INSPIRE introduction

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An INfrastructure for SPatial INformation in the EU - INSPIRE

does it ....

Serve society ?

Stimulate innovation ?

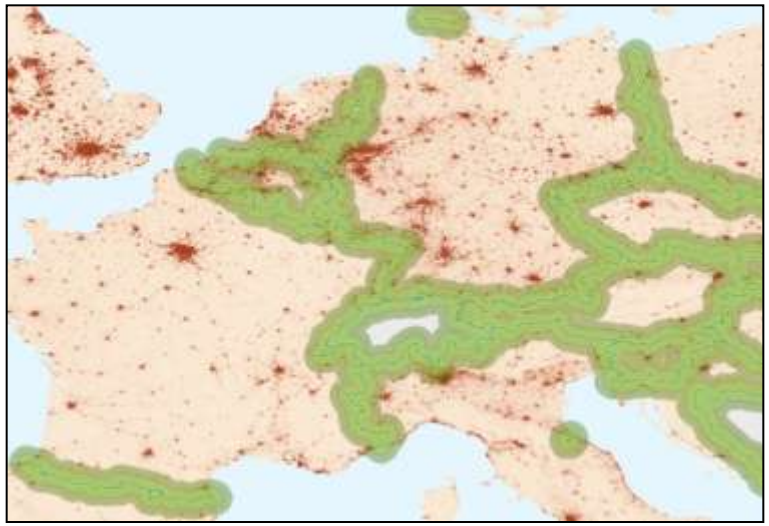
Support legislation ?

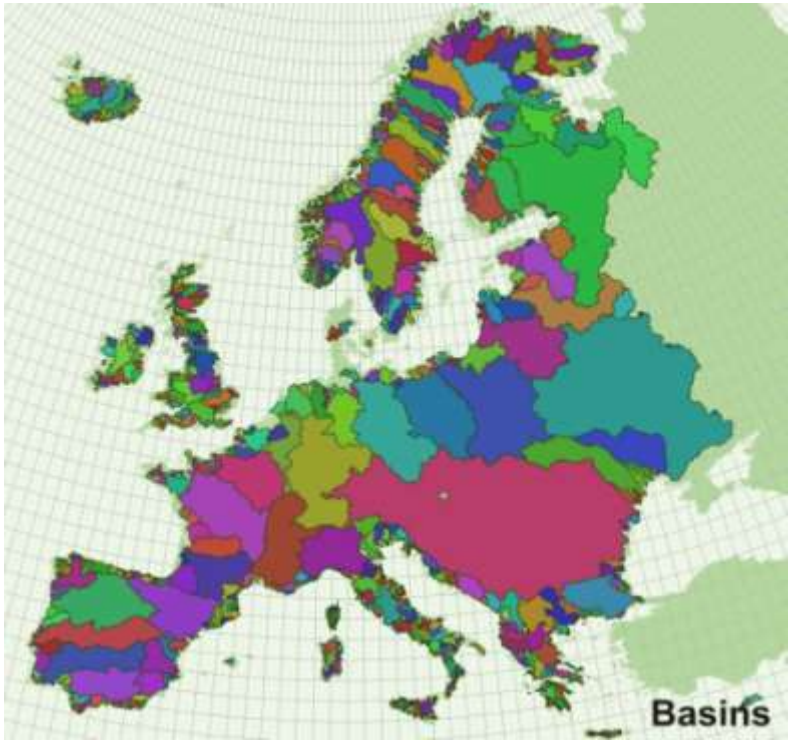
Outline

- INSPIRE Directive
- INSPIRE Principles
- INSPIRE Components
- INSPIRE Roadmap
- INSPIRE Geoportal
- INSPIRE Maintenance and Implementation Framework

Why Europe needs a spatial data infrastructure (SDI)?

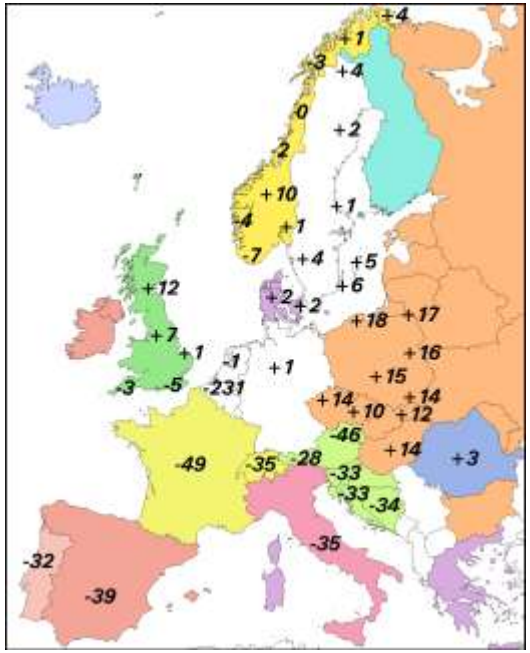
- Natural Disasters and as well as other environmental phenomena do not stop at national borders!
- 20% of the EU citizens (115 million) live within 50 Km from a border



