



Proposal COM(2004) 516 for a

**DIRECTIVE OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL**

**establishing an infrastructure for spatial
information in the Community**

INSPIRE

<http://inspire.jrc.it/>

Alessandro Annoni

**European Commission
Joint Research Centre**

Institute for Environment and Sustainability

DG Joint Research Centre

- Mission: to provide customer-driven **scientific and technical support** for the conception, development, implementation and monitoring of **European Union policies**.
- The JRC functions as a **reference centre** of science and technology for the Union.
- Close to the policy-making process, it serves the common interest of the Member States, while being **independent of special interests**, whether private or national.
- 7 institutes in 5 countries, over 2000 people

JRC's role

- the ESDI* Action -

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1. To provide the **technical coordination of INSPIRE** with Commission and Member States and to develop/upgrade prototype services for INSPIRE (EU-GeoPortal).
2. EC GI **Technical Office** : providing scientific/technical support to EC services (including COGI) and to European GI community at large; to coordinate the Research Agenda with European research community; to play a leading role in standardisation initiatives (ISO,CEN,OGC) and to raise awareness (through training and dissemination).
3. To develop/upgrade **spatial information services** and to provide support to other JRC actions for the development of spatial services (according to INSPIRE principles).
4. To provide support to Integration and Enlargement

**Action leader: Alessandro Annoni*



Overview of the proposal



Outline

- Overview of the Proposal
- Requirements and implementing rules
- Implementing strategy

Overall context

- Increasing calls for more information to support environmental policies
- Difficulties to manage existing information flows and obtain timely, accurate and policy-relevant information
- Need to take into account differentiation across regions with respect to the state of the environment
- Revision of approach to reporting and monitoring, moving to concept of sharing of information
- Spatial information plays a special role: early action needed



Objectives

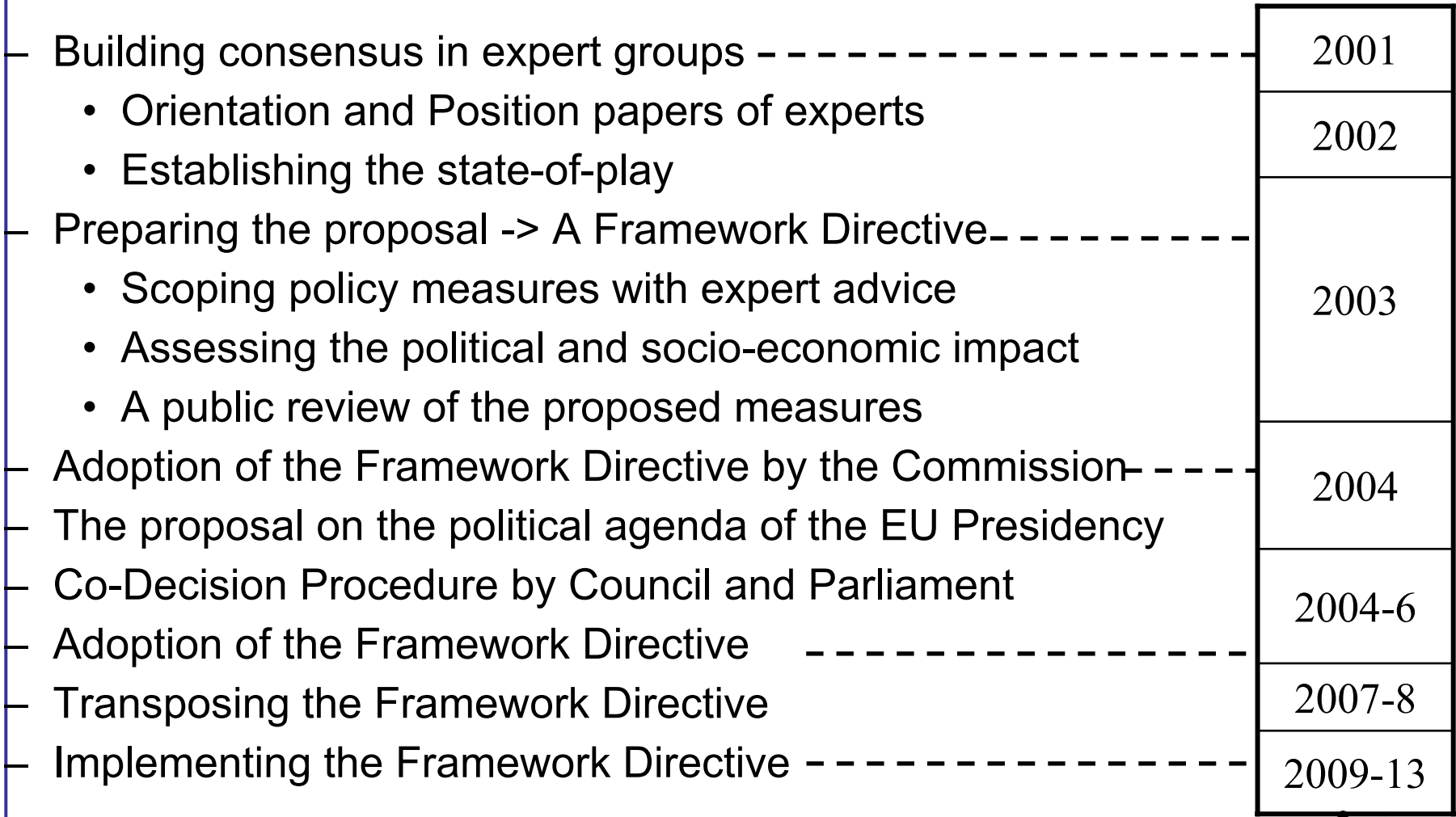
- **Deal with obstacles** to use of spatial information to support environmental policy-making and management
- Support to **streamlining** spatial information flows and information collection
- Promote coordination of stakeholders **across sectors and across levels of government** with respect to spatial information provision

