

# INSPIRE: Infrastructure for Spatial Information in Europe

What is INSPIRE about?  
Current status



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# Outline

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- INSPIRE – background, objectives, scope and content of the Directive
- INSPIRE – the implementation process and current status



# Outline

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- ➡ INSPIRE – background, objectives, scope and content of the Directive
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# The starting point of INSPIRE

- Lack of reference data
- Difficult to obtain spatial data
  - Difficult to find
  - Cumbersome process to obtain
  - Often expensive
- Gaps in availability of spatial data and a lot of duplication at the same time
- Spatial data not harmonised across borders
- Difficult to interpret / understand
  - Often not documented

Natura 2000

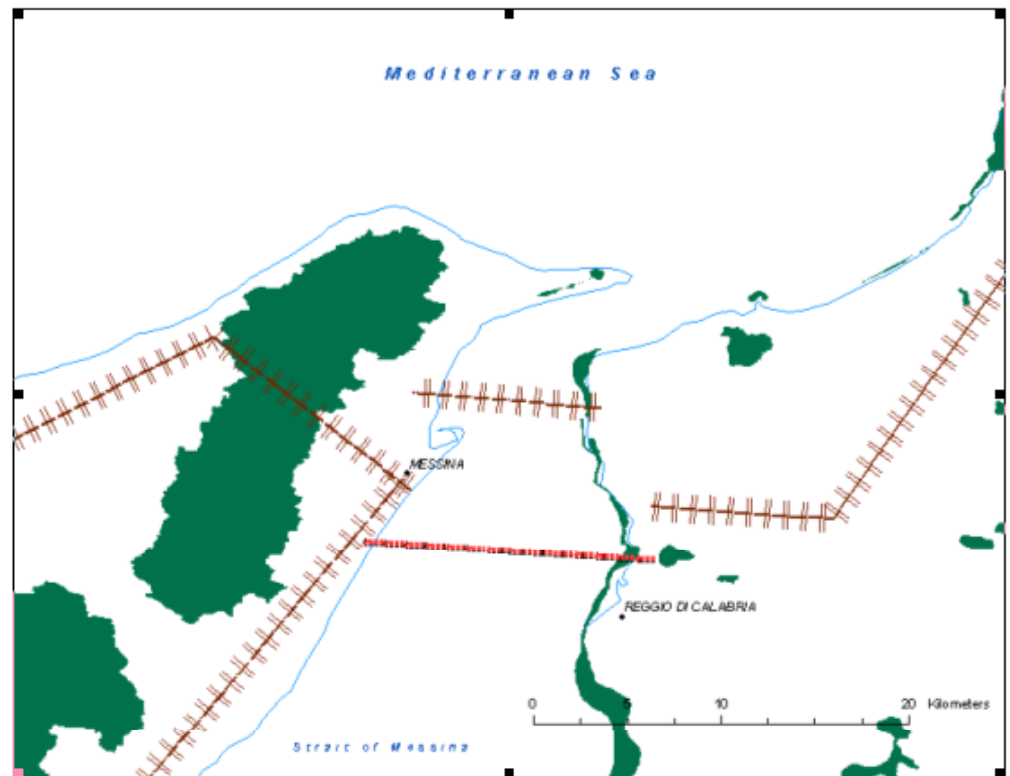
EuroSION

WFD



# The starting point of INSPIRE

- E.g. lack of data harmonisation – assessing TEN-T at EU level



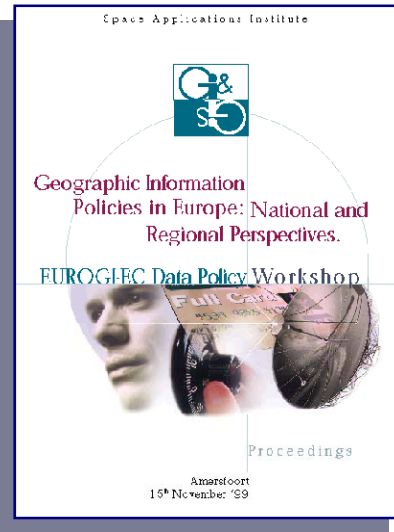
# INSPIRE vision

1. Data should be collected once and maintained at the level where this can be done most effectively
2. It should be possible to combine seamlessly spatial information from different sources across Europe and share it between many users and applications
3. It should be possible for information collected at one level to be shared between all the different levels, detailed for detailed investigations, general for strategic purposes
4. Geographic information needed for good governance at all levels should be abundant under conditions that do not refrain its extensive use
5. It should be easy to discover which geographic information is available, fits the needs for a particular use and under which conditions it can be acquired and used
6. Geographic data should become easy to understand and interpret because it is properly documented and can be visualised within the appropriate context selected in a user-friendly way