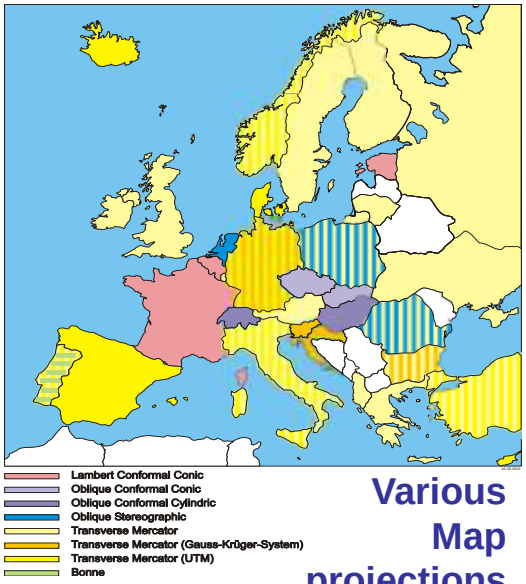


- 70% of all fresh water bodies in Europe are part of a trans-boundary river basin !!

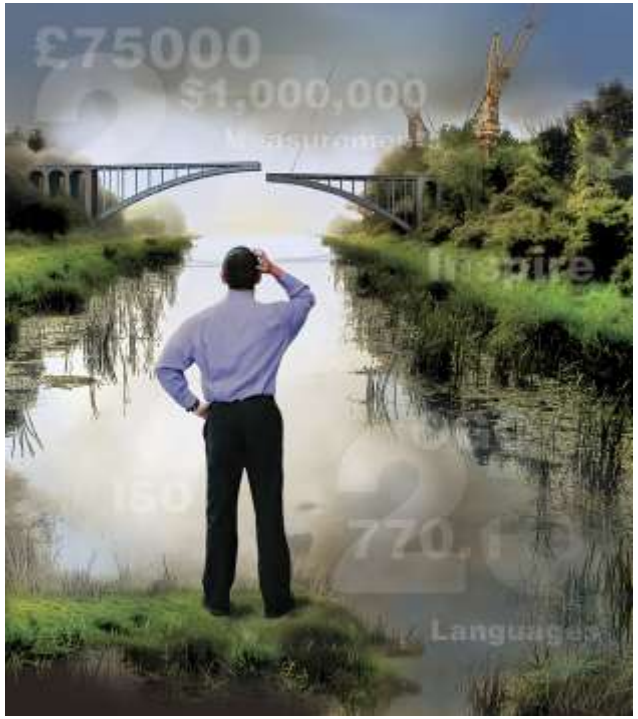
Building a European SDI is complex



- Europe is a patchwork of several countries with different traditions, cultures and socio-economic models



Various Map projections



- This is reflected in the different ways in which geo-spatial data is managed

Spatial Data Infrastructure

Data easily discoverable and accessible to users

Facilitating development of new applications and services

Like a road infrastructure makes it possible to connect different sites, a spatial data infrastructure makes it possible to connect data located at different sources

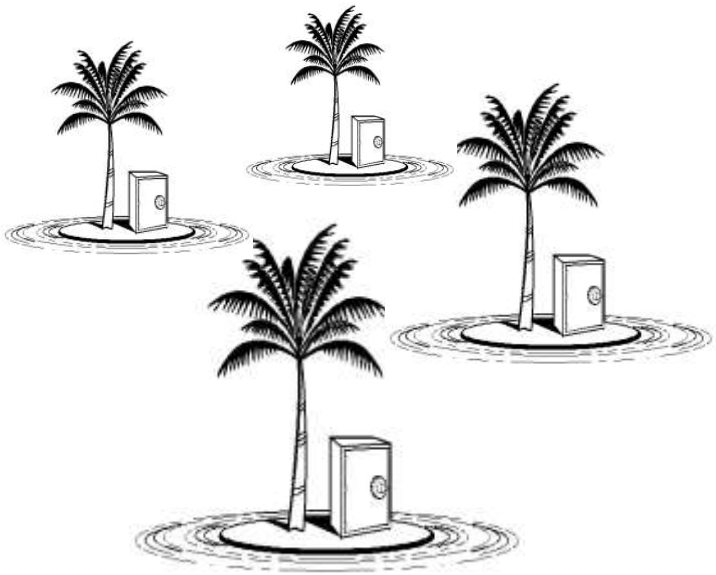
Components

Institutional framework	Technical standards
Fundamental data sets	Data Services

EU Status 2002

1. **Data policy restrictions**
   - pricing, copyright, access rights, licensing policy
2. **Lack of co-ordination**
   - across boarders and between levels of government
3. **Lack of standards**
   - incompatible information and information systems
4. **Existing data not re-usable**
   - fragmentation of information, redundancy, inability to integrate
5. ***Missing data***
6. ***Data quality***
   - Not comparable, not timely available, …

