



## Infrastructure for Spatial Information in Europe

# EIONET Workshop on Soil relevance for **INSPIRE** data specifications of **Annex II and III Themes**

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# Objectives of this presentation




- To inform about INSPIRE data specifications process
- To highlight where and how the contribution of European projects can be integrated into the INSPIRE process
- To plan how to proceed



# Outline



-  INSPIRE Directive
- Implementing Rule development
- INSPIRE data specifications vs. Implementing Rules
- Contribution to INSPIRE Annex II and III data specification development
- Next steps



# INSPIRE Directive



- INSPIRE 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.
- INSPIRE to be based on the infrastructures for spatial information established and operated by the Member States
  - INSPIRE is a distributed infrastructure.
- INSPIRE does not require collection of new spatial data
- INSPIRE does not affect existing Intellectual Property Rights
- Entry into force 15 May 2007





# INSPIRE Directive



- Legal obligation to start sharing of spatial data and spatial data services that are in the scope of INSPIRE on **15 May 2009** !
  - Irrespective of any Implementing Rules that may exist or that is under development
- INSPIRE is a *Framework Directive*:
  - Detailed technical provisions for the issues above will be laid down in **Implementing Rules**
  - Once adopted, Implementing Rules become European legislative acts and national law in 27 Member States and in some EFTA countries



# Scope INSPIRE Directive



- Spatial data held by or on behalf of a public authority operating down to the lowest level of government when laws or regulations require their collection or dissemination
- INSPIRE covers 34 Spatial Data Themes laid down in 3 Annexes
  - ***required to successfully build environmental information systems***





# INSPIRE Spatial Data Scope



## 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

- Harmonised spatial data specifications more stringent for Annex I and II than for Annex III
- Difference in roadmap for IR adoption and implementation



# INSPIRE Thematic Scope



## 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 – aspects of spatial data of Annexes I, II, III



	I	II	III
Definition and classification of spatial objects (SO)	Orange	Orange	Orange
The way in which the spatial data are geo-referenced	Orange	Orange	Orange
Common framework for unique identification of SO	Orange	Orange	Green
Relationship between spatial objects	Orange	Orange	Green
Key attributes and corresponding multilingual thesauri	Orange	Orange	Green
Information on the temporal dimension of the data	Orange	Orange	Green
Updates of the data	Orange	Orange	Green
Consistency between items (same location)	Orange	Orange	Green
Consistency between items (same object / diff. scales)	Orange	Orange	Green

Orange Conditions in INSPIRE Directive

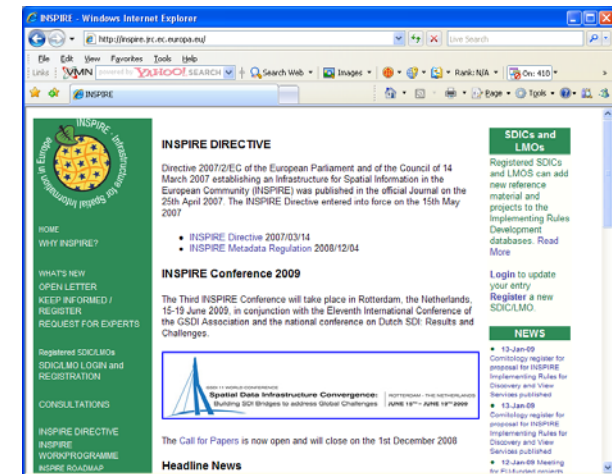
Green Might be necessary in data specifications



# INSPIRE Components



- Metadata
- Interoperability of spatial data sets and services
- Network services (discovery, view, download, transformation, invoke)
  - Made available through the European geo-portal
- Data and Service sharing (policy)
- Coordination and measures for Monitoring & Reporting





# From Commission proposal to Community Directive implementation



- **Preparatory phase (2004-2006)**
    - Co-decision procedure
    - Start of preparation of Implementing Rules (IR)
  - **Transposition phase (2007-2009)**
    - Directive entered into force **15 May 2007**
    - INSPIRE Committee starts its activities **26 June 2007**
    - Continuation of preparation of Implementing Rules
    - Transposition into national legislation
    - Adoption of Implementing Rules by Comitology
      - **Commission Regulation (EC) No 1205/2008 of 3 December 2008 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata**
      - **IRs on Discovery services and Monitoring and Reporting approved by the INSPIRE Committee on 19/12/2008**
  - **Implementation phase (2009-2013)**
    - Implementation and monitoring of measures
    - Continuation of preparation of Implementing Rules
    - Adoption of Implementing Rules by Comitology
- 



