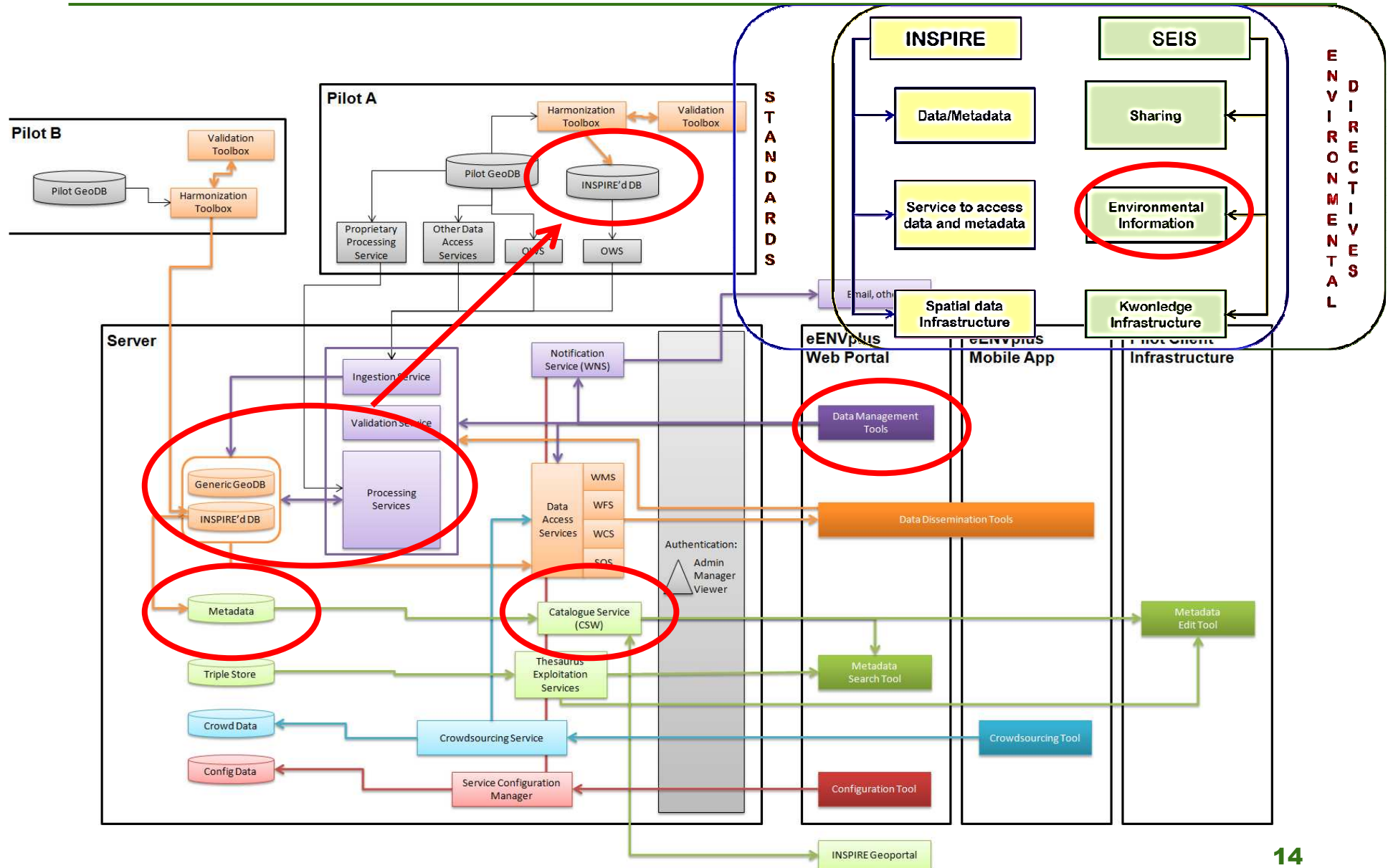

●EU Policies

●ENV Stakeholders

Digital agenda
PSI – INSPIRE
Env. Directives
SEIS

Local Gov
Academy
NGOs
Civil Society

eENVplus

eCplus ICP-PSP
Research FPs
EEA/EioNET

ISO
CEN
OGC

●EU Best practices

●Standards

Pilot B
- Pilot GeoDB
- Validation Toolbox
- Harmonization Toolbox

Pilot A
- Harmonization Toolbox
- Validation Toolbox
- Pilot GeoDB
- INSPIRE'd DB
- Proprietary Processing Service
- Other Data Access Services
- OWS
- OWS