EU has islands of information & data of different standards and quality…



NOT INSPIRE

DIRECTIVE 2007/2/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 14 March 2007

establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

INSPIRE data themes

Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

Annex II

1. Elevation
2. Land cover
3. Ortho-imagery
4. Geology

Annex III

1. Statistical units
2. Buildings
3. Soil
4. Land use
5. Human health and safety
6. Utility and governmental services
7. Environmental monitoring facilities
8. Production and industrial facilities
9. Agricultural and aquaculture facilities
10. Population distribution – demography
11. Area management/ restriction/regulation zones & reporting units
12. Natural risk zones
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats and biotopes
19. Species distribution
20. Energy Resources
21. Mineral resources

INSPIRE Directive

- The INSPIRE directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2020
- The INSPIRE directive aims to create a European Union (EU) SDI. This will enable the sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe
- A European SDI will assist in policy-making across boundaries. Therefore the spatial information considered under the directive is extensive and includes a great variety of topical and technical themes

INSPIRE Directive

General rules to establish an **Infrastructure for Spatial Information in Europe** for

- Community **environmental policies** and policies or activities with the impact on the environment

INSPIRE is built on the **NSDIs established and operated by the Member States**

Spatial data held by/on behalf of **public authorities**

Does **not** require **collection of new data**

INSPIRE is a **Framework Directive**

- Detailed technical provisions in Implementing Rules

INSPIRE Principles

- Data should be collected only once and kept where it can be maintained most effectively
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes
- Geoinformation needed for good governance at all levels should be readily and transparently available
- Easy to find what geoinformation is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used

A collaborative effort

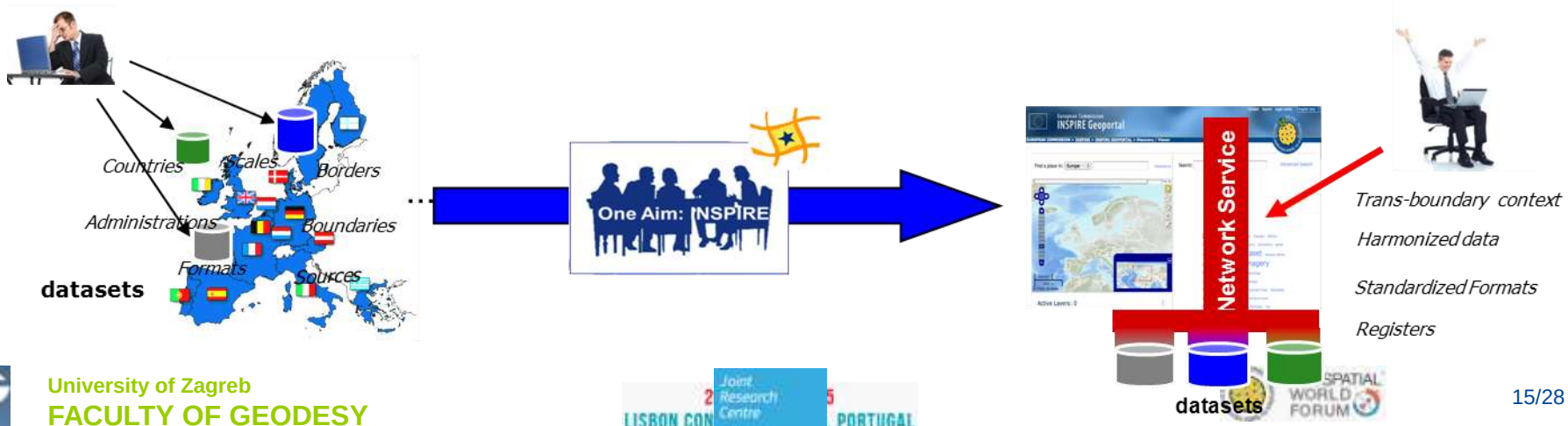
- Transparency and inclusiveness
- Stakeholder consultations
- Support to Member States on the implementation
- Extend INSPIRE to and ensure consistency of different policy domains
- Promote INSPIRE in international standardisation