*Help providing the knowledge base for **policies affecting the environment** in order to contribute to sustainable development*

The Process (long one... -:) but needed !

Bottom-up Stakeholder Involvement

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Proposal INSPIRE Framework Directive

- Overview -

- I. General provisions**
- II. Metadata**
- III. Interoperability of spatial data sets and services**
- IV. Network services**
- V. Data-sharing and re-use**
- VI. Coordination and complementary measures**
- VII. Final provisions**

This overview addresses the main issues only

Proposal INSPIRE Framework Directive

I - General Provisions-

- INSPIRE lays down general rules for the establishment of an infrastructure for spatial information in Europe to support:
 - environmental policies and
 - policies that affect the environment
- This infrastructure shall be based on infrastructures for spatial information established and operated by the Member States.

Proposal INSPIRE Framework Directive I - General Provisions-

What is covered ?

- spatial data
 - related to EU territory, in electronic format, public sector data, covers themes in annex I, II and III.
 - provisions for third party data - but always subject to third party consent
- "spatial data services" for those spatial data



INSPIRE Thematic Scope

Annex I

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

Annex II

1. Elevation
2. Identifiers of properties
3. Cadastral parcels
4. Land cover
5. Orthoimagery

Harmonised spatial data specifications more stringent for Annex I and II than for Annex III

INSPIRE Thematic Scope

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Annex III

1. Statistical units
2. Buildings
3. Soil
4. Geology
5. Land use
6. Human health and safety
7. Government service and 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



Proposal INSPIRE Framework Directive

II – Metadata -

- Metadata is the “fuel” of the search engine to the spatial information
- INSPIRE will require the MS to create comprehensive metadata of a certain quality for spatial data sets and services, and to keep them up-to-date.
- Establishment of catalogues for spatial data and for services
- Progressive implementation until 6 years after entry into force of Directive



III – Interoperability of spatial data sets and services

- Harmonised spatial data specifications
 - the key to solving problems with interoperability
 - adopted through comitology
 - more stringent for Annex I and II than for Annex III
 - earlier for Annex I than for Annex II and III
- Two years after adoption: new or updated spatial data will become interoperable
- No need to replace MS data or systems

Proposal INSPIRE Framework Directive

IV - Network services -

- Upload services
 - allow to make spatial data accessible
 - available to the public authorities
 - available to interested third parties, provided that certain conditions are met
- Network services
 - discovery services (free of charge);
 - view services (free of charge);
 - download services;
 - transformation services;
 - services to invoke “spatial data services”

Proposal INSPIRE Framework Directive IV - Network services -

- Network services are the window to INSPIRE
- Community Geo-portal, in addition to national access points
- Various derogations (security, justice, confidentiality, etc...)
- Services can run on top of existing systems: no need to replace them!