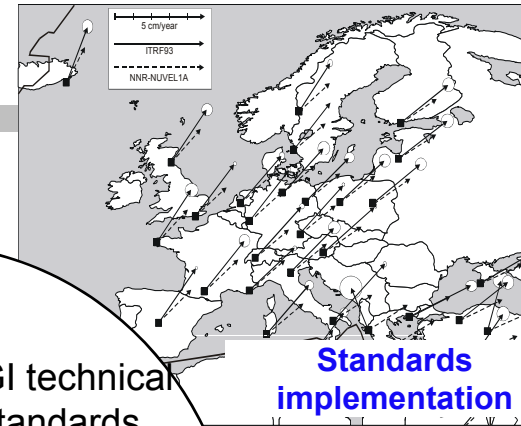


# Infrastructure for Spatial Information in Europe

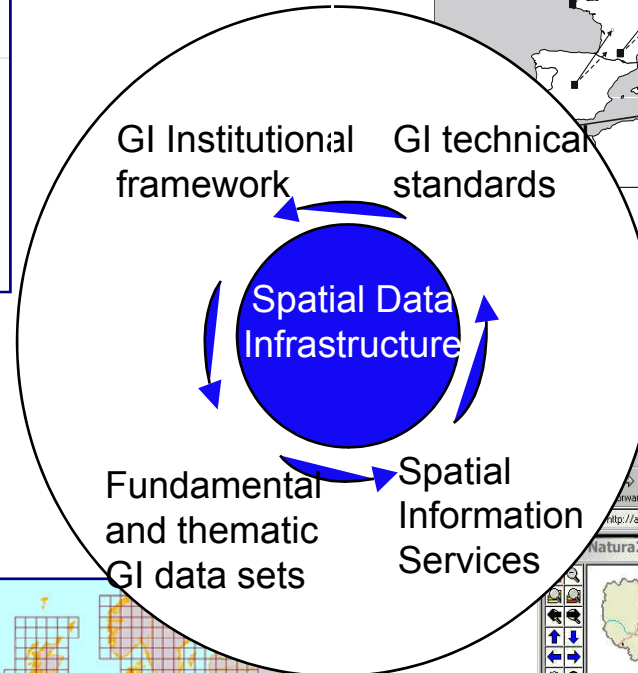
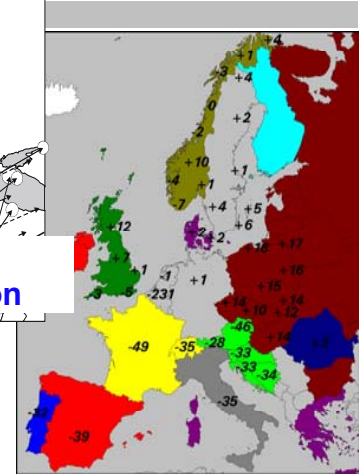
Different Policies standard



