



INSPIRE

Infrastructure for Spatial Information in Europe

INSPIRE Updated Action Plan and Terms of References (Preparatory Phase 2005 – 2006)

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1. Introduction and scope

This document is the updated Action Plan and Term of References for the Preparatory Phase (2005-2006) of the proposed Infrastructure for Spatial Information in Europe (INSPIRE) framework directive. It is an amendment of the initial INSPIRE Work Programme for the Preparatory Phase 2005-2006.

The initial work programme builds 1) on the INSPIRE proposal (<http://www.ec-gis.org/inspire/>), 2) on a first draft of the work programme prepared by a Task Force and discussed and commented during the 10th INSPIRE expert group meeting at Warsaw on the 22nd of June 2004, and 3) on the comments received from the INSPIRE expert group meeting in December 2004 on a revised version of the work programme. It was published in February 2005 on the INSPIRE web site (http://inspire.jrc.it/reports/rhd040705WP4A_v4.5.3_final-2.pdf).

The scope of this document is to refine activities and structures aiming to establish draft Implementing Rules for INSPIRE. The document also introduces some refinements in the Terms of Reference, which are the result of questions raised during the early activities in the various Drafting Teams. Clarification is given on a document versioning system and on a communication policy for the preparatory activities.

This document adds some refinements in the task descriptions, provided by each of the INSPIRE Drafting Teams, after having reviewed in more detail how the drafting of the Implementing Rules could be addressed within each team.

The intended readership includes the experts involved in the Drafting Teams as well as all the parties with an interest in the INSPIRE proposal.

The document is edited jointly by EUROSTAT, the Joint Research Centre (JRC), and the Directorate-General Environment (DG ENV).

The updated work programme document will be publicly available as a 'non-paper'. It does not represent an official position of the Commission, and as such can not be invoked in the context of legal procedures. In no way does it predetermine the decisions by Commission, Council or European Parliament with regard to the elements of INSPIRE and any proposal for amendment or changes during the Co-Decision Procedure. Hence, the document and the actions it refers to will be subject to periodic review as INSPIRE moves towards its final formulation in the Co-Decision Procedure.

2. Update on organisational structures and process for stakeholder participation

2.1 Organising the interaction with the Spatial Data Interest Communities

A generic procedure in a number of phases, co-ordinated by the Commission services and in regular consultation with the INSPIRE Expert Group, is adopted allowing for the participation of the Spatial Data Interest Communities in the drafting and review of the Implementing Rules (Fig. 1).

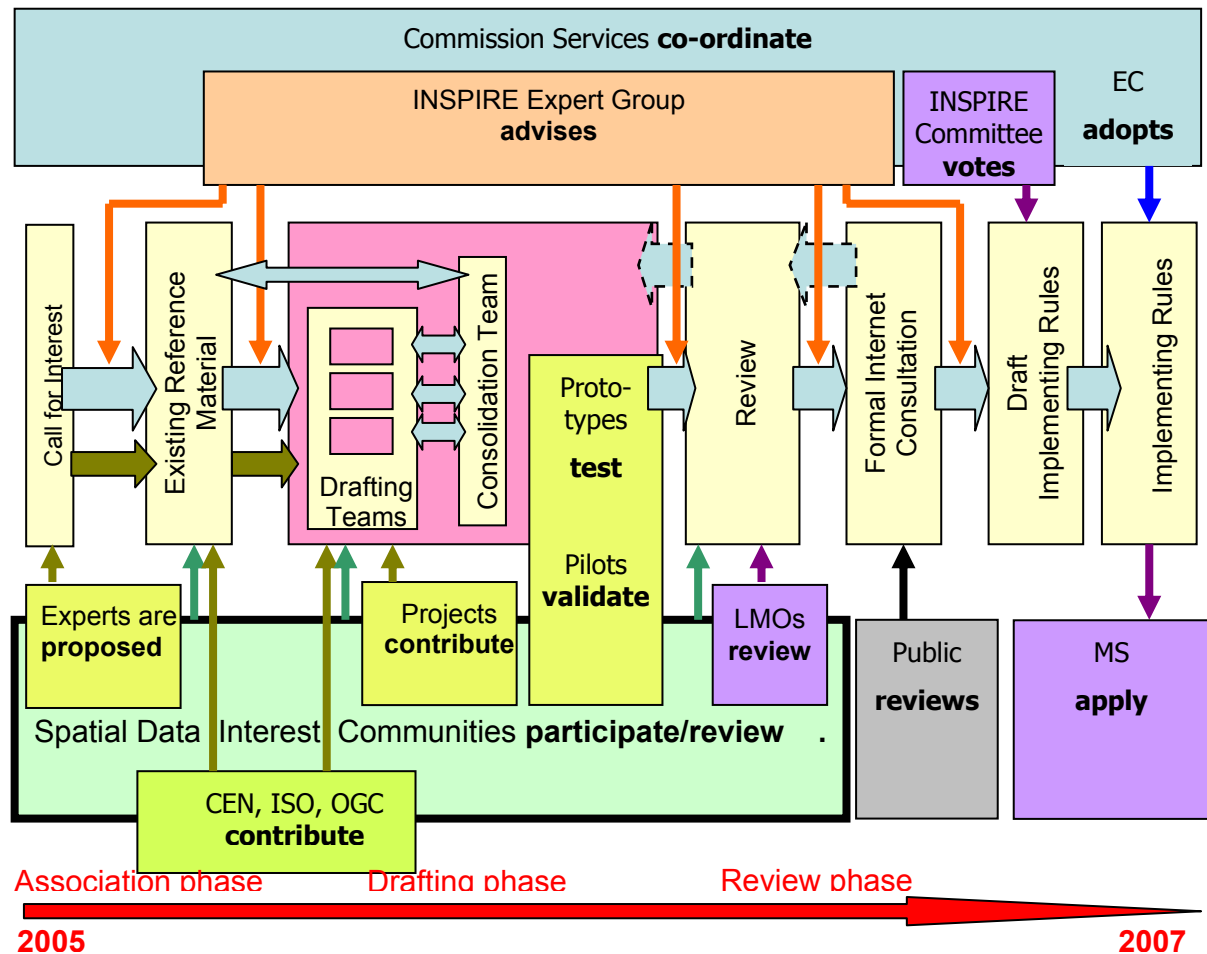


Fig. 1.

The generic procedure is constraint by the roadmap for adoption of Implementing Rules, while attempting to maximise the transparency and participation of the stakeholders. For the different Implementing Rules or their components specific procedures with their own milestones will be followed, always respecting the phases of the generic procedure.

The Association Phase is the phase in which the European Commission organised a *call for expression of interest to Spatial Data Interest Communities*. The Spatial Data Interest Communities have been invited to state their level of interest to the development process. Various options are open: allocation of experts to the drafting, submission of reference material as an input to the drafting, participation to the review process. On the basis of the inputs received, and in function of the INSPIRE requirements an organisational structure of technical and procedural Drafting Teams has been set up.

In addition, it is important to identify relevant research and development projects in an early stage to profit from existing work. For this purpose a specific *call for expression of interest for projects* has been launched as well.

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At the deadline for the first submission of experts' nominations, the following had registered on the INSPIRE website:

- Spatial Data Interest Communities (SDICs): 133
- Legally Mandate Organisations (LMOs): 82
- Proposed Experts (individuals): 180
- Referenced Materials: 90
- Identified Projects: 91

Referring to the 5 domains for which a Drafting Team should be composed, this yields the following result:

- Metadata: 67 experts proposed from 30 SDICs and 23 LMOs
- Data Specifications: 85 experts proposed from 39 SDICs and 25 LMOs
- Network Services: 61 experts proposed from 25 SDICs and 21 LMOs
- Data and Service Sharing: 58 experts proposed, from 27 SDICs and 20 LMOs
- Monitoring and Reporting: 42 experts proposed, from 20 SDICs and 9 LMOs

With these figures, the call for experts can be considered as a success in terms of both breadth and thematic diversity of the community of stakeholders, and the extent of support offered toward the implementation of INSPIRE in respect to human and technical expertise, reference material, and financial commitment to support the nominated experts. Capitalising on the extent of this support is enormously important for the success of INSPIRE.

Therefore, whilst it was necessary to select from the large number of experts proposed small teams able to work effectively in coming to early drafts of the implementing rules, it was also clear that all the SDICs and LMOs that had experts available should be closely involved in the development process. Hence some change to the initial concept of Drafting Team has been introduced by distinguishing core and support teams (cfr. chapter 8, ToR)

A Drafting Phase, in which Drafting Teams composed of a limited number (4 to 5) of selected, highly qualified experts from the Spatial Data Interest Communities, are preparing draft Implementing Rules under the co-ordination of the Commission services. The experts will benefit from the reference material received from the Spatial Data Interest Communities in the Association Phase. The activities and outputs of the Drafting Teams will be co-ordinated by the Commission through a Consolidation Team that interacts on a daily basis with Drafting Team representatives. The Consolidation Team will cross-check interdependencies between the draft Implementing Rules and assure the necessary co-ordination to maintain coherence.