Proposal INSPIRE Framework Directive

V - Data-sharing and re-use -

- For public authorities:
 - barrier-free sharing of spatial data sets and services...
 - for public tasks that may have a direct or indirect impact on the environment.
 - access of institutions and bodies of the Community
- For third parties:
 - measures to reduce barriers for re-use to be adopted by comitology

VI - Coordination and complementary measures -

- Coordination at Member State level: to be organised by the MS
- Coordination at EU level: by Commission with support of EEA
- Implementation of many measures supported by implementation rules adopted by Comitology

INSPIRE Proposal: Summary

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- 1) builds upon existing data and systems in the MS
- 2) will promote the vertical integration of local, regional and national data in a consistent EU framework
- 3) will be the foundation for a broader cross-sectoral tool that can be used by and extended to other policy domains, promoting **integration**
- 4) will become an important tool for a new approach to monitoring and reporting, cutting down overlaps and redundancies and reducing administrative burden
- 5) has only limited cost implications for the MS as it builds upon existing investments in the MS
- 6) has the potential of huge benefits, for all policies with a spatial dimension



INSPIRE

Requirements and implementing rules

Overview of INSPIRE requirements

- INSPIRE lays down general rules for the establishment of an infrastructure for spatial information in Europe.
- The component elements of those infrastructures shall include:
 - metadata,
 - spatial data sets as described in Annexes I, II, III of the proposal for a Directive and spatial data services;
 - network services and technologies;
 - agreements on sharing, access and use;
 - co-ordination and monitoring mechanisms,
 - process and procedures.
- Member States will have to implement different measures to have these components into place.

Implementing Rules

- For a number of those measures, Implementing Rules will have to be adopted first through the Comitology Procedure according to a timetable set by INSPIRE.
- The year of adoption is indicated for each Implementing Rule together with the deadline for Member States to implement the measures detailed in a given Implementing Rule.
- *In following slides the dates are on the basis of an entry into force of INSPIRE at the beginning of 2007*
- When INSPIRE does not refer to a specified date adoption, then the Implementing Rule will have to be adopted after the Transposition Phase [2009], hence, two years after its entry into force [2007].

Summary of INSPIRE Implementing Rules

At the technical level, Implementing Rules:

- for the creation and up-dating of the metadata
- for harmonised data specifications
- on the arrangements for the exchange of spatial data
- for network services

At an organisational level, Implementing Rules:

- laying down obligations on third parties (non-public sector) which may want to publish data
- governing access and rights of use to spatial data sets and services for Community institutions and bodies
- to increase the potential of re-use of spatial data sets and services by third parties (non-public sector)



interoperability of the spatial data

- Implementing Rules will take the form of:
 - Harmonised data specifications
 - Arrangements for the exchange of spatial data
- For all data, the harmonised data specifications shall cover the definition and classification of the spatial objects relevant to the spatial data and the way in which they are geo-referenced.
- In particular for Annex I, II data, the implementing rules shall address the following harmonisation and exchange aspects of spatial data:
 - a common system of unique identifiers for spatial objects;
 - the relationship between spatial objects;
 - the key attributes and the corresponding multilingual thesauri commonly required for a wide range of thematic policies;
 - the way in which information on the temporal dimension of the data is to be exchanged;
 - the way in which updates of the data are to be exchanged.

Network services

- The Directive will require MS to establish and operate a network of the following services:
 - Upload services;
 - Discovery services;
 - View services;
 - Download services;
 - Transformation services,
 - “Invoke spatial data services” services, enabling data services to be invoked.
- *Those services shall be easy to use and accessible via the Internet or any other appropriate means of telecommunication available to the public*
- The Commission shall establish a Community Geo-portal through which MS will provide access to the services, as well as through their own access points, if they wish to do so.

Coordination and complementary measures (monitoring, reporting)

- INSPIRE requires MS to set-up structures and mechanisms for coordinating
 - the contributions of all stakeholders, including identification of needs, provision of information on practices and feedback on the implementation of INSPIRE
- MS shall designate a public authority responsible for contact with the EC
- EC assisted by the EEA shall be responsible for co-ordination at Community level
- EC shall be assisted by a Regulatory Committee with one representative per MS
- MS shall monitor the implementation and use of their infrastructures and make information on the monitoring accessible to the EC
- MS shall report to the EC on the implementation of INSPIRE