Technical Support to GI policy development

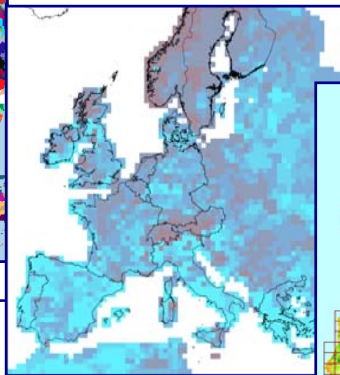


Standards implementation

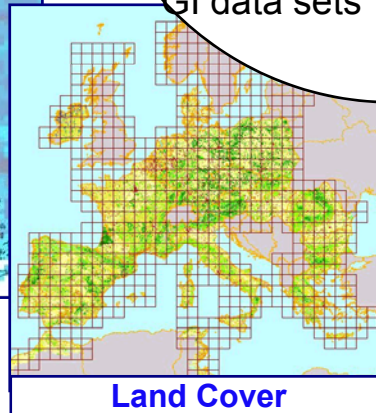


Technical Support To data set creation

Meteo data

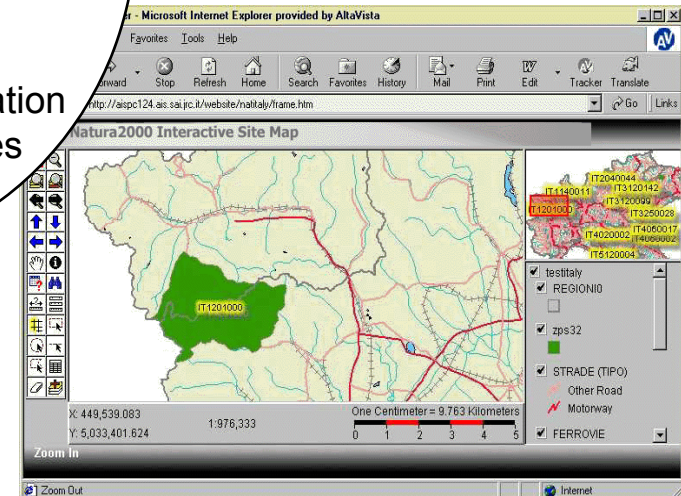


Catchments



Land Cover

GIS for Natura 2000



MSDI), Havana, February 2009

# History of INSPIRE

- 2001 – INSPIRE initiative initiated
- 2002 – MoU between three Commissioners
- 2002-2003 – Position papers (e.g. on standards) and Impact Assessment
- 2003 – Internet and public consultation
- 2004 – Proposal for a Draft Directive
- 2005-2006 – Preparatory phase
  - Spatial Data Interest Communities (SDIC) and Legally Mandated Organisations (LMO)
  - **Implementing Rules, October 2005 - ... (?) – Drafting Teams**
- 2007/01/18 – Joint Text approved by Conciliation Committee
- 2007/03/14 – Final Text Directive
- 2007/04/25 – Directive published in the Official Journal
- **2007/05/15 – Directive entered into force**





# INSPIRE Directive

25.4.2007

EN

Official Journal of the European Union

L 108/1



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*(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)*

## DIRECTIVES

**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 Directive

- Metadata
  - (a) the **conformity** of spatial **data sets** with the implementing rules referred to in Article 7(1);
  - (b) **conditions** applying to **access** to, and **use** of, spatial data sets and services and, where applicable, corresponding fees;
  - (c) the **quality** and **validity** of spatial data sets;
  - (d) the **public authorities responsible** for the establishment, management, maintenance and distribution of spatial data sets and services;
  - (e) **limitations** on **public access** and the reasons for such limitations, in accordance with Article 13.



# INSPIRE Directive

- Interoperability of data and services and, where practicable, harmonisation of data sets
  - (a) a common framework for the **unique identification** of spatial objects, to which identifiers under national systems can be mapped in order to ensure interoperability between them;
  - (b) the **relationship** between spatial objects;
  - (c) the **key attributes** and the corresponding multilingual thesauri commonly required for policies which may have an impact on the environment;
  - (d) information on the **temporal** dimension of the data;
  - (e) **updates** of the data.



# INSPIRE Directive

- Network Services
  - (a) **discovery services** making it possible to search for spatial data sets and services on the basis of the content of the corresponding metadata and to display the content of the metadata;
  - (b) **view services** making it possible, as a minimum, to display, navigate, zoom in/out, pan, or overlay spatial data sets and to display legend information and any relevant content of metadata;
  - (c) **download services**, enabling copies of spatial data sets, or parts of such sets, to be downloaded and, where practicable, accessed directly;
  - (d) **transformation services**, enabling spatial data sets to be transformed with a view to achieving interoperability;
  - (e) **services**, enabling spatial data services to be **invoked**.