Interaction with projects to provide further input and pilots for validation of the draft Implementing Rules is foreseen. International and national standardisation bodies, and similar organisations, will be closely associated.

A Review Phase, in which the produced draft Implementing Rules will be submitted firstly to those Spatial Data Interest Communities associated to the development process. The results of this review may lead to a number of iterations of the drafting and review cycle.

Following review by the Spatial Data Interest Communities the organisations which are legally mandated in the Member States to conduct Spatial Data Infrastructure activities, to which we will refer as Legally Mandated Organisations (LMO), are invited to verify the implications and impact of the draft Implementing Rules on their organisations and the feasibility of the implementation as an integrated part of their operational public tasks. Such may involve direct interaction at the level of legally mandated steering committees for national/regional SDI development initiatives to avoid duplication of efforts while ensuring compatibility of the various initiatives already in an early stage. Note however that the LMOs, through the nature of their activities should normally be part of the Spatial Data Interest Communities and therefore closely involved already in the Drafting Phase.

A Public Consultation Phase, allowing for a public review of the draft Implementing Rules, giving the opportunity to all stakeholders, not necessarily organised within one of the Spatial Data Interest

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Communities to express their views. In function of the result of the public review further fine-tuning of the draft Implementing Rules can be envisaged whereby an accelerated iteration of drafting and review phases is possible.

In case the participative approach as described above leads to conflicting interests between different SDICs, which would not get solved within the drafting and review process, it will be up to the Commission to propose a draft Implementing Rule. The Member States will then decide on the proposed draft Implementing Rule through their representation in the future INSPIRE Committee.

2.2 INSPIRE and GI standardization initiatives

The interoperable spatial data and spatial services envisaged by INSPIRE proposal are achieved by all stakeholders adopting and implementing common standards and specifications detailed or referenced in the Implementing Rules. The more the software industry supports these standards in its products, the easier it will be for those responsible for the implementation of INSPIRE to make systems in the Member States comply with the standards, thus improving the cost-effectiveness of the implementation of the Directive.

There are currently three consensus building organisations focusing on GI and GIS interoperability that have the industry's attention: the International Organization for Standardisation (ISO), dealing with GI in ISO/TC211; the European Committee for Standardisation (CEN) with TC287, working in close collaboration with ISO/TC211; and the Open Geospatial Consortium (OGC).

Members of the CT are collaborating with representatives of these organizations on organizational and technical aspects in order to maximize the benefit of standardization for INSPIRE and visa versa. In particular, a proposal for a pragmatic collaboration between INSPIRE, CEN/TC 287 and ISO/TC 211 has been made in response to letters from the chairs of ISO/TC 211 and CEN/TC 287. In parallel, discussions with OGC are on-going as to how OGC processes could be tuned in order to bootstrap interoperability in Europe.

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3. Action Plan 2004-2006

On the basis of the INSPIRE Roadmap, actions are needed with regard to the deliverables at the 2007 milestone.

1. Implementing Rules for the creation and up-dating of the metadata
2. Implementing Rules for network services
3. *Implementing Rules on third parties use of the upload services¹*
4. Implementing Rules for monitoring and reporting
5. Implementing Rules governing access and rights of use to spatial data sets and services for Community institutions and bodies

In addition actions linked to milestone deliverables in 2008-2009 should be launched.

6. *Implementing Rules for the use of spatial data sets and services by third parties, by 2009²*
7. Implementing Rules for harmonised spatial data specifications of Annex I and for the exchange of Annex I, II and III spatial data, by 2009

Some of the milestone deliverables are more technical in nature, whilst others refer more to the formulation of legal, organisational or procedural issues.

In order to meet the requirements, a Task Force of the INSPIRE Expert Group suggested that the action plan during the Preparatory Phase should deal with the following topics, linked to the above deliverables 1-7:

- metadata for spatial data and services(1)
- spatial data specifications and harmonisation (7)
- network services and interoperability (2)
- data and service sharing (3, 5 ,6)
- monitoring and reporting (4, 6)
- organisational structures and co-ordination
- Integration and Horizontal measures

The following sections define the objectives, definition and proposed milestones of each of the above activities. Depending on the results of the initial activities and the input from the SDICs, shifts of the proposed dates are possible.

In order to exclude potential ambiguity in the interpretation of terms, it is foreseen, where appropriate, to provide more precise definitions, terms or technical/procedural requirements as a very first deliverable before moving onwards to the activities as described in the action plan.

¹ Activity on deliverable 3 and 6 has temporarily been put on hold until clarification is available from the co-decision process

² The exact definition of deliverable 6 is to be reformulated in the light of the ongoing co-decision modifications proposed to the original Commission text

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3.1 Metadata for spatial data and services

3.1.1 Objectives

INSPIRE addresses two kinds of metadata: metadata for spatial services and metadata for spatial data. The objective of this activity is to draft the Implementation Rules that describe the content and the structure of Metadata for spatial data and to make them available for adoption by 2007. Metadata for the discovery of services will be also addressed here while more detailed descriptions of services will take place within the activity on "Network services and interoperability"³.

3.1.2 Scope

The following issues shall be addressed:

- Rules for the creation, maintenance and updating of metadata
- Multilingual issues in the creation and maintenance of metadata
- Certification, Quality, Accuracy for the described resources, (Multilingual) thesauri to be used as a *common vocabulary* for metadata content (e.g. GEMET, EuroDicAutom)
- Standards to be followed for publishing metadata

3.1.3 Process

The Drafting Team will define its own priorities in the development of the draft Implementing Rule, bearing in mind that the discovery of resources is a top priority for INSPIRE.

One of the first tasks is to provide a more detailed description of the requirements on metadata for INSPIRE data as a basis for common understanding.

The Drafting Team will propose an initial draft INSPIRE core metadata element set for discovery, based on the review of the reference material submitted by the SDICs and LMOs, standardization activities by ISO and CEN, and experiences of projects such as the EUROSTAT INSPIRE Pilot Project SDIGER which has tested and documented a proposed metadata element set based on ISO 19115. The test results and recommendations for the use of the draft metadata elements will be available early 2006, following which the Drafting Team will prepare a recommendation for the internal review process.

Subsequently the need for a set of profiles for different domains (e.g. related to thematic topics like soil, hydrology) must be addressed. This may or may not require specific extension rules for the INSPIRE core metadata element set.

In the meantime the Drafting Team will focus on the rules for extending the INSPIRE core metadata elements in compliance with the ISO standards. It is highly recommended that the draft rules for extending the INSPIRE core metadata elements to thematic areas be ready by the end of 2006.

Other related existing and emerging standards from ISO (including Dublin Core), OGC, CEN (including TC287 Geographic Information) will have an important input to the process.

³ When the Drafting Team (DT) Metadata and the DT Network Services are installed and organize themselves they could propose to move Metadata for Services to the DT Metadata.

3.1.4 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|--|-----------|--------------------|
| D 1.1 | Requirements for the Definition of the INSPIRE Implementing Rules for Metadata <i>General guidelines delivered in the pre kick-off meeting documents; can be elaborated on basis of DT discussion</i> | 9/2005 | CT |
| D 1.2 | Defining requirements for content and structure of metadata for spatial data based on a survey of existing initiatives, reference material and solutions <i>Reference material has been reviewed; results from a survey among SDICs and LMOs regarding metadata are expected shortly.</i> | 6/2006 | DT/CT ⁴ |
| D 1.3 | Draft Implementing Rules for discovery, use and evaluation metadata and rules for extending the INSPIRE metadata set for specific spatial data themes <i>For internal consultation</i> | 6/2006 | DT |
| D 1.4 | Final draft Implementing Rules for discovery, use and evaluation metadata for spatial data and rules for extending the INSPIRE metadata set for specific needs of spatial data themes. <i>Final version of D1.3</i> | 02/2007 | CT/DT |

3.1.5 Cross-Reference

- Relevant standards and specifications (Dublin Core, CEN, ISO, W3C, CDS, OGC ...)
- Link with INSPIRE activities on network services;
- Link with ORCHESTRA Integrated Project
- Link to the CEN TC287 Geographic Information, Working Group SDI.
- Relevant work on national and European levels
- Link with selected EC Projects
- Link with EUROSTAT INSPIRE Pilot SDIGER
- Link with the EU geo-portal.

⁴ Contribution of CEN/TC287 WG5 is acknowledged.

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3.2 Spatial data specifications and harmonisation

INSPIRE foresees the adoption of Implementing Rules covering harmonised spatial data specifications and data exchange at the latest by 2009 for Annex I and at the latest 2012 for Annex II and Annex III. It is however important to start their development as soon as possible. This is due to the required interaction with those actors in the Spatial Data Interest Communities which are already engaged in the development of spatial data specifications relevant to their activities and to meet timely environmental policy needs.