# Outline



- INSPIRE Directive
- Implementing Rule development
- INSPIRE data specifications vs. Implementing Rules
- Next steps and conclusions



# Excerpt from Roadmap related to data specifications



## Adoption (responsibility of Commission to prepare proposals for IRs)

Milestone date	Article	Description
2007-05-15		<i>Entry into force of INSPIRE Directive</i>
2009-05-15	9(a)	Adoption of IRs for the interoperability and harmonisation of spatial data sets and services for Annex I spatial data themes
2012-05-15	9(b)	Adoption of the IR s for the interoperability and harmonization of spatial data sets and services for Annex II and III

\* = date proposed by Commission



# Excerpt from Roadmap related to data specifications



## Implementation (responsibility of Member States)

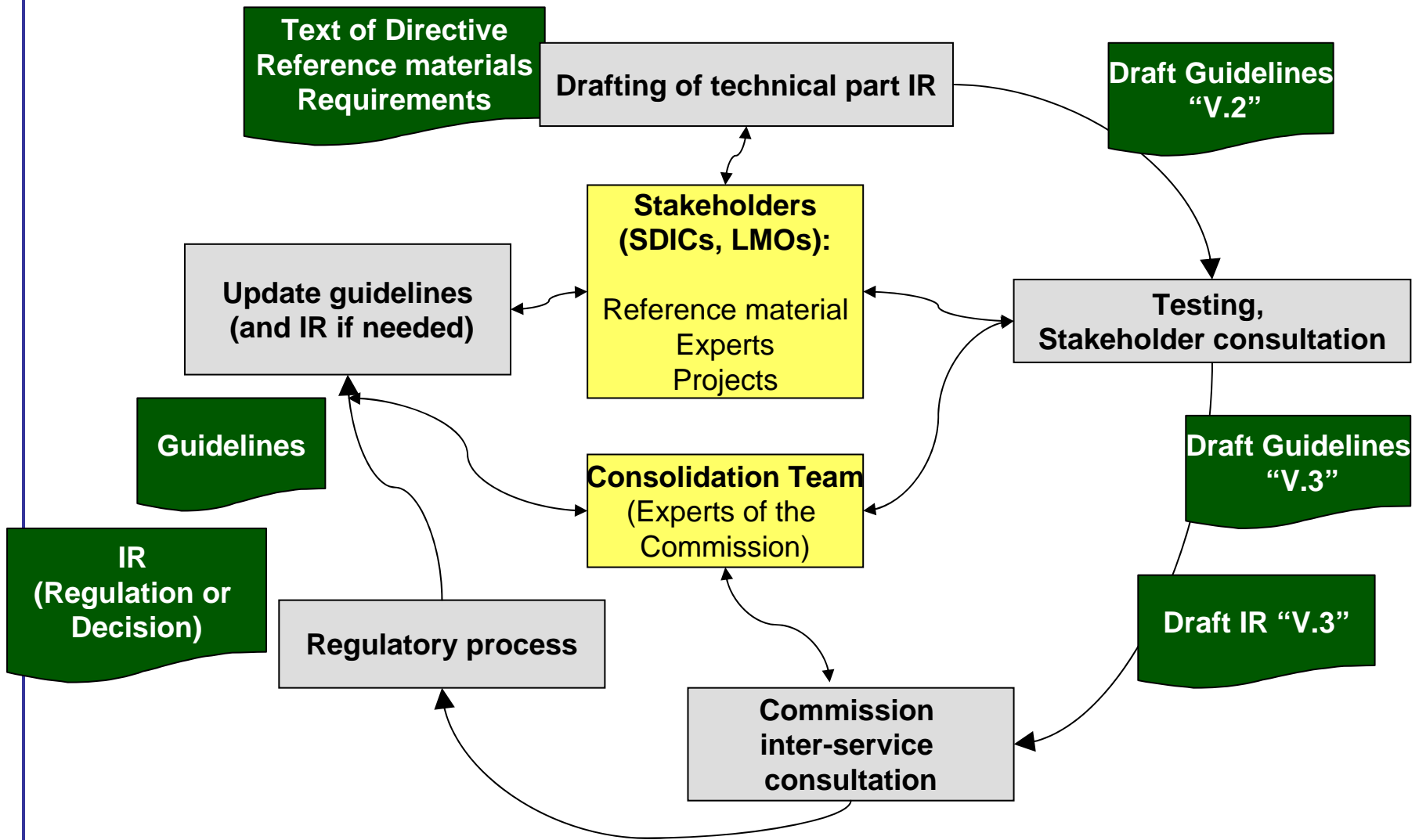
Milestone date	Article	Description
2011-05-15	7§3, 9(a)	Newly collected/ restructured Annex I spatial data sets available
2014-05-15	7§3, 9(b)	Newly collected/restructured Annex II/III spatial data sets available
2016-05-15	7§3, 9(a)	Other Annex I spatial data sets available
2019-05-15	7§3, 9(b)	Other Annex II and III spatial data sets available