34 themes

# INSPIRE Directive

## 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. Orthoimagery
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

- Data Sharing
  - Between Public Authorities
  - Licensing and payment
  - Sharing limitations: e.g. public security
- Coordination and Complementary Measures
  - Across different levels
  - Contact point and coordinating structure; involve stakeholders
- Monitoring & Reporting
  - Continuous monitoring and reporting the implementation and use of the infrastructure





# What INSPIRE is NOT

- A data gathering effort
  - MS are not obliged to collect missing information !
  - As such, even harmonisation is not an obligation
- Its focus is only on the Public Sector
  - Private sector is not (directly) involved
- Its focus is on environmental policy
  - And policies that might have an impact on environment
- All the data will not become available for free
  - Free discover and viewing services (also for the public)
  - Charging may still apply for the data and some services



# Outline

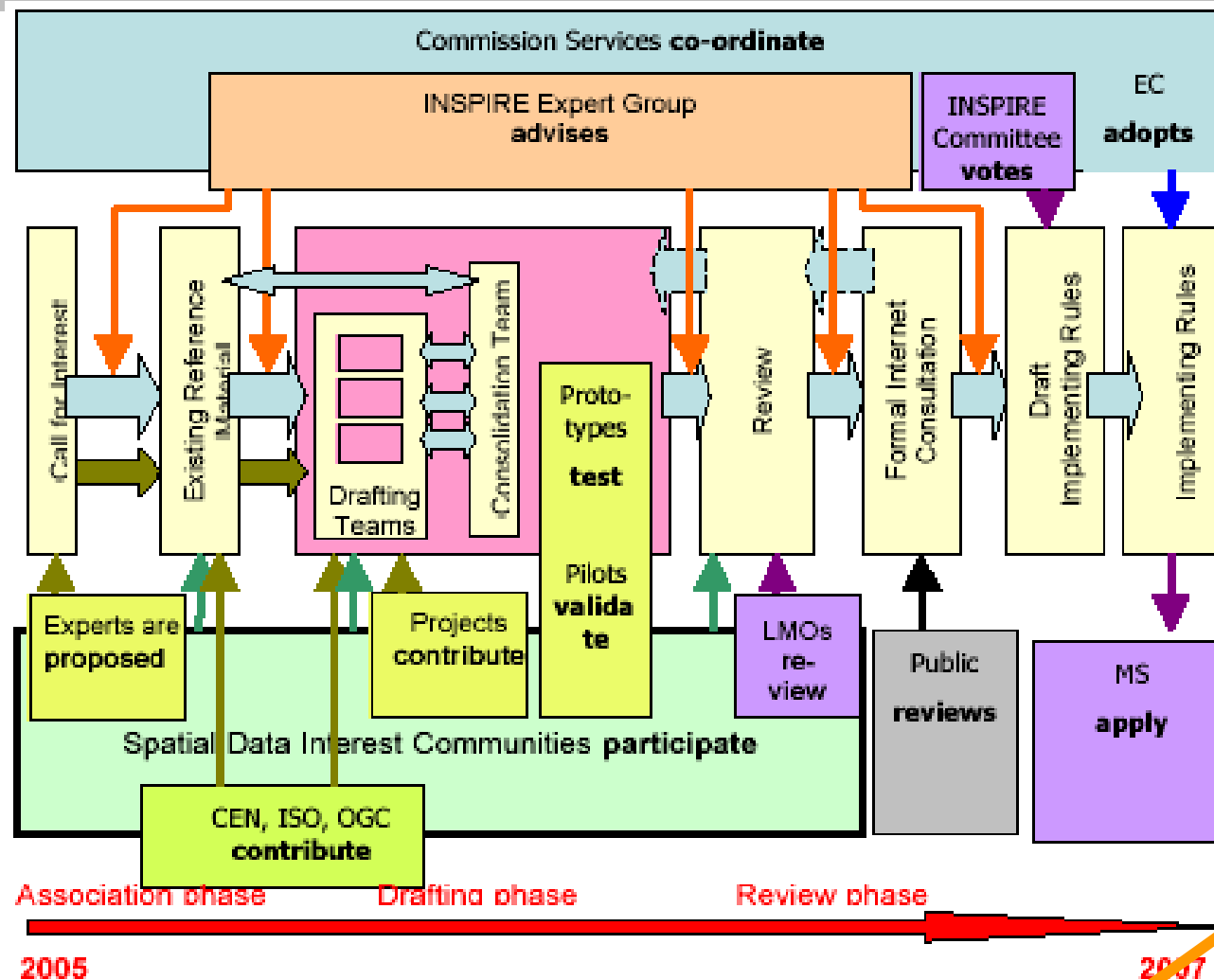
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# INSPIRE: organisational structure & processes