Server
- Ingestion Service
- Validation Service
- Processing Services
- Generic GeoDB
- INSPIRE'd DB
- Notification Service (WNS)
- Data Access Services: WMS, WFS, WCS, SOS
- Email, other
- Authentication: Admin, Manager, Viewer
- Metadata
- Catalogue Service (CSW)
- Triple Store
- Thesaurus Exploitation Services
- Crowd Data
- Crowdsourcing Service
- Config Data
- Service Configuration Manager
- INSPIRE Geoportal

eENVplus Web Portal
- Data Management Tools
- Data Dissemination Tools
- Metadata Search Tool
- Configuration Tool

eENVplus Mobile App
- Crowdsourcing Tool

Pilot Client Infrastructure
- Metadata Edit Tool

INSPIRE: Data / Metadata

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SEIS: Environmental information

INSPIRE Data / SEIS Env.Information

Expected impact

➔ *Low cost availability of harmonized, public GI datasets*

- **Source data** will be harmonised with harmonisation toolkit, whenever applicable
- **Off-line toolkit**: custom harmonisation for each data set
- **Environmental information** (output of processing workflow) will be provided according to the INSPIRE DM (if applicable) and/or other upcoming standards (for example AQD)

INSPIRE Data / SEIS Env.Information

Validation facilities

- Two kind of validation
  - ☐ Validation versus INSPIRE DM specification (off/on-line validation)
  - ☐ Validation versus web processing services (validation services for ingestion)