\* = date proposed by Commission



# Work Programme 2007-2009

## Implementing Rule development cycle



# Participatory approach

	22-06-2005	01-06-2007	10-12-2008
Spatial Data Interest Communities (SDICs)	139	201 (+45%)	281 (+142%)
Legally Mandate Organisations (LMOs)	89	116 (+30%)	163 (+78%)
Proposed Experts	193	210 (+9%)	365 (+183%)
Referenced Materials	96	144 (+50%)	351 (+271%)
Identified Projects	94	112 (+19%)	121 (+29%)
Proposals testing Annex I data specifications			78







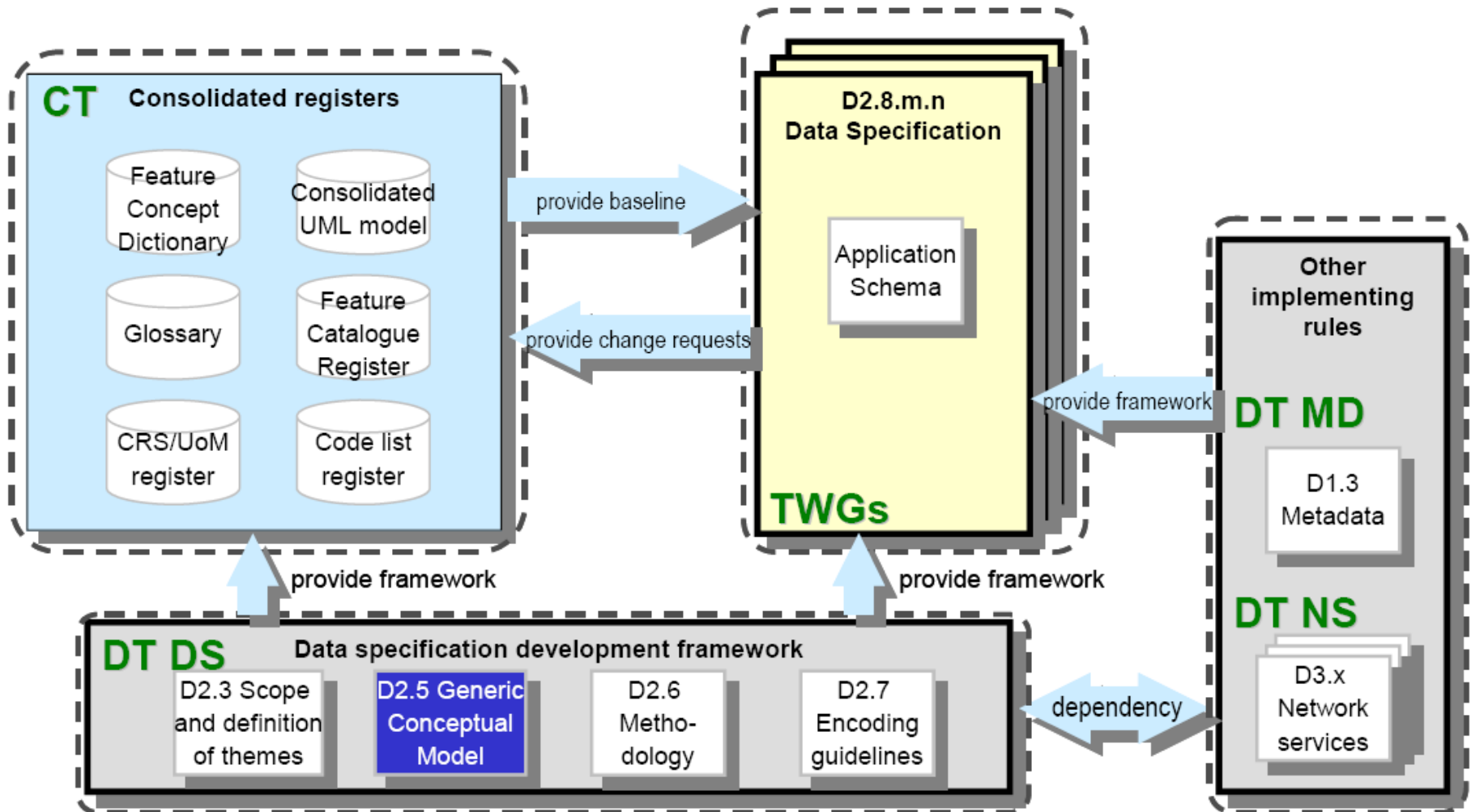
# Interoperability and harmonisation of spatial data sets and services