INSPIRE Directive & Implementing Rules

- The INSPIRE Directive lays down general rules to establish an Infrastructure for Spatial Information in Europe for the purposes of Community environmental policies and policies or activities which may have an impact on the environment
- Implementing Rules (IR, legal acts)
  - Metadata
  - Interoperability of spatial data sets and services
  - Services (discovery, view, download, transform, invoke)
  - Data and Service sharing (policy)
  - Monitoring & reporting

INSPIRE in a nutshell

- Comprehensive **data inventory** (Monitoring & Reporting IR)
- **Facilitate data discovery** through standardised discovery services & metadata (IR on Network Services & Metadata)
- **Data sharing** (IR on Data and Service Sharing)
- **Facilitate data access** by allowing standardised view, download and transformation (IR on Network Services)
- **Facilitate data use and interoperability** by adopting common cross-domain models to exchange data (IR on Data Interoperability)

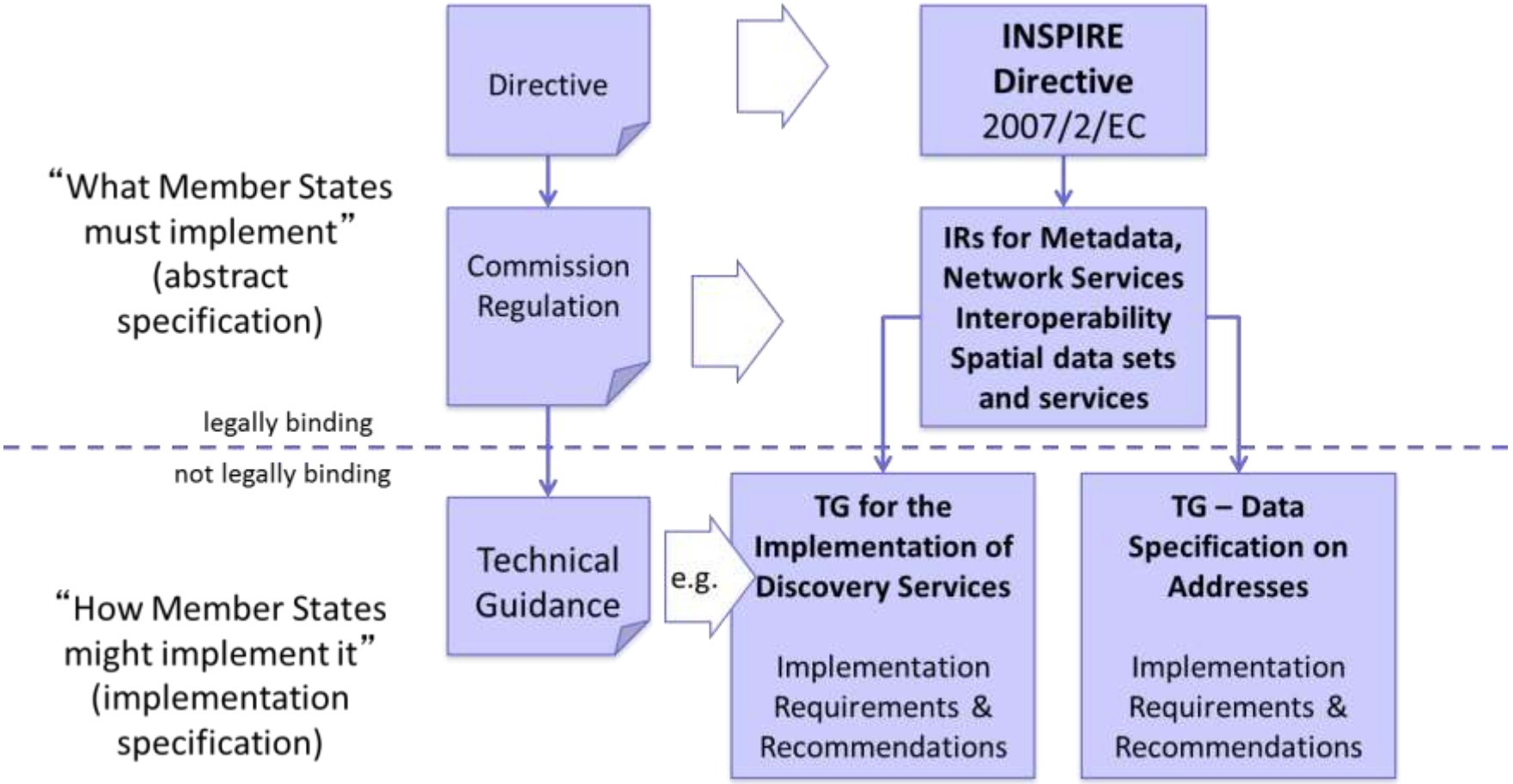