- Validation services have to check the compliance with the reference DM (if applicable) only for that subset of information needed in the processing workflow
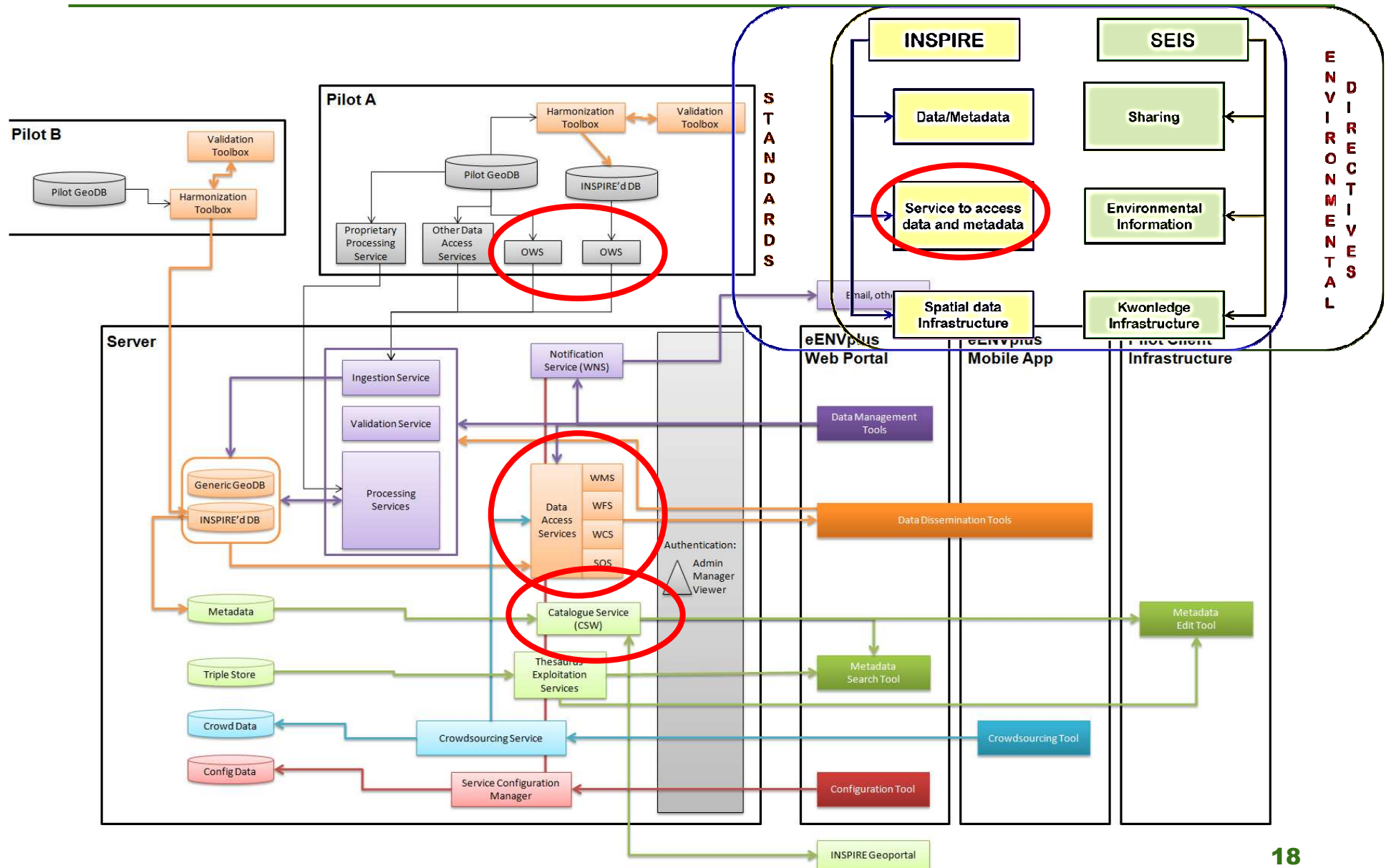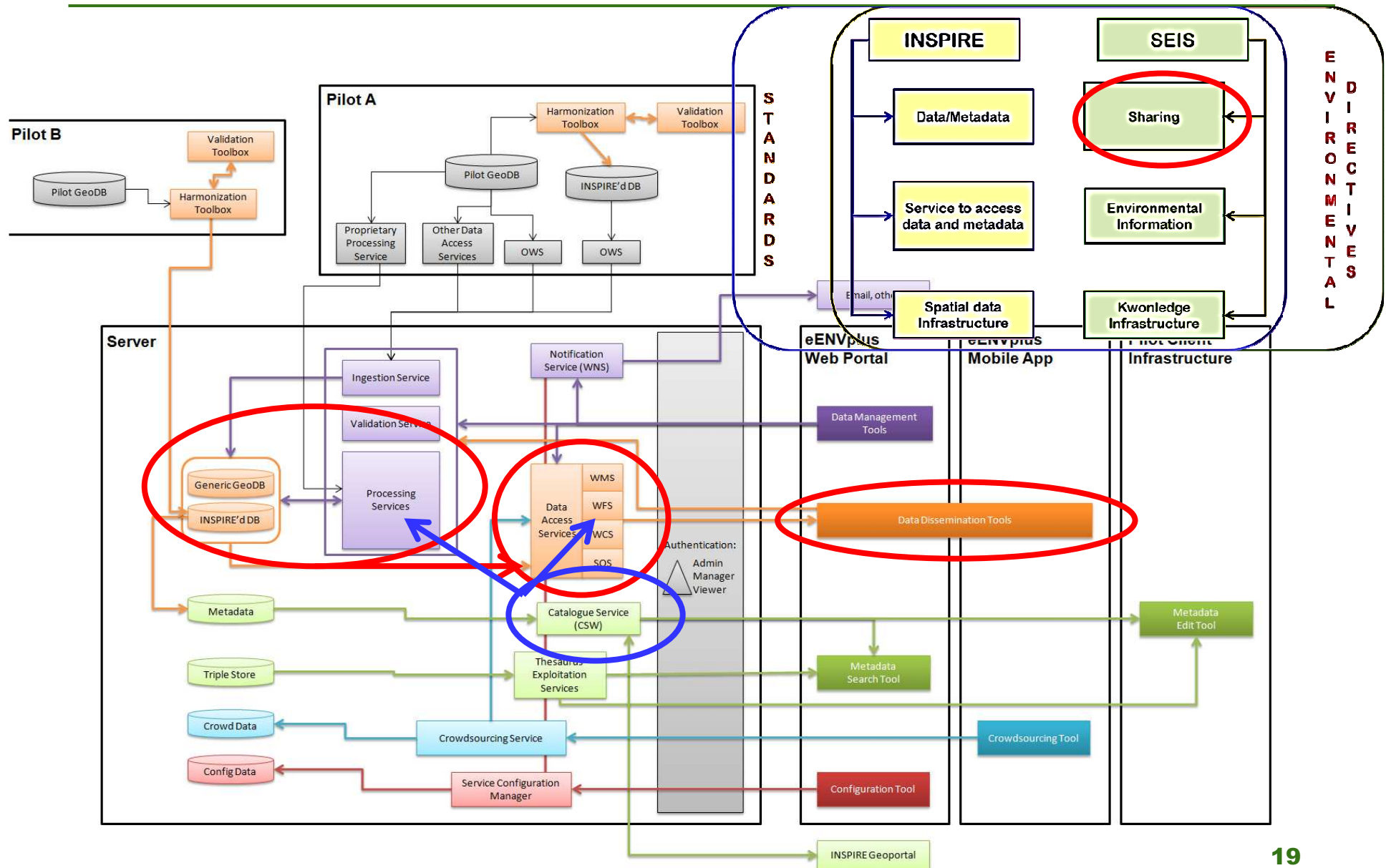
➔ Expected impact