The spatial data of INSPIRE are categorised according to three separate annexes.

Annex I and Annex II themes are considered to provide the framework to which other thematic data sets are generally referenced and for which higher levels of harmonisation across administrative and juridical boundaries are needed. Establishing harmonised data specifications for these data themes is consequently a priority issue. The distinction between Annex I and II relates to the time horizon for delivery of the harmonised specifications.

The importance of deriving harmonised specifications for Annex III data, to make them at least geometrically coherent, should not be underestimated, as they are considered most relevant for environmental policies.

3.2.1 Objectives

The objectives of this activity are twofold: – to draft Implementing Rules for harmonised data specifications and for data exchange. According to the assumed adoption of the Directive in 2007, Annex I Implementing Rules shall be adopted by 2009 and Annex II/III by 2012.

3.2.2 Scope

The activity will address the following topics:

- Definition of the Generic Conceptual Model⁵ for the data themes in the INSPIRE Annexes including definition of:
 - Geometrical, topological and temporal representations
 - Spatial and temporal relations
 - Unique identifiers
 - Reference to common spatial and temporal reference systems as well as multilingual thesauri
- Guidelines on the use of the defined conceptual model and related methodology to develop spatial data specifications
- Generalization rules to treat different scales (including aggregation, disaggregation, simplification, ...)
- Encoding (to support exchange of spatial data)

The Generic Conceptual Model will act as the reference point for further data specification and harmonisation processes, and will provide a common baseline for the representation of the spatial, topological and temporal characteristics of the modelled real world entities. For instance, by providing a common way to represent basic geometric features it will ensure that geometrical combination of different data sets subsumed in the INSPIRE Annex themes becomes feasible. Comparable attempts

⁵ A conceptual data model is primarily created to scope the data requirements and then capture the business view of the data. No technical details regarding the data structure are introduced at this level. For the purposes of this work programme, the conceptual model shall deal with the generic aspects of geometry, topology, identifiers and relationships rather than the specific thematic attributes.

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and solutions can be seen in the feature model defined and referred to by the ISO 191xx standards, by the OGC specifications and by several national conceptual models. Thus the principal output of this activity will be a coherent framework for spatial data modelling which can subsequently be applied to the various Data Themes of the INSPIRE Annexes, plus draft Implementing Rules for the exchange of spatial data.

3.2.3 Process

The initial specification activities need to achieve a common understanding and definition about the level of harmonisation needed for the INSPIRE Annex data specifications, concerning scale, spatial and temporal relations, object classifications, etc. These definitions will clearly influence the subsequent specification working process.

The conceptual model development will take into consideration conceptual models adopted at National level and those developed in consensus building processes (e.g. Water Framework Directive, Land Cover, Soil, Geology, ...) and relevant European initiatives. A specific workshop on conceptual schema languages and tools was organised in the initial phase to have an overview of existing conceptual modelling approaches used by Member States to develop specifications. The recommendations of this workshop are taken into account in the drafting of the conceptual schema language to be used in data specifications.

The first two components mentioned under Annex I (co-ordinate reference system and geographical grid systems) are meant as a part of the conceptual model and will have to be treated as part of this conceptual model. This work can benefit in particular from previous agreements on a European Coordinate Reference System and European Reference Grid System.

Based on the first draft of the Conceptual Model its usability as a basis for further Annex I, Annex II and Annex III data themes will be tested by different pilot projects. The results of these will feed into the future development process.

Inputs will be derived from projects such as RISE, MOTIVE and others addressing data specification issues relevant to INSPIRE.

3.2.4 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|--|----------------------|-------------|
| D2.1 | Detailed Definitions on the INSPIRE Harmonised Data Specifications and Data Exchange <i>General guidelines delivered in the pre kick-off meeting documents; can be elaborated on basis of DT discussion</i> | | CT |
| D2.3 | Definition of Annex Themes and Scope <i>Will be based on existing reference material, especially position papers, summarizing the results in a single document; consider a way to diagrammatically visualize the themes</i> <i>This will be a standing document and updating will be an ongoing process through the application driven process (e.g. link to projects RISE, MOTIIVE, etc).</i> | 5/2006 | DT |
| D2.5 | First Draft Generic Conceptual Model <i>Will be based on internal discussion papers on specific issues e.g spatial schema profile, identifiers</i> | 7/2006 | DT |
| D2.6 | First Draft Methodologies for Specification Development | 11/2006 | DT |
| D2.7 | First Draft Implementing Rules for Data Exchange | 11/2006 | DT |
| D2.8 | Version 1 of Generic Conceptual Model | 10/2006 (D2.3+3m) | CT |
| D2.9 | Report on data harmonisation initiatives in Europe | 12/2006 | CT |
| D2.10 | Impact Assessment on Use of Conceptual Model as basis for Annex I Data Specifications | | LMO/SDIC/CT |

3.2.5 Cross-Reference

- Link with National data modelling and data re-engineering initiatives and other European related initiatives
- Link with CEN TC 287 WG 5 "SDI", ISO TC/211 and OGC
- Link with Projects (RISE, MOTIIVE, ORCHESTRA and others) through their possible participation in the DT.
- Link with INSPIRE Pilots (SDIGER, ...)

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3.3 Network services and interoperability

3.3.1 Objectives

The objectives of this task are to draft the Implementing Rules for Network Services and to develop the prototype of the EU Geo-portal.

3.3.2 Scope

This activity will define the functional and non functional requirements of the INSPIRE Network Services to support the following functionalities:

- Upload services (for metadata and spatial data)
- Discovery services
- Data view services
- Download services
- Transformation services
- “invoke spatial data services” services

The first task is to establish a common understanding and definition of functionality of the network services. In addition INSPIRE requires the network services to be accessible through a EU geo-portal, therefore the geo-portal software architecture shall enforce the inter-operability with the Member States network. In particular the following issues will be addressed:

- General architectural model
- Security (access to the service and data transfer) when applicable
- Multilingualism as requested by INSPIRE.
- Metadata for services⁶
- Compliance with services metadata and impact
- Technical architectures and protocols
- End-users' needs.

3.3.3 Process

The Drafting Team should be composed by IT experts with experiences in SDI development. The Drafting Team will have also the responsibility to link with the activities on metadata and on data specifications.

Inputs will be derived from projects such as ORCHESTRA, WIN, the Oxygen initiative of the European Space Agency, and others addressing architectural issues relevant to INSPIRE.

Existing and emerging open IT and geospatial standards from W3C, WS-I, OMG, OGC, ISO, OASIS, CEN will have an important input to the process.

The JRC will develop a first prototype for the EU Geo-portal that will be used to test the services specifications. The development of the EU Geo-portal will be done in close collaboration with National Portal developments and with some selected European Thematic Services such as those available in the EEA.

In addition the development of the services specifications and the geo-portal prototype will be accompanied by pilot implementations proving the applicability of the specifications

⁶ When installed the DT Metadata and the DT Network Services will organize themselves and could propose to move assign Metadata for Services to the DT Metadata.

3.3.4 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|--|-----------|-------|
| D 3.1 | Network service definition: Clarification of scope | | DT |
| | - Part 1: Reference model, View services, Discovery services, Upload services | 6/2006 | |
| | - Part 2: Download services, Transformation services, Invoke service" services | 9/2006 | |
| D 3.2 | Reference Material analysis | 7/2006 | DT |
| D 3.3 | Interface specifications for Network Services | 9/2006 | DT |
| D 3.4 | Test plan | 9/2006 | DT |
| D 3.5 | Draft Implementing Rules v 0.x | 10/2006 | DT |
| D 3.6 | Tests n°1 and report test results | 11/2006 | DT |
| D 3.7 | Draft Implementing Rules v 1.0 | 12/2006 | DT |
| D 3.8 | Tests n°2 and report test results | 01/2007 | DT |
| D 3.9 | Draft Implementing Rules for reviewing by SDIC/LMO | 3/2007 | DT/CT |

3.3.5 Cross-Reference

- Link with international bodies and National standardisation initiatives (when relevant)
- Link with selected EC and ESA Projects
- Link with INSPIRE pilots
- Link with International, National, Regional and corporate SDIs.

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3.4 Data and Service Sharing

3.4.1 Objective

The action has three objectives:

- to develop draft data-sharing Implementing Rules governing access and rights of use to spatial data sets and services for Community institutions and bodies available for adoption by 2007.
- *to draft Implementing Rules governing third party access to upload services by 2007.*⁷
- *to draft Implementing Rules increasing the potential re-use of spatial data sets and services by third parties by 2009.*⁸

3.4.2 Scope

This activity will address and report on issues such as:

- Requirements of Community institutions and bodies, requirements of third parties
- Current types of rights, such as rights of ownership, rights of use, copyright
- Types of access, such as retaining, sharing and trading
- Types of use, such as discover, view, download
- Current best practices and models for data policies

3.4.3 Process

This action will determine the requirements for access and use of spatial data sets and services for Community institutions and bodies, including bodies established by international agreement to which the Community or Member States are party – in relation to the performance of tasks that may have a direct or indirect impact on the environment. It will be necessary to establish the current status, also as a baseline for further monitoring, and to formulate recommendations for the drafting of the Implementing Rule.