INSPIRE Legal Acts published in the Official Journal of the EU

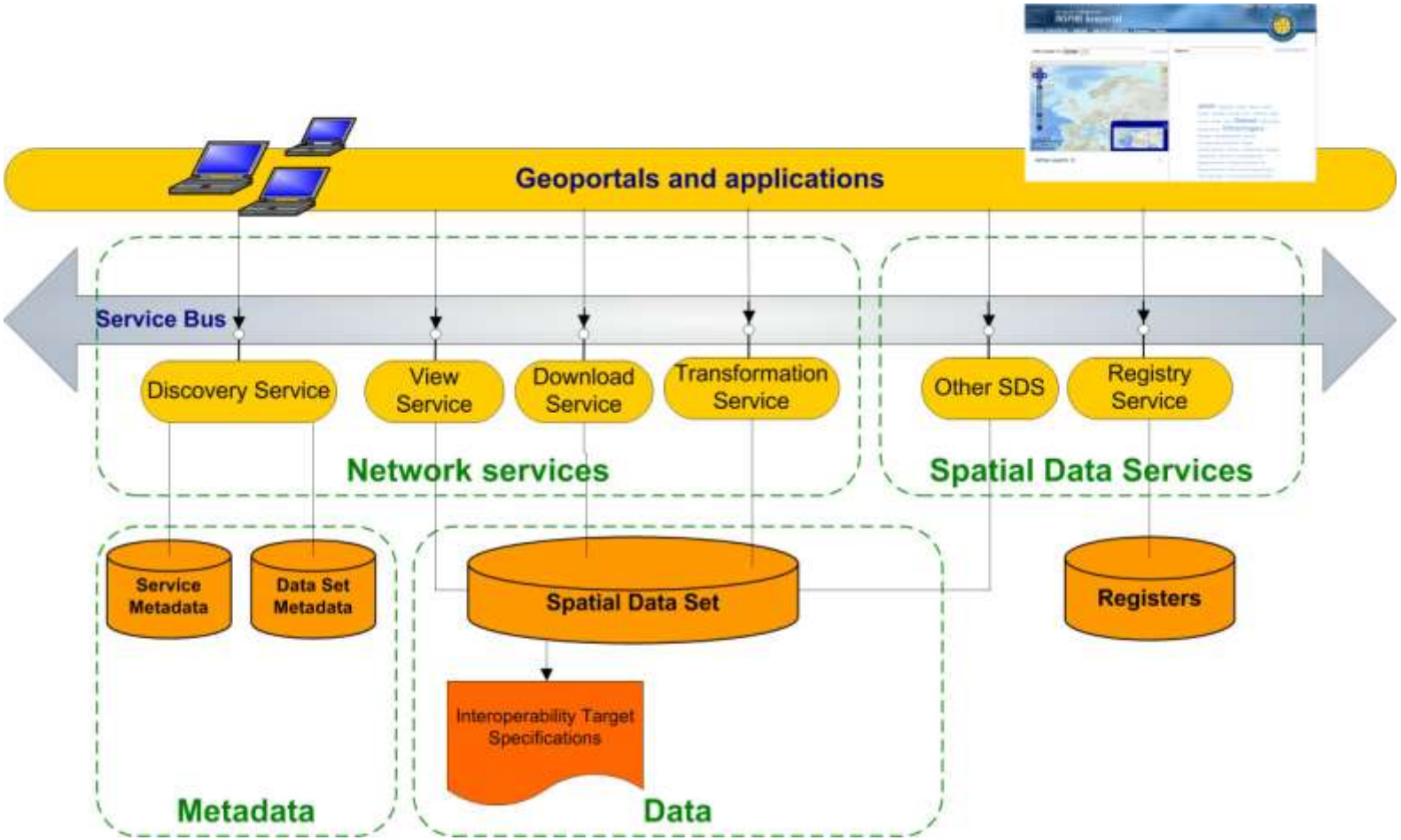
- **Directive** 2007/2/EC (INSPIRE) 14.03.2007
- INSPIRE **Metadata** Regulation 03.12.2008 (corrigendum 15.12.2009)
- Commission Decision regarding INSPIRE **monitoring and reporting** 05.06.2009
- Regulation on INSPIRE Network Services 19.10.2009 (**View and discovery**)
- Regulation on INSPIRE **Data and Service Sharing** 29.03.2010
- Commission Regulation amending Regulation (EC) No 976/2009 as regards **download services and transformation services** 10.12.2010
- Commission Regulation implementing Directive 2007/2/EC of the European Parliament and of the Council as regards **interoperability of spatial data sets and services** 10.12.2010 (Annex I)
- Commission Regulation amending Regulation 1089/2010 as regards interoperability of spatial data sets and services 05.02.2011 (**code list**)
- **Annex II+III** amendment to Regulation on the interoperability of spatial data sets and services 10.12.2013.
- …