- harmonised, because they will be harmonised and validated against the **relevant** INSPIRE Data Specifications

INSPIRE Data / SEIS Env.Information

➜ Expected impact

- ■ The **added-value specialised services** compose the base overlay for building advanced environmental application in order to provide an operational shared environmental information infrastructure

- ■ easily exploitable by public/private sector to create added value services for new businesses, based on the identification, access, use and **reuse** of spatial data
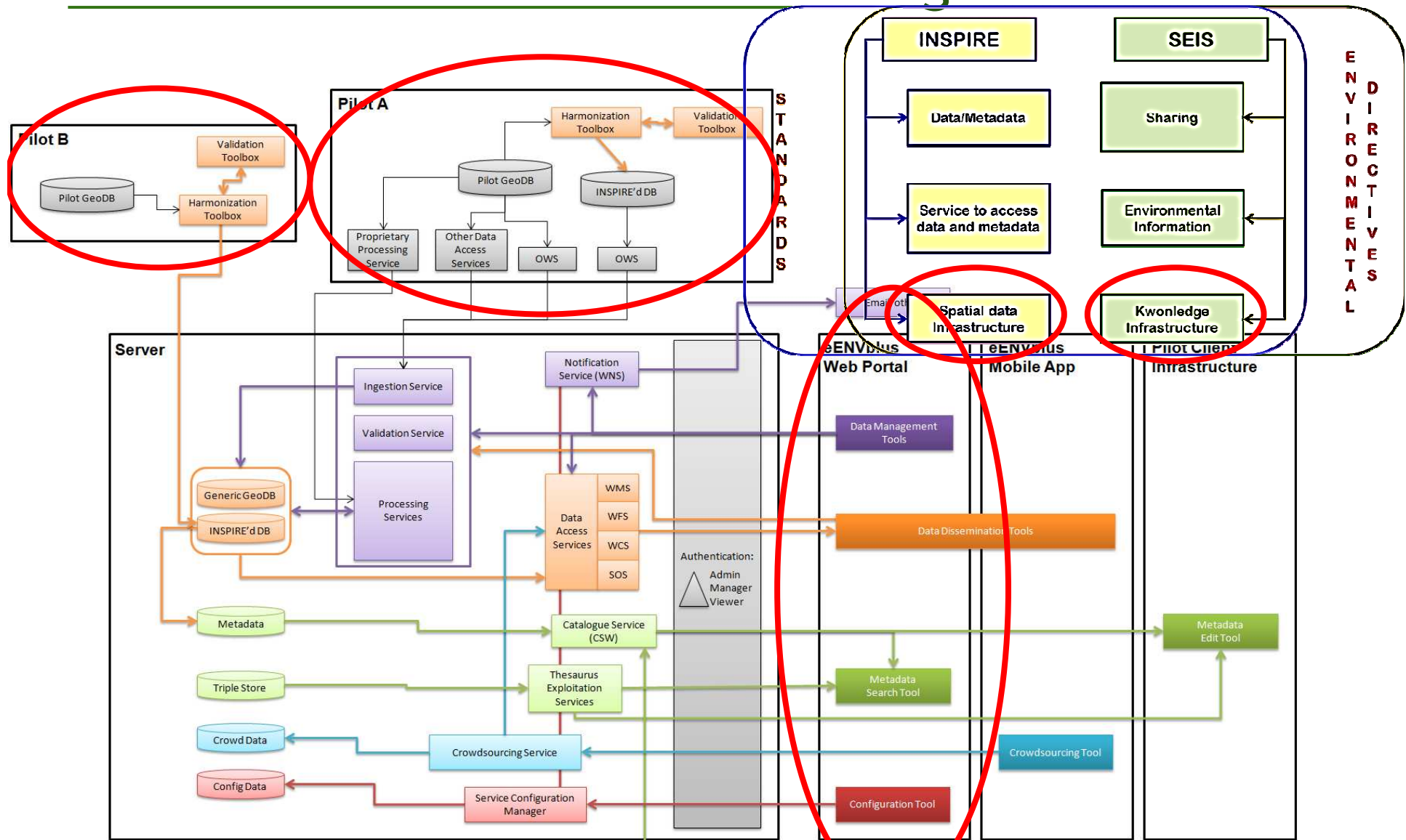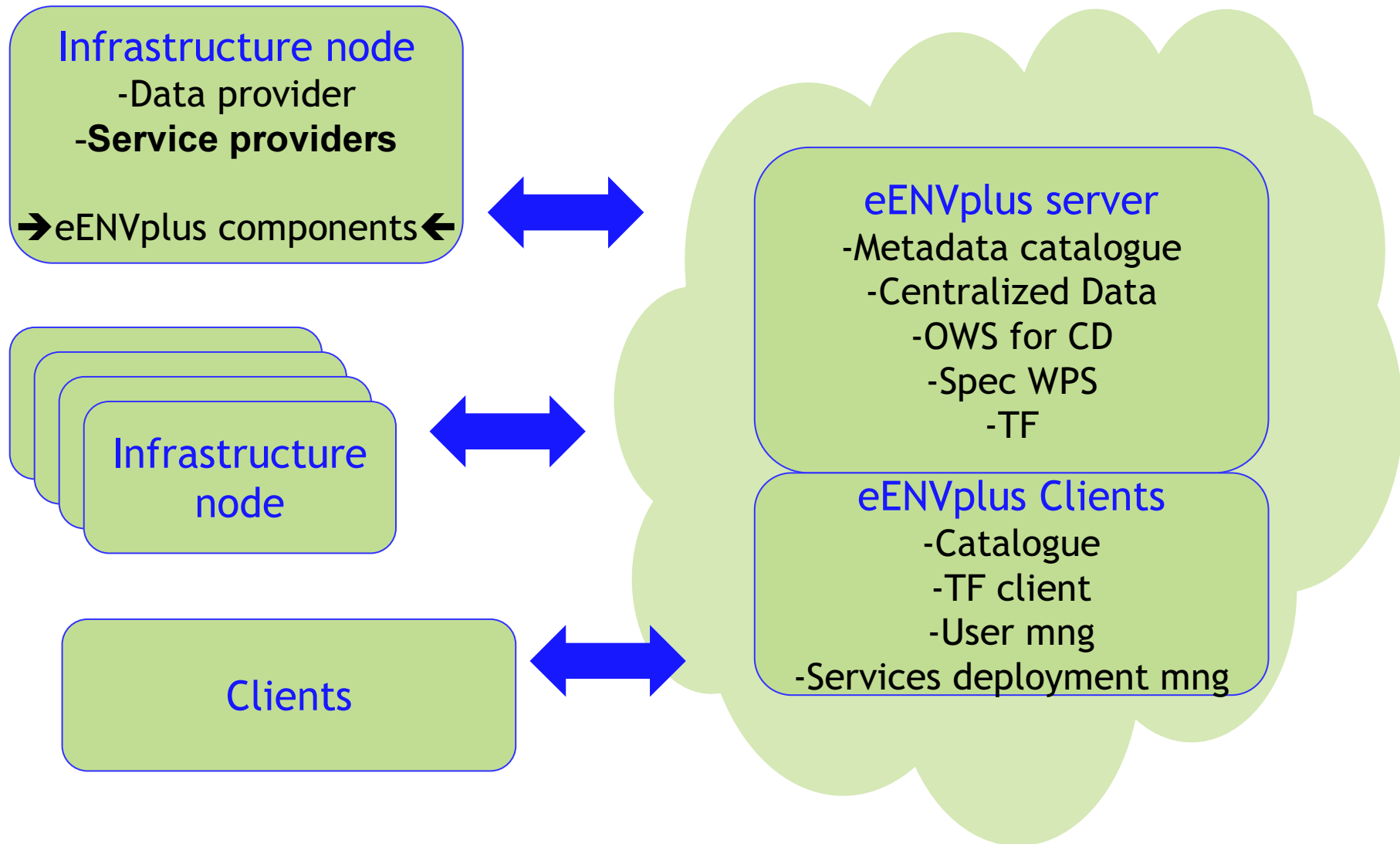
SEIS: Sharing