This action will determine the requirements on third parties wishing to link their spatial data sets and services in the European spatial data infrastructure. This shall be underpinned by an assessment of the current situation and the documentation of a series of “best practice” examples, including successful public-private partnerships and business models on the basis of which recommendation will be formulated for the drafting on the Implementing Rule.

Drafting teams, composed of experts from Community bodies⁹, international bodies, Member State organisations, European Umbrella organisations, and third parties will analyse the requirements and current situation and assess coherence with legislation and practice in the fields of data protection, freedom of information, human rights, re-use of public sector information and the Aarhus Convention. Reference material collected in the Association Phase and related documentation will serve as input.

This includes the following:

- The INSPIRE Data Policy and Legal Issues position paper;
- The PSI Directive and the GMES Data Policy Assessment (DPAG);

⁷ Activity related to upload services has temporarily been put on hold until clarification is available from the co-decision process

⁸ The exact definition of the third objective is to be reformulated in the light of the ongoing co-decision modifications proposed to the original Commission text

⁹ i.e. bodies operating at Community level

- Existing data policies in Member States and agreements of international bodies to which the Community or Member States are party and umbrella organisations.

3.4.4 Proposed breakdown and milestones

| Deliverable | Title | Milestone ¹⁰ | Who |
|---------------------------|---|-------------------------|--------------|
| D 4.1 | Report on status and requirements for access and rights of use of spatial data sets and services for Community institutions and bodies – including bodies established by international agreement to which the Community or Member States are party. | 12/2006 | CT |
| D 4.2 | Clarification of terminology related to rights on spatial data and services | 2/2007 | DT |
| | Collect, analyse and review best practice examples for sharing frameworks | 3/2007 | DT |
| | Create models for sharing frameworks | 4/2007 | DT |
| D 4.3 | Review and evaluation of the models | 5/2007 | DT |
| D 4.4 | Draft data-sharing Implementing Rules governing access and rights of use of spatial data sets and services for Community institutions and bodies | 6/2007 | DT/CT |
| <i>D 4.5¹¹</i> | <i>Report on status and requirements of third parties on access to upload services.</i> | <i>9/2007</i> | <i>DT</i> |
| <i>D 4.6</i> | <i>Draft Implementing Rules on third party access to upload services</i> | <i>3/2008</i> | <i>DT/CT</i> |
| <i>D 4.7¹²</i> | <i>Report on the status and on the requirements of third parties for re-use of spatial data sets and services.</i> | <i>12/2008</i> | <i>DT</i> |
| D 4.8 | Report with overview of current best practices and models for data policies | 12/2008 | DT |

3.4.5 Cross-Reference

- Link with PSI Directive
- Link with requirements of environmental legislation and international conventions (Kyoto ...)
- Link with Community bodies (agencies at Community level such as EEA, ...)
- Link with GMES

¹⁰ Exact timing still to be confirmed

¹¹ Activity related to deliverables 4.5 and 4.6 has temporarily been put on hold until clarification is available from the co-decision process

¹² The exact definition of deliverable 4.7 is to be reformulated in the light of the ongoing co-decision modifications proposed to the original Commission text.

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- Link with European Associations (EuroGeographics¹³, Eurogi¹⁴, Eumetnet¹⁵, EuroGeosurveys¹⁶, ...)
- Link to e-government
- Link with GEO (GEOSS)

¹³ EuroGeographics represents nearly all European National Mapping and Cadastral Agencies

¹⁴ EUROGI has 25 members - 22 national GI associations and 3 pan-European GI associations

¹⁵ EUMETNET is a network grouping 19 European National Meteorological Services.

¹⁶ EuroGeosurveys is the association of the Geological Surveys of the European Union

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3.5 Monitoring and reporting

3.5.1 Objective

The objective is to draft Implementing Rules for reporting and monitoring by 2007.

3.5.2 Scope

The activity is to propose the mechanisms, methodology and indicators by which:

- a continuous monitoring of the implementation progress is measurable with respect to the targets set out by INSPIRE,
- a three yearly report to the Commission is provided to describe the approach applied by the Member States to translate the requirements set out by INSPIRE into concrete measures and describe the developments of its SDI,
- collected indicators are validated and transferred to the Commission, as well as being made accessible to the public through appropriate information channels.

The indicators should be derivable as much as possible from the applications and services that are set up, in order to facilitate a continuous monitoring process with marginal overhead.

This activity on reporting addresses:

- what organisational structure is applied to build up and maintain the relevant SDI components,
- how quality assurance is organised,
- an overview of contributions from the public authorities during the past 3 years,
- data on the actual usage of the SDI, including evolution on cross-border effects,
- what progress has been made in data-sharing and third party licensing agreements,
- figures on tangible costs and benefits in relation to the implementation of INSPIRE.

The activity will further address an implementation schema of the monitoring and reporting process.

3.5.3 Process

An analysis of existing monitoring and reporting activities, starting from the State of Play¹⁷ study, and reference documents such as The Lithuanian SDI monitoring, The French 2002 law on monitoring for result based budgeting, etc., will serve to identify possibilities for automated indicator collection and will assess the relevance of some indicators in terms of distance to target. On this basis, INSPIRE related series of indicators and monitoring mechanisms will be drafted and an implementation schema proposed. It is important to focus on various aspects of costs and benefits related to a better sharing of spatial data and services across themes within a region or MS, but also including cross border effects.

For Reporting the DT proposes to develop a template facilitating a harmonised approach throughout the MS.

¹⁷ Spatial Data Infrastructures in Europe: State of Play, Spring 2003
 Spatial Data Infrastructures in Europe: State of Play, Spring 2004

3.5.4 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|---|-----------|-------|
| D 5.1. | Analysis of reference material | 11/2005 | DT |
| | Methodological framework and guidelines: typical measurements of performance for various services | 1/2006 | DT |
| D 5.2 | List of monitoring indicators | 6/2006 | DT |
| D 5.3 | Clarification and review of indicators | 9/2006 | DT |
| D 5.4 | Draft Implementing Rule 0.1 for Monitoring | 10/2006 | DT |
| D 5.5 | Draft Implementing Rule 0.1 for Reporting | 10//2006 | DT |
| D 5.6 | Reviewed draft IR for Monitoring and for Reporting 1.0 | Q1/2007 | DT/CT |

3.5.5 Cross-Reference

- Other environmental monitoring and reporting obligations such as: Directive 91/692/EEC¹⁸.

¹⁸ This directive provides for the harmonisation of sector reports on the implementation of 27 directives in the air, water and waste sectors.

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3.6 Organisational structures and co-ordination of INSPIRE

3.6.1 Objectives

The primary purpose of this activity is to define the organisational structure that should be in place when INSPIRE will enter into force (from the Transposition Phase onwards), and to define roles and responsibilities of the components of the proposed organisational structure.

3.6.2 Scope

This document will define the minimum necessary components of an organisational structure taking into account:

- strategic (policy) developments at Commission level,
- co-ordination tasks at Community level (e.g. COGI), at national level and at thematic EU level,
- operational support,
- technical development and technological evolution including progressive standardisation,
- link with relevant international initiatives (e.g. GMES, GALILEO, GEO-GEOSS, GSDI, Digital Earth, Global Map, ISPRS...),
- experiences gained during the Preparatory Phase on EU level and in the Member States.

It will provide a clear definition of links and responsibilities between the various components proposed.

It will also elaborate on the roles of the Commission services involved in the process.

3.6.3 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|--|-----------|-----|
| D 6.1 | 1 st draft proposal for Organisational structures, roles and responsibilities | 9/2006 | CT |
| D 6.2 | Final Organisational structures, roles and responsibilities (including formal link with international initiatives) | 12/2006 | CT |

3.6.4 Process

The organisational structure of the European Spatial Data Infrastructure has been subject to in-depth considerations by the INSPIRE expert group and dedicated working groups. The INSPIRE proposal envisages that the European Commission, in collaboration with the European Environment Agency has a co-ordinating role, while Member States shall identify a single body to interact with the Commission in the Comitology Procedure.

As the growing acceptance of INSPIRE is stimulating the creation of several National and Regional Spatial Data Infrastructure initiatives, it will be necessary to involve them through a dedicated Task Force which will work out and refine the organisational structure before the end of 2006.

3.6.5 Cross-Reference

- Generic rules for Committees related to Directives
- eGovernment
- National SDIs lessons learnt

3.7 Integration and Horizontal measures

3.7.1 Objective

The primary purpose of this activity is to ensure an overall co-ordinated progress across the different areas of work.