- The development of INSPIRE Implementing rules for data specifications follow a three-step approach:
  - Development of **conceptual framework and specification methodology – data specification development framework** (by Data Specification Drafting Team)
    - DS-D 2.3 Definition of Annex Themes and Scope
    - DS-D 2.5 *Generic Conceptual Model (GCM)*,
    - DS-D 2.6 *Methodology for Specification Development*.
    - DS-D 2.7 Guidelines for Encoding
  - **Development of data specifications for each spatial data theme** (by different Thematic Working Groups) based on the
    - conceptual framework
    - common specification development methodology,
    - and on the INSPIRE roadmap
  - **Preparation of the Implementing Rules** based on data specifications (by the Commission)



# Data specification development





# INSPIRE Data Specifications

## current status



- Drafting Team Data Specifications has completed the framework documents, after consultation of SDICs & LMOs
- **8 Thematic Working Groups** (TWGs) have prepared draft specifications for Annex I Spatial Data Themes
- **Testing of draft specifications** started with Kick-off web meeting November 2008 and it will end 06 March 2009
- **Consultation of SDICs & LMOs** on draft structure and contents of Implementing Rules Annex I starts on 19 Dec 2008 (8 weeks)
- Comments resolution workshop 26-27 March 2009
- Preparation of final draft IR
  - Open and transparent process requires that comments that are received are taken into account
  - Depending on number of comments, first IR on Annex I Data Themes to be tabled for the INSPIRE Committee meeting in May 2009
- Annex II and III spatial data themes to be addressed in 2009



# Pillars of INSPIRE Data Specifications



- User requirements
- Reference material provided by stakeholders (existing data)
- Data specification development framework documents:
  - GCM – Generic Conceptual Model,
  - Methodology,
  - Guidelines for encoding
- Operational components: registries
  - Glossary (available)
  - INSPIRE Feature Concept Dictionary – IFCD (available)
  - Code lists



# Pillars of INSPIRE Data Specifications




- **Technical tools support / development:**
  - INSPIRE template for data specifications (based on ISO 19131 – Data Product Specifications)
  - EA (Enterprise Architect)
  - UML models repository (including ISO TC211 application schemas, Common GCM application schema, theme specific application schemas)
  - (sub)versioning of the repository
  - Automatic generation of Feature Catalogue from the UML models
  - GML application schemas generation
- **Transparent and collaborative approach with the participation of stakeholders and network communities**
- **Stakeholders' involvement**
  - Consultation
  - Testing
  - Comment resolution



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# Relation of Data Specifications and Implementing Rules