19

INSPIRE:Access services/SEIS:Sharing

➔ Expected impact

■ the **eENVplus** services can be easily used to make accessible, usable and reusable spatial data coming form any part of Europe, from local to European level

➔ Services interface based on INSPIRE DM specification

➔ Two typologies of specialized services

■ Processing Services with no links to any specific data. Deployed with only one instance

■ Services which could be deployed depending by the specific data which have to consume

  ☐ Thesaurus services linked to the linked open data

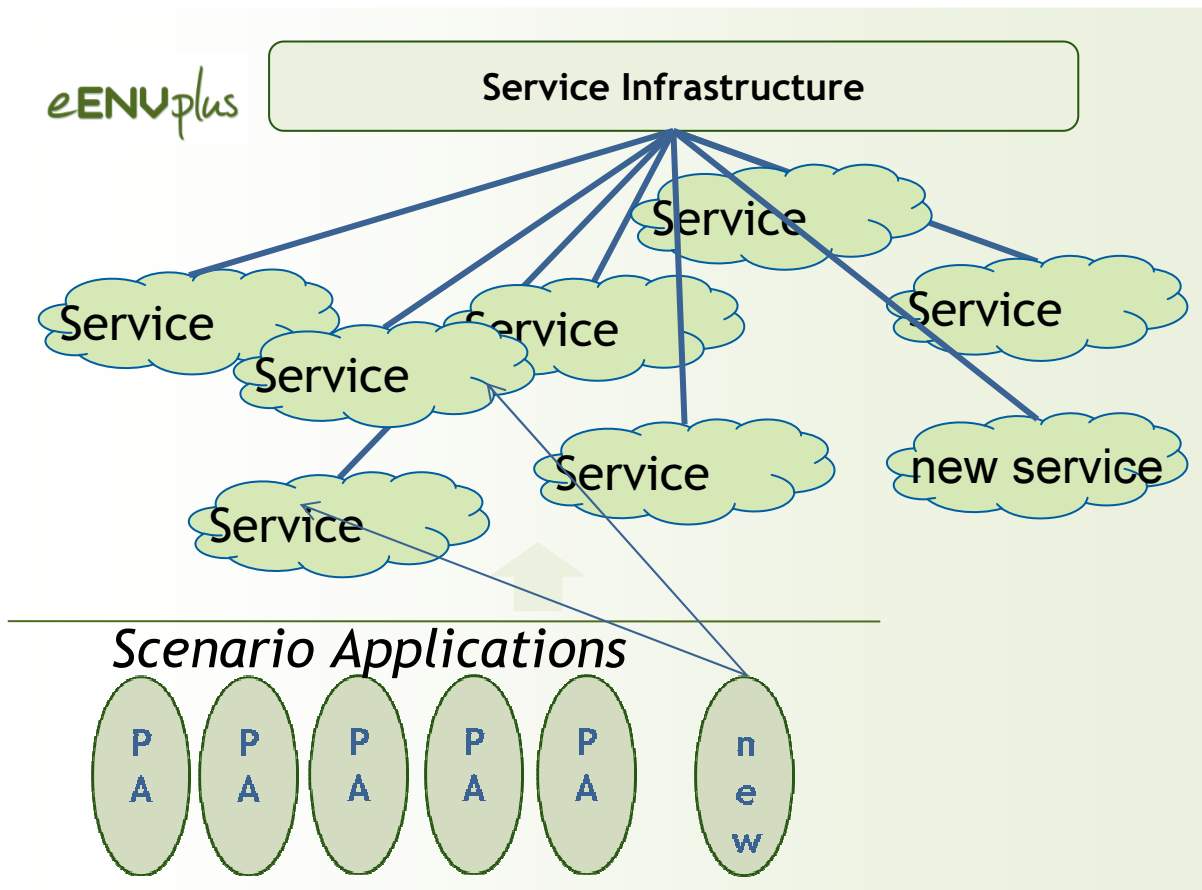 ☐ Standard OWS to publish data collected on eENVplus server