This activity shall also identify a set of horizontal measures to support the draft Implementing Rules development process, including for example:

- Temporary management and overall co-ordination of activities
- Continuously broadening the scope for involvement and feedback on preparatory activities
- Awareness raising
- Issues related to migration from existing systems towards INSPIRE compliance
- Capacity building and change of management practices

In addition this activity should monitor new projects and inform them of INSPIRE (bilateral), with the aim to synchronise development.

3.7.2 Scope

This activity will:

- Cross-check interdependencies in the draft Implementing Rules
- Broaden the involvement and feedback
- Ensure a transparent and broad communication (CIRCA, website, publications, discussion forum...)
- Support to education and training initiatives related to INSPIRE
- FAQ concerning INSPIRE, to support awareness raising
- Design template checklists for convergence or divergence with INSPIRE.
- Guidelines for INSPIRE compliance

3.7.3 Proposed breakdown and milestones

| Deliverable | Title | Milestone | Who |
|-------------|-----------------------------------|--------------|-----|
| D 7.1 | Cross-check interdependencies | continuously | CT |
| D 7.2 | FAQ on INSPIRE for policy makers | 9/2006 | CT |
| D 7.3 | Guidelines on migration issues | 6/2007 | CT |
| D 7.4 | Guidelines for INSPIRE compliance | 6/2007 | CT |

3.7.4 Process

This task is part of the Commission tasks on co-ordination with input from Member States through the INSPIRE Expert Group.

A close collaboration between DG-ENV, ESTAT and JRC is foreseen. Basically DG-ENV will take the lead for the legislative process. JRC will be responsible for the co-ordination of technical issues, whereas ESTAT will be responsible for procedural and implementation preparation issues.

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During the Preparatory Phase JRC and ESTAT will support the preparatory work as part of their work programme.

JRC has defined a specific unit titled Spatial Data Infrastructures (SDI)¹⁹ whereas ESTAT plans to prepare the operational framework for the INSPIRE initiative.

3.7.5 Cross-Reference

- Link with relevant European, National, Regional initiatives
- Link with previous activities to ensure coherence
- Link with European Associations initiatives (Eurogi, AGILE, CLGE, ...)

¹⁹ http://projects.jrc.cec.eu.int/show.gx?Object.object_id=PROJECTS000000000001AD63

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4. Terms of Reference

Chapter 6 of the initial work programme describes the organizational structure and the process proposed to prepare the draft Implementing Rules. Openness and transparency of the process proves to be a continuous challenge. Not only should this preparatory process be reactive to expression of interest but pro-active in soliciting organisations and groups with relevant experience and a mix of background (central and local government, academia, private sector, national GI associations, and environmental NGOs etc.) to come forward. This can yield a broader pool from which to select expertise, which will help to ensure the necessary openness and transparency.

The organizational model includes existing structures and new components created by INSPIRE to support the development of the Implementing Rules, in addition to the existing INSPIRE Expert Group created in 2001.

A call for expression of interest for SDICs and for projects has been organized to ensure optimal stakeholder participation. Terms of reference for each of the components which will participate in the process are required in order to ensure a correct understanding of the resources needed as well as the expectations to be met to yield the draft Implementing Rules.

Referring to the INSPIRE principles, it shall be a prerequisite for all the stakeholders involved, to alert of any attempt which might be made by various hardware, software or service vendors to embed unique technologies into the INSPIRE draft Implementing Rules, which may be hampering the objectives of INSPIRE by introducing new dependencies (e.g. patents).

During the Preparatory Phase Community funding from the operational and research budgets will support the following activities:

- ESTAT, JRC, DG-ENV operational budgets:
 - Organisation of co-ordination meetings:
 - INSPIRE Expert Group meetings (DG-ENV)
 - Consolidation Team meetings (ESTAT – JRC)
 - Co-ordination meetings (ESTAT – JRC)
 - Thematic workshops (ESTAT – JRC)
 - INSPIRE pilots and prototypes (ESTAT-JRC)
 - Perform the JRC-ESDI action (JRC)
- 6th RTD Framework programme (DG RTD, DG ENTR, DG INFSO)
 - GMES related projects (including ESA support)
 - INSPIRE data harmonisation project
- eContent Plus programme (DG INFSO)

In the Preparatory Phase the same approach previously applied to the drafting of the orientation and position papers will be pursued, i.e. participation on a voluntary basis, with funding limited to travel expenses for a limited number of physical meetings.

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4.1 Spatial Data Interest Community terms of reference

4.1.1 Mandate

The mandate of a SDIC can be one or more of the following:

- to collect and describe user requirements (in its field of competence),
 - Identify and describe user requirements primarily in line with environmental policy as identified within the SDIC's membership
- to submit/develop reference materials as an input to the Drafting Teams (DT),
 - Provide reference material to Consolidation Team (CT);
 - Provide further input to CT may that be required;
 - Create in collaboration with the CT and DTs new working groups under CT request to support the DT's work;
 - Develop new reference materials through existing or new working groups.
- to allocate experts to the Drafting Teams,
 - Identify experts within the SDIC to be nominated for the Drafting Teams
 - Submit the CV and details of the expert as described in the Call for Expression of Interest for SDICs
- to participate in the review process,
 - Coordinate the SDIC's reviewing of a DT's "intermediate" deliverable or a draft Implementing Rule delivered by the CT
 - Send the results of the review to the CT
- to implement pilot projects to test/revise/develop the draft Implementing Rules,
 - Identify and propose to the CT existing projects liaised to the SDIC that are willing to support the CT and DTs by testing and evaluating deliverables.
 - In cooperation with the CT, identify the need for and propose new projects in order to develop new specifications from scratch if required.
 - Compile feasibility, evaluation, and impact analysis reports.
- to make cost/benefit analysis of the draft Implementing Rules,
 - On the basis of on going projects or running operational activities provide input for the cost/ benefit analysis of the draft Implementing Rules,
- to contribute to awareness raising and training,
 - Create awareness among SDIC's members
 - Develop initiatives for guidance, awareness raising and training in relation with the INSPIRE implementation.
- to be kept informed.
 - Internal (members, WGs) and external (with DTs, CT) communication

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4.1.2 Set-up and composition

4.1.2.1 Characteristics of a SDIC

The development of the INSPIRE Implementing Rules requires the participation of stakeholders. INSPIRE Implementing Rules should satisfy the needs of many different uses of spatial data in applications where typically several different types of spatial data are combined. Each Spatial Data Interest Community will therefore have its role to play in the collaborative framework leading to these rules.

Typically, SDICs have the following characteristics:

- they bundle the human expertise of users, producers and value-adders of spatial information, as well as technical competence, financial resources and policies. An SDIC is therefore not a single organisation, it groups many stakeholders, yet, it can be represented in the context of INSPIRE, by a lead entity.
- they can be organised by region, thematic issue or sector (industry), or a combination thereof.
- they have an interest to better use their resources for spatial data management and the development and operation of spatial information services.
- through their activities, they drive the demand for spatial data and spatial information services.

A SDIC considered relevant for INSPIRE:

- Shares common interests among its members in relation to the INSPIRE Proposal. Examples of those interests are:
 - Environmental Policy implementation, monitoring and development
 - Data themes (INSPIRE annexes I, II and III)
 - Legal and procedural issues (data policy, monitoring, ...)
 - Spatial information services
 - Sectors in society (public services, private sector, research institutions...)
 - Role in the processing chain (legal mandates, users, providers, umbrella ...)
 - Status and approach in the Member States SDI development
 - Geographic extent / authority level (EU-25, national, regional...)
 - Research
- Has an interest in being involved in the development of the Implementing Rules and is willing to provide an in-kind contribution to the development of those rules during the INSPIRE Preparation Phase.
- Is open to associate new members, users or providers, which are not initially part of the SDIC.

4.1.2.2 SDIC registration process

Groups of organisations, consortia, or people that want to be recognized as an INSPIRE SDIC have organized themselves and made themselves known to the Commission by following the instructions in the Call for expression of Interest for SDICs, providing identification information, the area of work, and the proposed role in the INSPIRE Implementing Rules development process. For example, a proposed SDIC can contribute to the draft Implementing Rules for Data Specifications, by Reviewing and Testing and evaluating the technical deliverables.

The registration of a SDIC formalises its participation in the process.

The proposal for SDIC should contain:

- SDIC identification;
- Area of work/experience;
- Potential role in the INSPIRE development process.

Details are available in the Terms of Reference of the Call for Expressions of Interest to SDICs.

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The Commission, with advice of the INSPIRE Expert Group, evaluates proposals for SDICs using the above mentioned characteristics and will compose and maintain the directory of INSPIRE participating SDICs. The registration of SDICs remains open for newly created SDICs, or SDICs who want to join the development process in a later stage. Nevertheless early registration is encouraged in order to have an as broad as possible feedback on the Implementing Rules development process.

The Commission makes this list of recognized SDICs publicly available through the INSPIRE website.