European law affecting 30+ countries, 24+ languages

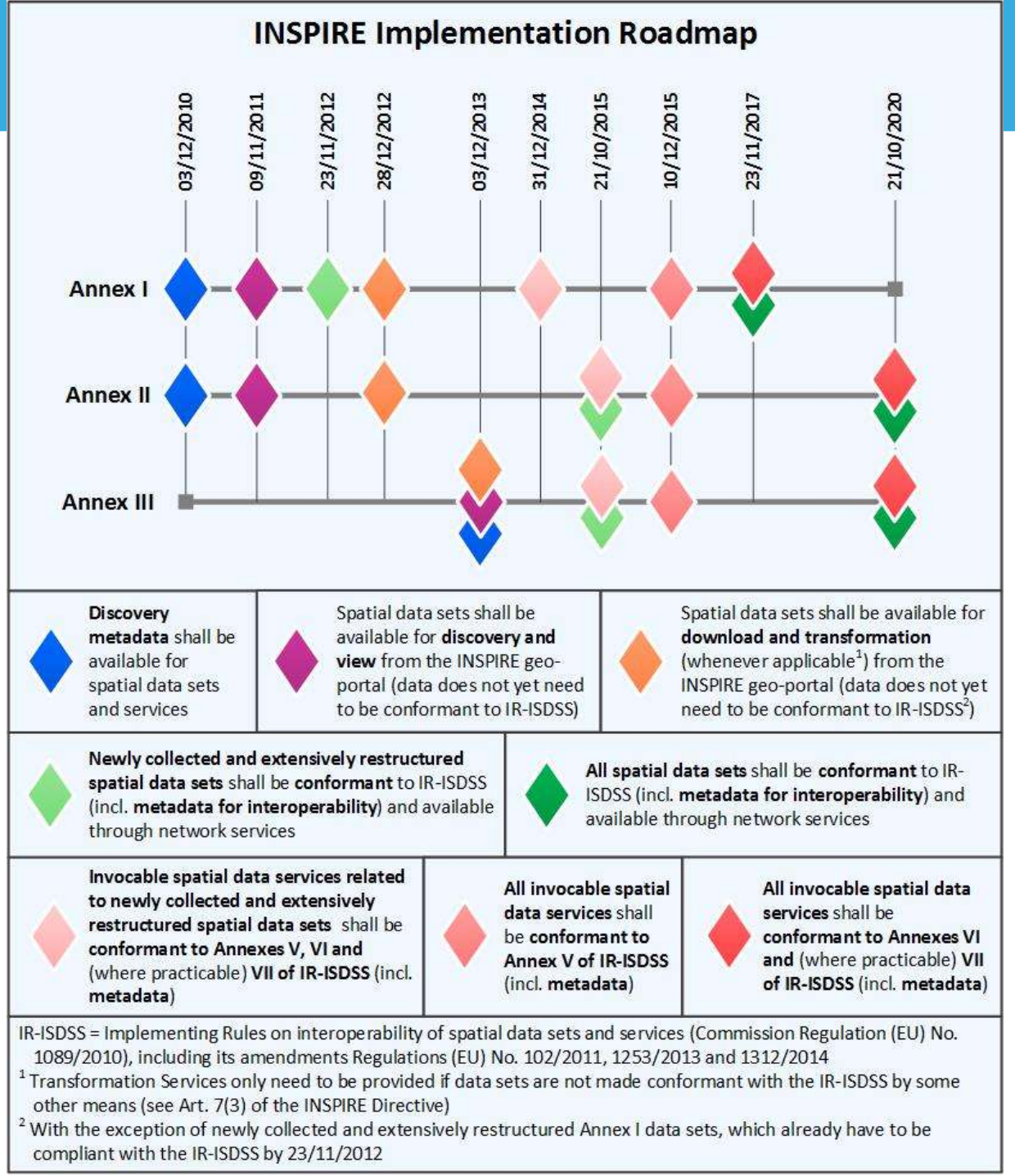
INSPIRE IRs vs. TG



INSPIRE components



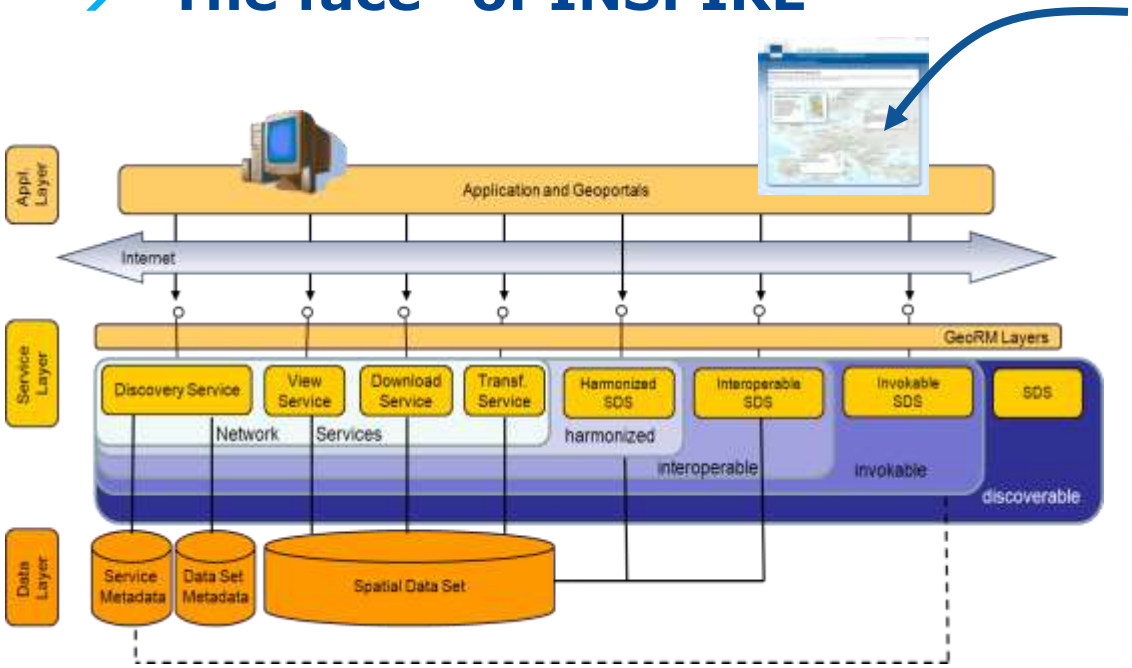
Implementation Roadmap

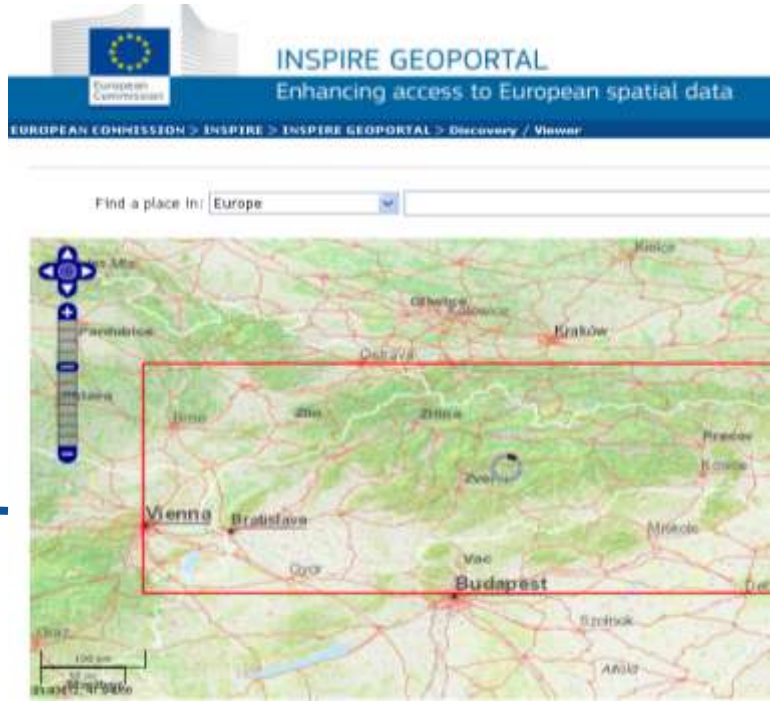


INSPIRE Geoportal

Central access point to the INSPIRE infrastructure and resources (operated by the EC)

→ **"The face" of INSPIRE**





- Connection to all MS network services

→ cross-border data discovery and visualisation

→ support to European policy making

Status of our INSPIRE building site ?