INSPIRE: Spatial data infrastructure
SEIS: Knowledge Infrastructure

eENVplus components

Infrastructure node
-Data provider
-**Service providers**

→eENVplus components←

Infrastructure node

Clients

eENVplus server
-Metadata catalogue
-Centralized Data
-OWS for CD
-Spec WPS
-TF

eENVplus Clients
-Catalogue
-TF client
-User mng
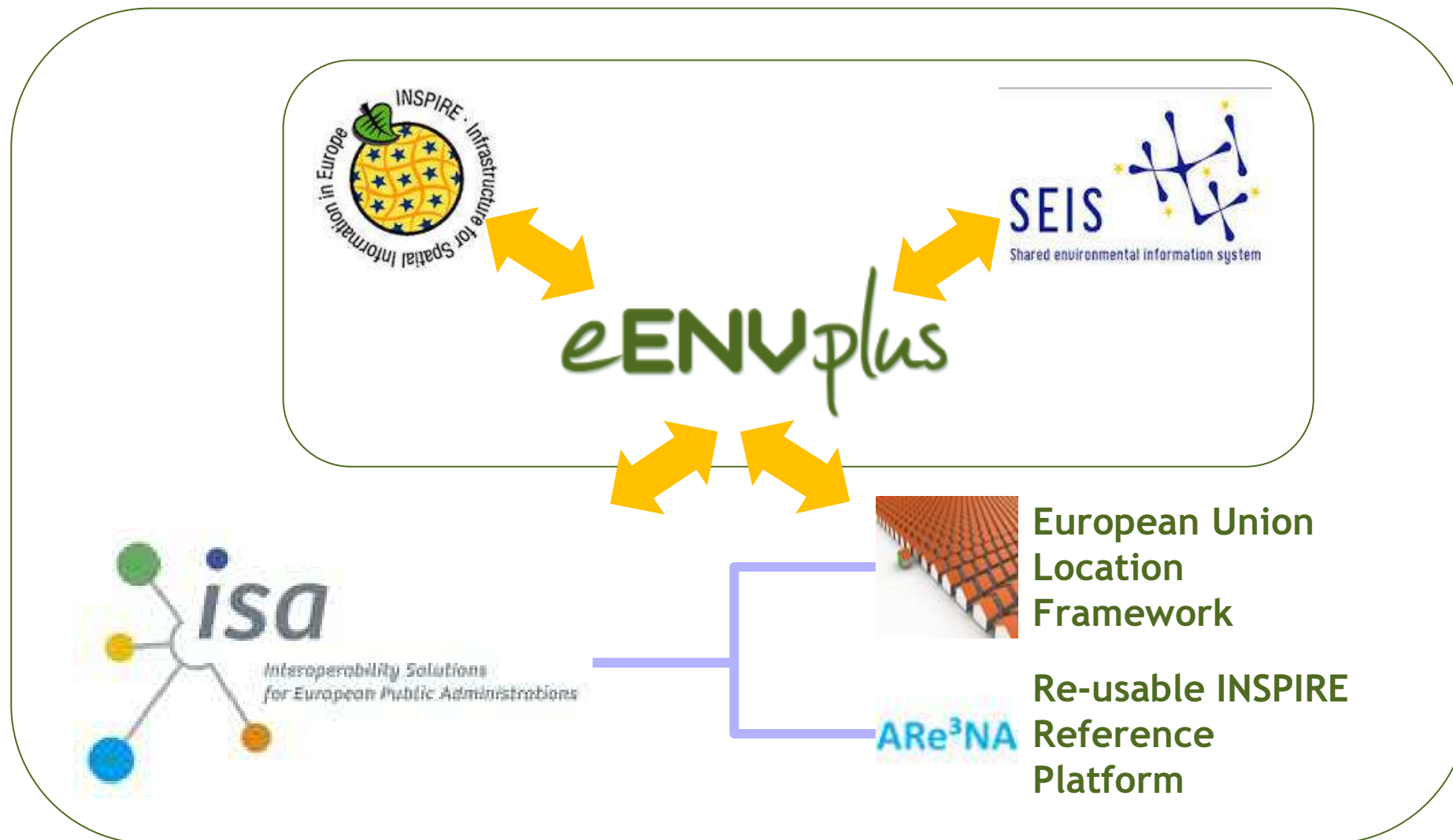-Services deployment mng

In Perspective

- 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

Contribution to the EU policy

Reusable INSPIRE reference platform

Identify and develop common components for the successful implementation of the INSPIRE Directive in relation to European e-government.

Collaboration, identification of best practices, guidance and the **sharing of components** relate to various aspects of INSPIRE

■Inventory of existing platforms and tools spanning multiple policy areas;

■Support existing or initiate new open source projects to address identified gaps;

■Produce extended multilingual documentation to help create an INSPIRE node based on existing Member States' relevant initiatives;

to create a European Union Location Framework addressing the EU-wide, cross-sector interoperability framework for the exchange and sharing of location data and services.

a package of legal acts, methodologies, specifications (and standards), guidelines, and training materials required by public administration and stakeholder communities to facilitate the implementation, use and the generalisation of INSPIRE to a wider location context independently of the thematic sector (as part of e-government programmes).

- **eENVplus** - eENVplus is similarly a CIP ICT PSP funded project which aims to integrate infrastructures and create an operational framework for cross-border sharing of environmental data, compatible with INSPIRE. The project will include a series of pilots to support various environmental scenarios and will develop a multi-lingual thesaurus framework, tools for data harmonisation and validation and a series of e-learning modules. **All of these will be relevant in their own right to the EULF. The eENVplus concept may also be applicable to other policy areas and scenarios.**

EUROPEAN UNION LOCATION FRAMEWORK

STRATEGIC VISION

Version 0

Sessione plenaria – sala 300 – h. 11:30

Francesco Pignatelli

Programme manager EC-DG JRC – IES – DERD unit

EUROPEAN UNION LOCATION FRAMEWORK

STRATEGIC VISION

EULF: un quadro europeo per "Location-enabled government"