The SDIC are requested to state the level of interest in the development process of the draft Implementing Rules, which can be one or more of the following:

- to describe user requirements related to Environmental policies,
- to submit/develop reference material as an input to the drafting,
- to allocate experts to the Drafting Teams,
- to participate in the review process,
- to implement pilot projects using resources available within an SDIC,
- to contribute to awareness raising and training
- to be kept informed

4.1.3 Working methods

In principle, the CT is in charge of the communication with all participating SDICs. In a second stage, the communication regarding the specific aspects a DT is addressing can be established directly between a SDIC and a DT.

Any reference material that the SDIC wants to make available to the DTs' work shall be submitted to the CT by the SDIC. The term *reference material* relates to information, documents (in particular technical standards and specifications, user requirements, testing results, ...) or software programme that support the DTs in reaching their goal. Reference material is expected to be in the public domain. It is understood that provided material will be used only for the purpose of drafting the INSPIRE Implementing Rules.

If experts from the SDIC are allocated to a DT, the SDIC shall provide any reasonable support to the experts. This should enable them to contribute not only from their personal knowledge and experience, but also on behalf and for the benefit of the SDIC they belong to. The SDIC may appoint separate contact persons for the topics addressed by the DTs.

In case reference material is not fully adequate, the CT could ask existing working groups within a SDIC to further develop the material for the DT. SDICs can decide to set-up ad-hoc working groups to address aspects not already covered by an existing working group.

If a SDIC expressed an interest in participating in the review process, it will be requested to comment on various intermediate deliverables.

The SDIC contact persons are requested to regularly update the information provided in the initial proposal.

4.1.4 Resources

The contribution of experts by SDICs and SDIC's member is in-kind.

Funding resources from the Commission will be available to cover limited participation to co-ordination meetings (e.g. kick-off workshop).

4.2 Drafting Teams' terms of reference

4.2.1 Mandate

- 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; the scope will be determined by one of the areas for which Implementing Rules are required;
- To provide recommendations to the Consolidation Team in case of conflicting technical specifications or issues;
- To provide suggestions to the Consolidation Team regarding the testing of any proposed technical specifications.
- To identify issues which cannot be addressed within the DT

A Drafting Team is not expected to be involved in the following:

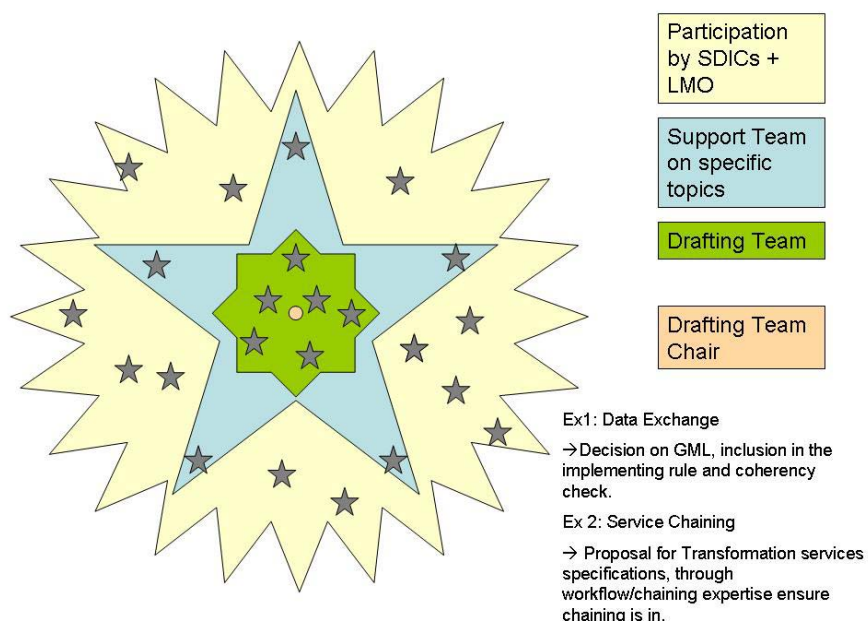
- Procedural aspects towards an approved Implementing Rule
- Developing of new specifications
- Resolving conflicts
- Maintenance of the specifications beyond the Preparatory Phase

4.2.2 Set-up and composition

A Drafting Team is installed by the European Commission.

For a better efficiency in drafting, in principle a Drafting Team should consist of a small number of experts, (typically 4 to 5). However, with the results of the initial call for expression of interest, it became clear that all SDICs and Legally Mandated Organisations (LMOs) should be closely involved in the development process. Therefore the idea of dual component Drafting Team was introduced:

- A small Core Team of editors for reviewing the material available and producing early drafts of the Implementing Rules
- A small group of additional experts whom the core team can call upon for specific areas of expertise during the reviewing, drafting or commenting stages, which is called Support Team.
- On top, a small cross-cutting group of experts, concentrating on the interface between data specifications, metadata, and network services can help ensuring the overall technical consistency of the Implementing Rules.



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The experts are selected from those proposed by SDICs, by Legally Mandated Organisations (LMOs), by the INSPIRE Expert Group, and others. Those experts participating in the INSPIRE expert group, should not participate in a Drafting Team. The initial selection of experts is done by the European Commission, with the advice of the INSPIRE Expert Group. More precisely DG JRC will select Drafting Teams focusing on technical aspects with advice from DG Eurostat, DG ENV and the INSPIRE expert group. DG Eurostat will select Drafting Teams focusing on organizational, legal, and policy aspects with advice of DG JRC, DG ENV and the INSPIRE Expert Group. In particular cases (for instance extreme urgency, or particularly sensitive issues) the European Commission may appoint or dismiss experts.

Any vacancies in the Drafting Team shall be filled by using the selection procedure described in the previous paragraph, but including a prior advice by the DT.

In cooperation with the members of the Drafting Team and the Consolidation Team, a chair will be appointed.

The chair appoints a co-chair who replaces him or her whenever needed.

4.2.3 Working methods

Initial reference material and guidelines to the DT are directly provided by the Consolidation Team. Based on its scope and available reference materials, the DT shall, in collaboration with the Consolidation Team, define its precise agenda and action plan.

For the drafting process of the Implementing Rules, two scenarios are foreseen:

1. A SDIC is providing or could provide reference material to start the process of drafting
2. No material is available or only pieces scattered among many SDICs.

In the first case there are two possibilities:

1. The reference material is mature and satisfies the INSPIRE requirements. Then the DT is only required to make a peer review or fine tuning with only limited interactions with the SDIC.
2. The reference material is under development or could be developed by a specific working group inside a SDIC. In this case the DT will wait until the results are made available²⁰.

In the second case, the CT in collaboration with the DT will facilitate the creation of a new working group that is needed to develop the missing material. The working group could be established within an existing SDIC or be a temporary independent association funded through a specific project.

These scenarios (fig. 2) will influence the way in which a DT organizes itself. The CT shall facilitate the DT in establishing direct relationships with SDICs and in particular with their existing working groups (developing the reference material).

²⁰ It is implicit that the foreseen development should be compatible with the INSPIRE calendar.

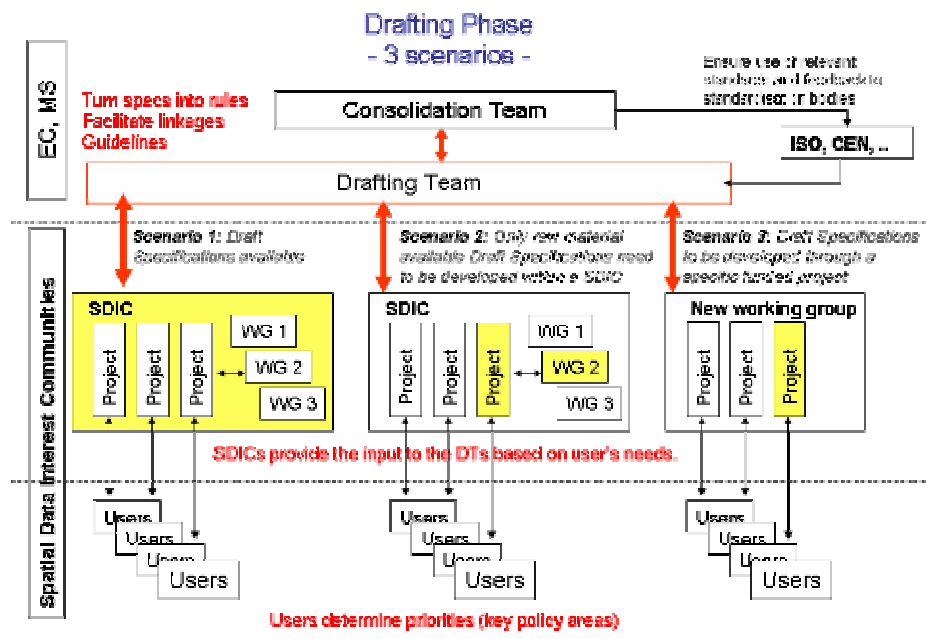


Fig. 2

Example of working group

A wg may be charged with a specific theme of the INSPIRE annexes regarding data specification (e.g. meteorology, geology...) or a specific service in the context of network services (e.g. catalog services).