Milestone	Description
2007	Establishment of the INSPIRE Committee (within 3 months from entry into force)
2007	Adoption of Implementing Rules for the creation and up-dating of the metadata Adoption of Implementing Rules for network services Adoption of Implementing Rules on third parties use of the upload services Adoption of Implementing Rules for monitoring Adoption of Implementing Rules governing access and rights of use to spatial data sets and services for Community institutions and bodies
2008	Adoption of Implementing Rules for reporting
2009	Adoption of Implementing Rules for the use of spatial data sets and services by third parties
2009	Adoption of Implementing Rules for harmonised spatial data specifications of Annex I and for the exchange of Annex I, II and III spatial data
2009	Designation of responsible public authorities for spatial data sets and services
2009	Implementation of sharing framework of spatial data sets and services between public bodies
2009	Implementation of monitoring Implementation Rules
2010	Metadata available for spatial data corresponding to Annex I and Annex II spatial data
2010	Network services are operational
2010	Member States' First Report to the Commission
2011	New or updated spatial data sets available in accordance with Implementing Rules for harmonised spatial data specifications and exchange for Annex I spatial data
2011	Adoption of Implementing Rules for harmonised spatial data specifications of Annex II and Annex III spatial data
2013	Metadata available for Annex III spatial data
2013	New or updated spatial data sets available in accordance with Implementing Rules for harmonised spatial data specifications and exchange for Annex II and Annex III spatial data
2013	Member States' second report to the Commission



Implementing INSPIRE

- Challenges and Opportunities -

Towards Implementation

The Preparatory Phase (2005-2006)

Parallel with Co-Decision procedure

Focus on 'deliverables' - Prepare Implementing Rules

Interim Organisational Structure

The Transposition Phase (2007-2008)

Transposition of required measures Member States

INSPIRE Committee adopts first Implementing Rules - 2007

Organisational Structures in place (EC, MS,...)

The Implementation Phase (2009-2013)

Iterations, review, monitoring, reporting



Action Plan 2005-2006

- On the basis of the INSPIRE Roadmap, first priority actions are needed with regard to the deliverables at the 2007 milestone, hence for which the adoption is foreseen in 2007:
 - Implementing Rules for the creation and up-dating of the metadata
 - Implementing Rules for network services
 - Implementing Rules on third parties use of the upload services
 - Implementing Rules for monitoring
 - Implementing Rules governing access and rights of use to spatial data sets and services for Community institutions and bodies
- In second priority actions are linked to milestone deliverables in 2008-2009, but for which more time is required to develop them:
 - Implementing Rules for reporting, by 2008
 - Implementing Rules for the use of spatial data sets and services by third parties, by 2009
 - Implementing Rules for harmonised spatial data specifications of Annex I and for the exchange of Annex I, II and III spatial data, by 2009

The broader context

- The implementation of INSPIRE needs to consider the broader context of global initiatives which aim to foster the development of a local to global SDI capacity in support of sustainable development goals.
- Especially where such initiatives have established, or are under development, an interaction with the INSPIRE implementation will be necessary.

The concept of Spatial Data Interest Communities (SDIC)

- **Spatial Data has multiple communities of users**
- **Stakeholders form SDICs true their common interest on:**
 - data themes (INSPIRE annexes I, II and III)
 - spatial information services,
 - legal and procedural issues (data policy, monitoring,...)
 - societal sectors (public services, private sector, research institutions...)
 - role in the processing chain (legal mandates concerning data management, users, providers, umbrella organisations ...)
 - status and approach in the Member States SDI development
 - geographic extent / authority level (EU-25, national, regional...)
- **INSPIRE can be approached as a network of SDICs,**
 - organised by region, by industrial sector and thematic issue, each with its own audience of data providers and users looking to explore spatial data.