## Data specifications

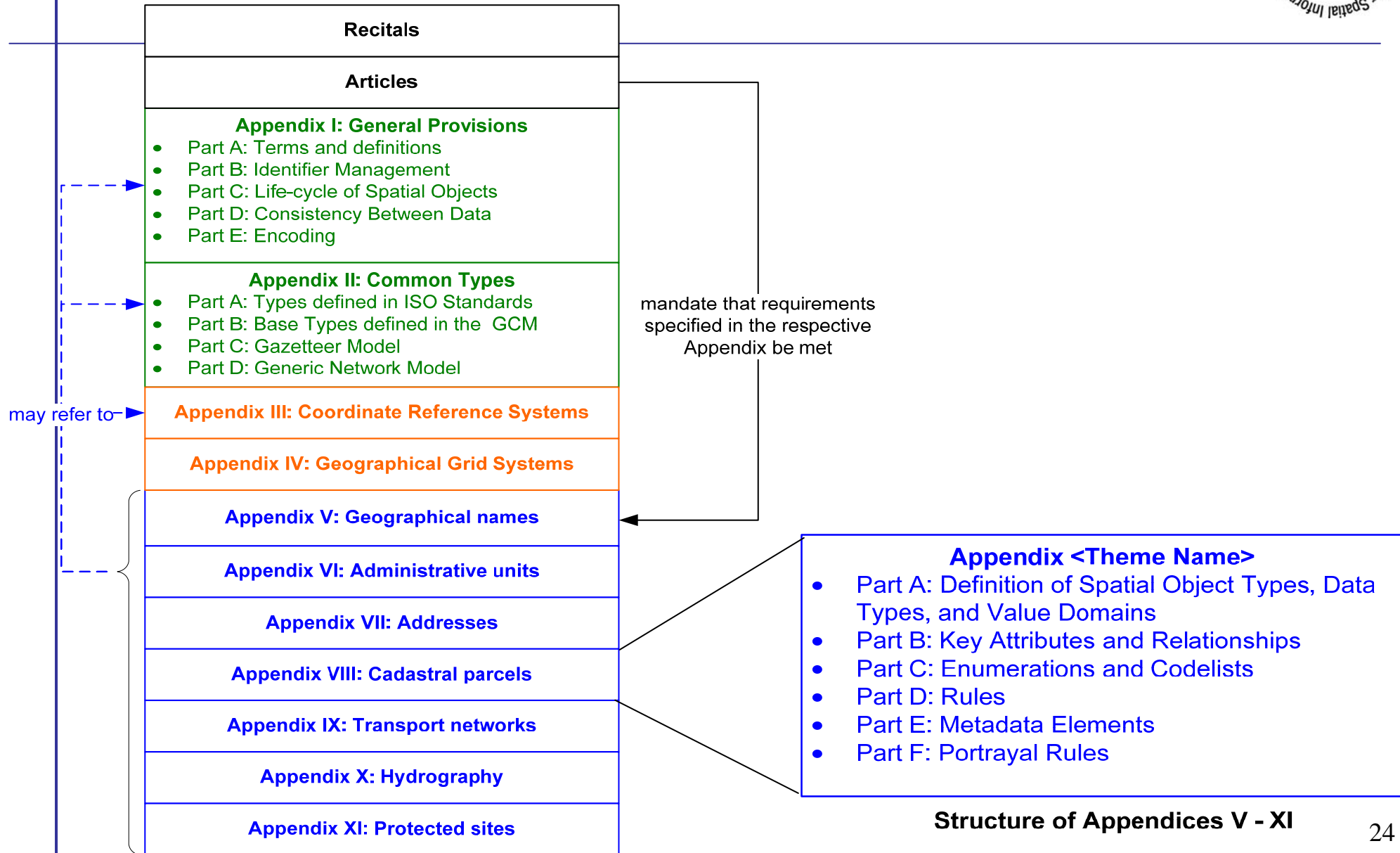
- Describe the full set of provisions necessary for system interoperability within INSPIRE
- Will be published in their entirety as guidelines
- Will be published as a technical document
- Contains requirements and recommendations (mandatory and optional elements)
- Constitute the basis for Implementing Rules
- Full implementation is not mandatory
- May contribute to further coherent development of SDIs of the Member States

## Implementing Rules

- Will reflect what can be achieved by the Member States in short (medium) term of time
- Will consist of a text of legal relevance and technical provisions expressed in natural language (when notation is necessary, it will be explained)
- Will be a specific subset of a data specification including mandatory elements of the application schema and other provisions explicitly requirements expressed in the specifications
- Implementation is mandatory within the period specified in the Directive
  - 2011 for newly collected or restructured Annex I data
  - 2016 for other Annex I data



# IRs – Proposed Structure








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# How to contribute to Annex II and III



**INSPIRE WP 2007-2009** “The specification development for the INSPIRE data themes shall be governed by the following basic principles:

- 1- Each data theme will be specified in one and only one designated Implementing rule, which may contain one or more data specifications,
- 2- To ensure compliance to the INSPIRE Generic Conceptual Model and overall consistency in specification development process applying the common, agreed methodology,
- 3- To involve the necessary domain expertise for each theme of the Annexes,
- 4- To analyse and take into account, when appropriate, the reference materials provided by the SDICs and LMOs and the CT,
- 5- To back specifications by agreed user requirements and cost-benefit aspects of implementation,
- 6- To use and benefit of the organisational structure already in place (SDICs, LMOs, DTs, CT, EIONET),
- 7- To guarantee a transparent and open process through reviews with the SDICs and LMOs



# How to contribute to Annex II and III



3 scenarios envisaged (INSPIRE WP 2007-2009)

**Scenario 1: Adoption procedure of candidate specifications.** When there are technical agreements or standards in a certain domain relevant to an INSPIRE theme, the community may propose them as draft data specifications for INSPIRE.

**Scenario 2: Specification development process shared by the INSPIRE stakeholders.** It is built on the voluntary contributions of the SDICs and LMOs that may offer their expertise in terms of reference material and experts.

**Scenario 3: Specification development process with involvement of experts.** It take place when the proposed contributions are insufficient or completely missing. In this case the Commission ensure that the draft data specifications are prepared by independent experts with relevant knowledge of the specific filed and the INSPIRE conceptual framework.



# How to contribute to Annex II and III



- Analyses of Annex I experience: best pull of high motivated Experts, cross-theme interaction and harmonisation
- Keeping the pillars for development of data specifications: transparency, consistency, stakeholders participation
- Investment on European projects related with data specifications for INSPIRE Themes: benefits for INSPIRE process and for project development



# What are the main tasks of a Thematic Working Group



- Analyse and meet all relevant user requirements
- Analyse the submitted reference materials
- Develop and document data specification according to the INSPIRE template
- Provide input in the registries
- Reply the comments in the comment resolution phase and incorporate the necessary changes in the specification
- Contribute to the Commission to draft the Implementing Rule



# How to contribute to Annex II and III



- Provide user requirements (description of application scenarios or use-cases)
  - By submitting reference materials
  - By answering the user requirement survey
- Provide reference material
  - Existing data specifications, standards, etc
- Participate in the data specification development
  - Leading a specific data theme (organized as Thematic Working Group)
  - Providing experts (facilitator, editor, thematic experts)
  - Testing
  - Data and information to the cost – benefit considerations
  - Providing comments during consultation period
- Propose candidate data specification / support to transform into the common INSPIRE data specification template
- **Short time action: fill in the table.....**



# Outline



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# Next steps and conclusions

- INSPIRE Annex II and III data themes
  - Lessons learned from Annex I
    - Open and transparent stakeholder involvement paramount for success of INSPIRE
    - Evaluate approach to collection of user requirements and use cases
    - Lower threshold for submission of candidate specifications
    - Use of resources, realistic timing
  - Process described in INSPIRE work programme 2007-2009 will be adjusted to take into account lessons learned and policy priorities
  - Timing of process Annex II and III depends on
    - The outcome of lessons learned from Annex I
    - Policy priorities
    - Interdependencies and logical sequence of themes (some themes might be built upon the results of others)
    - Availability of stakeholders and of projects
  - With stakeholder involvement anticipated to start in early 2009
- Workshop for EU-funded projects and initiatives relevant for Annex II and III on **2009-01-28** in Brussels





# Next steps and conclusions



- Highest involvement of key stakeholders through the Spatial Data Interest Community (SDIC) and Legally Mandated Organisations (LMO) concepts
- Are you involved in a network representing producers, transformers and users of spatial data that falls within the scope of INSPIRE?
  - Register as a Spatial Data Interest Community!
- Has your organisation a legal mandate for one or more aspects of INSPIRE?
  - Register as a Legally Mandated Organisation!

- Keep informed
- Review deliverables from the Drafting Teams and the Thematic Working Groups
- Propose experts
- Submit reference material
- Testing of draft specifications
- Organise ad-hoc meetings/teleconferences to detail further planning

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# Thank you!



## Welcome to the Global Spatial Data Infrastructure / INSPIRE Conference 2009 !

15-19 June 2009, World Trade Center, Rotterdam



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