The chair of the DT is requested to regularly attend the co-ordination meetings between the Consolidation Team and the Drafting Teams.

Any link with other DTs shall be made by way of the CT.

A DT shall use existing materials which are compiled and edited into the draft Implementing Rule. A DT will work primarily with input from the Consolidation Team (CT) and contributing SDICs – this ensures the continued participation and contribution of SDICs. Any input shall be a matter of public record.

The DT must identify and communicate to the CT any issues that cannot be addressed within the DT in order to enable the CT to search for alternative solutions.

The DT's working language shall be English. It is expected that essential input from SDICs shall be made available in English if requested.

Meetings and Communication

- Most of the DT's work can be done with the DT members working from within their own organizations, intensively using telecommunication tools.
- A kick-off workshop with all DT leaders has taken place in October 2005 to officially start the activities of the various DTs.
- Each DT had its own internal kick-off workshop with its members to start the work.
- The DT shall have physical meetings with DT members or workshops whenever required.
- The DT leaders shall have regular physical meetings at CT level. In case a DT chairperson cannot participate to a DT-CT coordination meeting, one co- or vice-chair is invited to replace the chair at ad hoc basis.
- The European Commission makes an intranet collaboration tool available to the DT.
- Interface meetings can be set up on an ad hoc basis between DTs in order to discuss and elaborate cross-DT issues.

Reporting requirements

Reporting shall be done on a regular basis according to standard templates made available by the CT:

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- Internally within the Drafting Team – for monitoring the DT's own activities; should be accessible by the CT;
- To the Consolidation Team – following deliverables agreed upon between the DT and the CT;
- Reporting to all SDICs – regularly by way of the CT;
- Public reporting – through the INSPIRE channels in collaboration with the CT

All material used in the draft Implementing Rules shall be properly referenced.

All intermediate and final deliverables will be subject to two iterative review phases: a) internal review by CT, SDICs, LMOs; and b) public consultation. The CT coordinates all reviews and collects the responses; depending on the steps within the review either DT or CT is responsible for incorporating comments, as explained in detail in section 4.3.3.

The DT is required to account for all input received (including comments) and to show how input reference material has been included or excluded. This is to ensure that all input material has been considered in a comprehensive and rigorous manner, and that decisions can be traced back.

On request of the DT to the CT, intermediate documents which are considered important for the further development towards the deliverables can be submitted by the CT to SDICs and LMOs for comments.

The CT will be responsible for making output of the DTs publicly available.

Testing

Testing of draft Implementing Rules can be done at two levels: within the DT through the associated linked Working Group, and by the CT.

The DT can recommend the CT to start the testing of draft specifications. Any testing of draft specifications in Pilot or Prototype projects shall be coordinated by the Consolidation Team. Test results will be evaluated in the CT and therefore be made available to all DTs.

Testing of draft specifications is required for:

- Proof of concept (i.e., there is physical evidence that proposed specifications can be implemented), feasibility, show that it works!
- Interoperability with other draft specifications (the test-bed concept)
- Performance
- Cost/benefit of implementation
- Feasibility studies that Legally Mandated Organizations (LMOs) may require.

Reviewing

The DT can request the CT to start a review process that is appropriate for the maturity of the technical specifications. The CT will coordinate the review process and deliver the comments back to the DT, according to a review cycle as specified under the ToR for the CT.

Intermediate documents

Any intermediate document in preparation of a draft Implementing Rule shall be analysed carefully by all DT members using their expertise in the field. Secondly, the DT members are requested to analyse the document using the point of view of the SDIC/LMO they represent. In case the DT agrees upon the need to consult SDICs/LMOs at an intermediate level, it can address a request to the CT to make an intermediate document available for consultation on the INSPIRE website. The purpose of the consultation is to provide comments or to answer specific questions which are considered essential to further develop the IR. In that sense, there is a clear distinction between an orientational consultation on intermediate documents or questions and an actual review of draft IRs. Intermediate consultation can also be related to a better understanding of the user requirements in specific fields. Intermediate consultation will be open to all registered SDICs/LMOs.

Final deliverable

The final deliverable of a DT can be called a draft Implementing Rule if it is:

- Based on input provided by SDICs;
- Agreed within the DT;

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- Tested;
- Reviewed and, if necessary, revised;
- Supported by the relevant SDICs;
- Approved by the CT.

4.2.4 Closure of the Drafting Team

The Drafting Team will be disbanded after it has delivered the draft Implementing Rule.

Given the context in which a Drafting Team operates, it is a matter of principle that the lifetime of a DT will not exceed that of INSPIRE's Preparatory Phase.

The Consolidation Team may decide to make a Drafting Team dormant when the draft Implementing Rule has been delivered.

4.2.5 Resources

Similar to the working groups which drafted the INSPIRE orientation and position papers, participation in Drafting Teams will be done on a voluntary basis. Funding resources from the Commission will be available to cover participation to co-ordination meetings with the CT.

4.2.6 Criteria for the selection of experts

SDICs, LMOs, the INSPIRE Expert Group and other organisations have been requested to propose experts for the Drafting Teams. Nominations need to be accompanied by the expert's contact information, the precise area of expertise, and a short (300 words max) and long curriculum vitae, along with the preference for the DT to which the expert wishes to contribute and a realistic commitment on his or her availability. This availability should be expressed both in terms of person days and in terms of the time window in which he or she can contribute to the DT.

The curriculum vitae and other information that the selection panel may have about the candidate will be used to see to which extent the candidate matches a set of general and specific criteria according to the following process:

- Independent review of all the material submitted by each expert (short and Long CV whenever available) by an EC selection panel.
- Long Short-List of possible candidates with indication of their core competence and value adding to the specific Drafting Team, thematic expertise, background (public, private, and academic sectors), extent of availability, degree of support by SDIC and or LMO, and perspective (mainly data user, producer, or value adding).
- Short list of candidates considering potential overlap between Core Drafting Teams, balance between thematic expertise, background and perspectives, extent and degree of support, and geographical spread.

The generic and specific criteria used in this process are listed in the tables below. Eventually a balance should be ensured between experts from Public Administration, Private sector, Research institutions.

Table I: Generic criteria for the selection of experts.

| Type | Criterion |
|---------------------|---|
| Background | Active involvement in the development of NSDI, RSDI is required |
| | Knowledge of environmentally and information society related Directives is an asset |
| | Involvement in on going projects related to INSPIRE Implementing Rules is an asset |
| Drafting experience | Effective drafting |
| | Knowledge of developing abstract specifications |
| | Knowledge of developing implementation specifications |
| Commitments | Availability and Commitment to perform the tasks |

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| | Commitment to ensure a broader feedback to experts' community in due time |
|--|---|

Table II: Specific criteria for the selection of experts.

| Area | Criterion |
|---------------------------|---|
| Metadata for spatial data | <p>Thematic expertise in metadata for the INSPIRE themes</p> <p>Participation in national and international standards development including thesauri and multi-lingual issues</p> <p>Experience with encoding (XML)</p> <p>Development and implementation of mechanisms for schema translation</p> |
| Data Specifications | <p>Conceptual modelling of spatial databases and Conceptual schema language expertise (UML)</p> <p>Thematic expertise in INSPIRE themes</p> <p>Participation in standards development for data specifications at local, national or international level, including multi-lingual issues</p> <p>Implementation of relevant standards for development of data specifications and data exchange mechanisms (XML/GML)</p> <p>Ontology modelling expertise and experience of multi-resolution representation in spatial databases</p> <p>Development and implementation of mechanisms for schema translation</p> |
| Network services | <p>Experience in SDI technical implementation</p> <p>System Architecture expertise</p> <p>Experience in Architecture verification and validation</p> <p>Knowledge of existing and emerging open IT and geospatial standards</p> <p>Distributed processing implementation and operation experience</p> <p>Specifications methods knowledge (UML,...) and tools</p> <p>Implementation specifications expertise</p> |
| Data & service sharing | <p>Thematic expertise in different types of rights (e.g. ownership, use, copyright,..)</p> <p>Experience with international / national / regional data policy development</p> <p>Knowledge of PSI Directive, Aarhus Convention</p> <p>Knowledge of different business models on data dissemination</p> <p>Knowledge on other related legal circumstances (e.g. privacy issues, national defence...)</p> |
| Monitoring and reporting | <p>Knowledge on indicator generation</p> <p>Knowledge on automated indicator generation</p> <p>Experience with other Community reporting obligations</p> <p>Knowledge of cost/benefit analysis approaches</p> |

4.2.7 Criteria for the replacements or addition of new experts

In case an expert has to resign his commitment for a Drafting Team, he/she will inform the DT chair and the corresponding facilitator within the Consolidation Team. The DT via its chair, can advice the CT on the required profile for the replacement of an expert, after which the CT will decide on the actual replacement using the same criteria as for the initial selection of experts as listed in § 4.2.6. A similar procedure will be followed whenever the need arises to extend the DT with specific expertise which the DT agrees it cannot address adequately with the already included expertise.