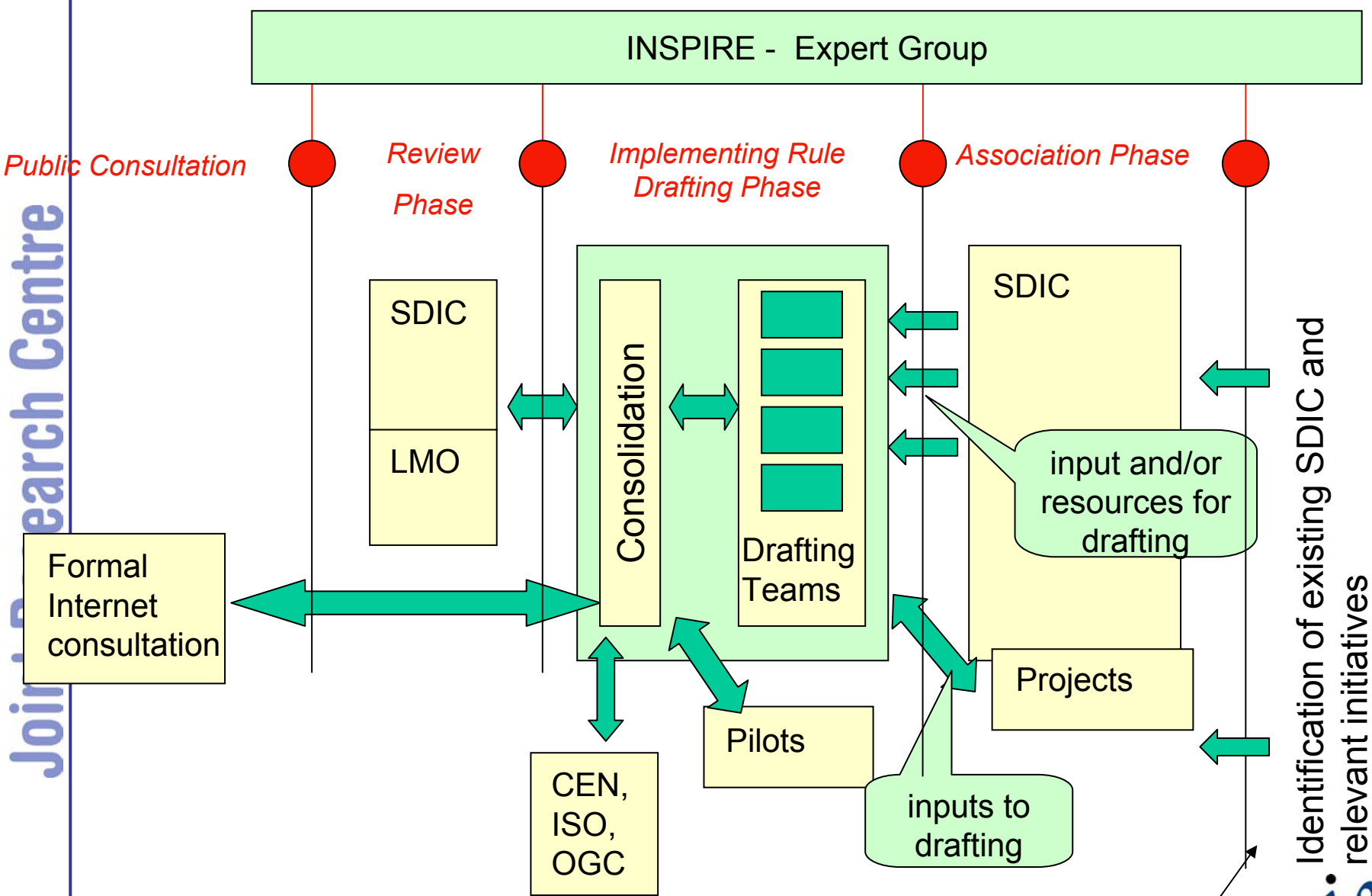


The roles of SDICs

- **SDICs bundle the human expertise** of users, producers and transformers of spatial information, technical competence, financial resources and policies
 - with an interest to better use these resources for spatial data management and the development and operation spatial information services
- **SDICs naturally form strategic partnerships** aligning their demand for spatial data and services, together with their investments
- **SDICs will have different roles in the drafting, review and testing of the Implementing rules :**
 - to identify and describe user requirements
 - to provide expertise to INSPIRE drafting teams
 - to participate in the review process of the draft Implementing Rules
 - to develop, operate and evaluate implementation pilot projects
 - to develop initiatives for guidance, awareness raising and training in relation with the INSPIRE implementation

The process to draft implementing rules

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SDIC – Spatial Data Interest Community
LMO Legally Mandated Organisation

*Call for interest
for SDICs*

Identification of existing SDIC and relevant initiatives





Conclusions

- INSPIRE is a framework Directive with implementing rules to be defined in incoming years
- Highest involvement of key stakeholders through the SDIC concept is needed
 - Regional and National SDI are considered SDICs
- Openness and transparency in drafting implementing measures (including formal public consultation)
- Pilots and Projects could play a key role to define and validate the implementing rules