Complex



# Role of the SDIC's and LMO's

- 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 pilots
  - To develop initiatives for guidance awareness raising and training in relation with the INSPIRE implementation
- ☞ SDICs in field of Coastal Management



# Role of the Drafting Teams

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- To analyse and review the reference material provided by the SDICs
- To demand further input from SDICs if required
- To write the **draft INSPIRE Implementing Rules**
- To provide recommendations to the Consolidation Team (EC) in case of conflicting technical specifications or issues
- To provide suggestions to the Consolidation Team (EC) regarding the testing of any proposed technical specification



# Role of the Drafting Teams

- Five Drafting Teams:
  - Metadata specifications
  - Data specifications
  - Network Services
  - Data sharing
  - Monitoring and Reporting
- Started October 2005 – 73 experts

What the hell were  
These people doing ?!





# Current status – DT

- Metadata – DT MD
  - Is only about discovery metadata (and some aspects of evaluation metadata)!
  - Modified/finalised by CT for public review and for voting in the Committee – (v3)
  - **IR approved in the Committee in May 2008**
  - Link with ISO 19115, ..., is described
  - **Guidelines** are being developed

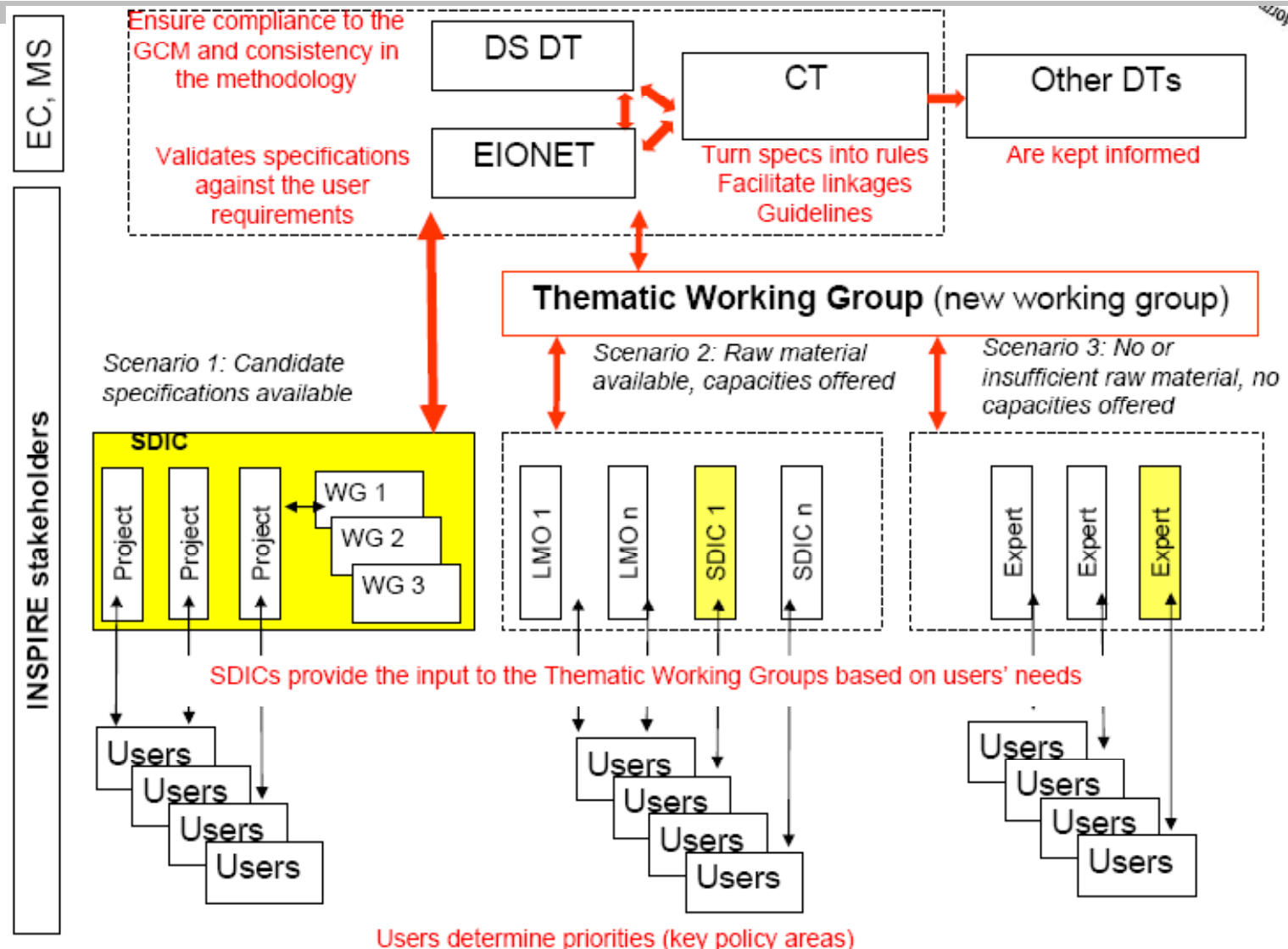


# Current status - DT

- Interoperability and harmonisation of spatial data sets and services – DT DS
  - Development of **conceptual framework** and specification methodology.
    - DS-D 2.5 *Generic Conceptual **Model*** (GCM)
    - DS-D 2.6 ***Methodology** for the development of data specs*
    - DS-D 2.7 ***Guidelines** for the encoding of spatial data*
  - Development of data specifications for each data theme
    - Based on the conceptual framework and specification methodology, and based on the INSPIRE roadmap



# Current status - DT



# Current status - DT

- Introduction of Thematic Working Groups
  - Bundle the expertise to develop and document the technical specifications necessary for the Implementing Rules of specific INSPIRE themes
  - will deliver
    - Analysis of the reference materials
    - Analysis of the user requirements and documentation of the use-case development
    - Resolutions of the comments submitted by the stakeholders in frame of reviewing the draft data specifications