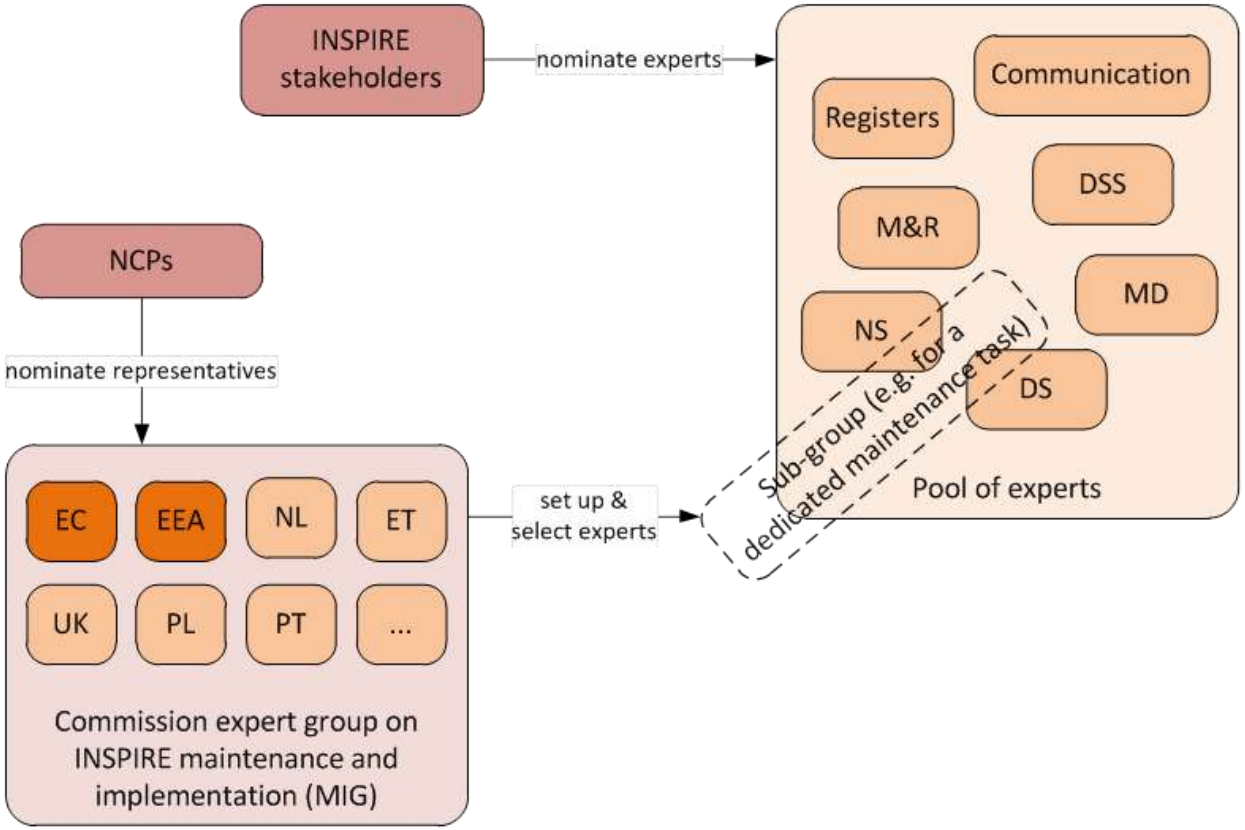
INSPIRE implementation status

- The legal framework has been established
- Development of NSDIs across EU according to provisions of the Directive
- Many components and services of infrastructure are already in place
- Implementation of INSPIRE is entering a new phase (**focus is now on MS**)
- Main obstacles: data sharing, coordination, lack of capacity
- MIF = Maintenance and implementation framework

Maintenance and Implementation

- Support to the implementation of the IRs, e.g.
  - Answering questions around INSPIRE implementation
  - Facilitating the discussion of issues and exchange of experiences between INSPIRE experts in existing groups
  - Implementation/hosting of central infrastructure components
  - Capacity building, development of training material etc.
  - Support to eReporting
- Corrective maintenance to IRs, e.g.
  - Corrigenda to the MD Regulation and M&R Decision
  - Corrections and bug fixes in TG documents or schemas
- Evolutive maintenance of the IRs, e.g.
  - Taking into account requirements emerging from environmental legislation or developments in technology / standardisation

Setting up the INSPIRE MIF



Summary

- INSPIRE provides a comprehensive framework for interoperability of spatial data
- Methods and infrastructure components can be re-used for data interoperability in other sectors
- Cross-sector & cross-border spatial analysis
- INSPIRE is a process
- Results and benefits
- Data harmonisation have just been started!
- Challenges …
- Establishment of INSPIRE MIF
- Evolution of INSPIRE (Powered by INSPIRE)

http://inspire.ec.europa.eu/

‘SHARING IS EVERYTHING’

Source: Clare Hadley, INSPIRE Conference,2010

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http://inspire.jrc.ec.europa.eu/
http://inspire-geoportal.ec.europa.eu/

Thank you for your attention!