    - Data specifications to be included in the draft IR
    - Easy to understand use example with illustration for INSPIRE
- Current status
  - **Draft data specs ready for themes of annex I**
  - **Testing of transformation** – mapping existing data models to specs



# Current status - DT

- Network services – DT NS
  - IR for **discovery** and **viewing** services first
    - Modified/finalised by CT for public review and for voting in the Committee – (v3)
    - **IR approved in the Committee in December 2008**
  - Work started on the download services, and only minor work done on transformation and invoking services
  - SOAP chosen as standard protocol
  - **Guidelines** are being developed



# Current status DT

- Data Sharing – DT DSS
  - First Draft IR for review by DTs and CT, Second draft ready to go to SDIC and LMO
  - Model license agreement (for exchange with the EU) – will probably not come through
  - Bringing IR in line with EU procurement rules
- Monitoring and reporting – DT MR
  - Modified/finalised by CT for public review and for voting in the Committee – (v3)
  - **IR approved in the Committee in December 2008**
  - Guidelines are being elaborated





# Potential impact & contribution Marine community

- Which themes are relevant, which are key?
  - All of them are in a certain sense relevant, directly or indirectly
- Focus on some of the themes (or parts thereof) where you can make the difference
  - Experts in TWG
  - Contributions from ongoing or new projects
  - Contributions from SDICs and LMOs – comments on drafts
  - Contributions to the testing of transformation, mapping of data models
- The community should think about the impacts
  - The way we maintain our MSDI infrastructure conformant with INSPIRE
  - The way we use the infrastructure in e.g. CZM processes



# Conclusions

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- INSPIRE Directive is there, with national legislation in place by May 2009
- INSPIRE IR become available step-by-step
  - Allows a flexible implementation
- INSPIRE is a complex and ongoing process
  - But it is coherent
- INSPIRE has potentially many impacts, also on the marine and CZM community
  - The community can/should contribute



Thank you ...



Questions ...

<http://www.ec-gis.org/INSPIRE>