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4.3 Consolidation Team terms of reference

From the Terms of Reference of the Drafting Teams, a number of points for the Consolidation Team can be deducted.

4.3.1 Mandate

- To coordinate and support DTs' activities, which includes:
 - To create the general guidelines and templates for the DTs
 - To assist the DT in collecting and structuring the basic reference material as provided by the SDICs, MS, CEN/ISO etc...
 - To review reports and deliverables of the DTs
 - To follow up the composition of the DTs in case of replacements or extension with specific expertise.
- To coordinate with the SDIC, which includes:
 - To maintain/update the SDIC directory
 - To interact with them in case of conflicts
 - To organise the annual SDIC forum
- To ensure coherence between different Implementing Rules proposed by the DTs and make sure that the work of all DTs is based on the same assumptions
- To final edit harmonised draft Implementing Rules ensuring their overall coherence
- To coordinate Pilot and Prototype projects
 - Formulate, in collaboration with the DTs, statements of work and technical specifications
 - To monitor/supervise the execution of selected projects
 - To evaluate, in collaboration with the DTs, the outcome of the projects
- To coordinate the review processes including the interaction with Legally Mandated Organisations (LMOs).
- To follow the link to other directives under preparation and to ensure feedback from the co-decision process.
- To link to legal services of the European Commission

The CT is not expected to be involved in the following:

- Developing of new specifications
- Drafting initial version of the draft Implementing Rules

4.3.2 Set-up and composition

There is one Consolidation Team only; it is installed by the European Commission and consists of Commission staff.

The CT is assisted by the EEA and by the chairs of the DTs and a small number of temporary additional experts appointed by the Commission when appropriate. The CT is co-chaired by JRC, EUROSTAT and DG ENV. JRC will ensure the coordination with the DT metadata, the DT data specification and the DT network services, Eurostat will ensure the coordination with the DT data and service sharing and the DT monitoring and reporting. DG ENV will ensure the feedback from the co-decision process and, with the assistance of the EEA, will ensure the link to other environmental policies development.

The Commission provides the secretariat for the CT

4.3.3 Working methods

The Consolidation Team will be responsible for the development of the INSPIRE guidance material. The guidance material will be the basis for all further initial reference material and guidelines that are

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provided to the DTs. The CT will work with the DT to define/revise the DT's scope, action plan, and deliverables.

The CT will assist the DTs in approaching appropriate working groups that the DT feels it needs, and if necessary in setting-up new working groups.

It is the responsibility of the CT to collect the initial reference documentation that the DTs need. The CT will coordinate additional inputs from other parties and/or previous work and contributing SDICs if needed.

Cross DT issues are to be managed, communicated and answered by the CT. This includes the search for solutions for issues which cannot be assigned to a specific DT.

The CT shall review draft Implementing Rules made available by the DTs and make recommendations to DTs on improvements of coherence.

The CT will coordinate the testing of all draft Implementing Rules. Test results will be made available to the DTs, the SDICs, LMOs, and the public.

The CT will coordinate the review processes of the DT's output once considered mature enough. The outcome of a review process will be made available to the DT without delay.

The CT will interface with the LMOs concerning the technical feasibility and operational impact of the draft Implementing Rules on which the LMOs will report. Where this impact is substantial in terms of costs, the LMOs are to report on the costs and benefits of implementing the proposed draft Implementing Rules.

Any CT member will have access to any DT's documents. The chair and co-chair of the CT can participate in any DT's meetings. The CT will ensure that the DT's Terms of Reference is respected.

The CT's working language shall be English.

Meetings and Communication

- A kick-off workshop with all DT leaders has taken place in October 2005 to officially start the IR development activities.
- The DT leaders shall have regular physical meetings at CT level.
- Early meetings between DT leaders and CT can be organised on ad hoc basis under request of a DT leader, and to address specifically focused questions
- The CT structures the intranet collaboration tool made available by the European Commission
- The CT maintains the SDIC Directory and the communication with registered SDICs

Reporting requirements

Reporting shall be done on a regular basis according to standard templates:

- To the INSPIRE Secretariat and the INSPIRE Expert Group
- To all SDICs and LMOs.
- Public reporting – through the INSPIRE channels (newsletter, website, etc.).

Testing

Any testing of draft specifications in Pilot or Prototype projects shall be coordinated by the CT. The DT can recommend the CT to start the testing of draft specifications. Test results will be evaluated in the CT and thus be made available to all DTs.

Reviewing

The DT can request the CT to start a review process that is appropriate for the maturity of the technical specifications. The CT will coordinate the review process and deliver the comments back to the DT. The review process will be open and transparent, and will formally start after the adoption of the Directive by the Council and Parliament.

In order to manage the flow of comments in an efficient manner, it is envisaged that each draft IR will be versioned according to the following rules.

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Version Coding

1. Capital letters will be used to indicate the phase within a review cycle (D.x.x, I.x.x, P.x.x., C.x.x):
 - D.1.x : Draft version internal to the DT and CT
 - R.1.x: version for Internal Review by registered SDIC/LMO and channelled through the named contact person of each of these organisations
 - P.1.x: version for Public consultation via the INSPIRE website
 - S.1.x: version for Submission to the INSPIRE Committee
2. Sub version numbers (I.1.x, I.2.x, I.3.x, ...) reflect the review cycles:
 - x.1.x: 1st cycle
 - x.2.x: 2nd cycle
 - ..
3. Sub sub version numbers (I.1.0, I.1.1, I.1.2, , ...) refer to the different releases within one step of a review cycle.

Ownership

1. Draft versions

- Any preliminary version D.x.x is still under development and internal to the DT
- Once matured the version D.x.x will be open for comments only from members of other DT and the CT
- After this initial assessment of coherence, the CT will seek also the advice of the INSPIRE Expert Group
- The DTs are owner of the versions D.x.x
- After successful consolidation of comments received the version D.x.n becomes version R.x.1

2. Versions for Internal Review

- Version R.x.x is for internal review by registered SDIC/LMO and channelled through the named contact person of each of these organisations
- The DTs are owner of the versions R.x.x until the comments of SDICs and LMOs have been processed.
- After successful consolidation of comments received the version R.x.n becomes version P.x.1

3. Versions for Public Consultation

- Version P.x.x is for Public consultation that will be made via the INSPIRE website
- The CT is owner of the versions P.x.x and responsible to manage comments with the assistance of the DT when necessary.
- After successful consolidation of comments received the version P.x.n will become version S.x.1 when the legal chapters (recitals, ...) are included

4. Versions for Submission to the INSPIRE committee

- Version S.x.x is for submission to the INSPIRE Committee and include the legal chapters (recitals, ...)
- The CT will be assisted by EC Legal Services
- The CT is owner of the versions S.x.x and responsible to manage comments with the assistance of the DT when necessary.
- After successful consolidation of comments the Committee should adopt the I.R.

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This versioning reflects the four phases described in the INSPIRE Work Programme: Drafting, Reviewing, Public Consultation and Submission to the INSPIRE Committee. Whilst providing maximum open access, the staging of the review process enables those individuals and organisations that are committing time and resources to the INSPIRE Implementing Rules to shape the process and outcome in a transparent fashion. The typical time required to run through a full review cycle is estimated at approximately 6 months if no major re-orientations are required.

All comments received through these stages will be logged and made publicly available. It is the responsibility of the Owners of the various versions to indicate how the comments received have been addressed in the subsequent draft.

The Final Draft will provide the basis for the EC draft that will be submitted to the INSPIRE Committee.

At any stage in the review cycle, the CT will evaluate together with the DT chair how to take the given feedback into account and how to incorporate it in updated versions. Various scenarios can be envisaged:

- For minor comments it is suggested to continue the review cycle either with the comments included as such in the document, or with a change in the text to already address the minor comment.
- In case a major revision is needed, it is up to the CT, and in consultation with the DT chair to decide upon an interruption of the review cycle and action to be taken which can be:
 - Immediate re-editing of the document, after which the review cycle can start over. (e.g. this could be the case if it becomes obvious that no carrying capacity can be found for a proposed draft measure)
 - Including contentious issues as special text boxes, describing the alternatives and their rationale as issues which require further advice from other groups. In that case the review cycle continues until the point where sufficient clarification is available for the CT and DT to decide upon which way shall be chosen for the next editing cycle.

Final deliverables

The final deliverables of a CT are the draft Implementing Rules. A deliverable can be called a Draft Implementing Rule if it is:

- Based on input provided by DTs;
- Tested;
- Reviewed and, if necessary, revised;
- Supported by the relevant SDICs, LMOs, and the INSPIRE Expert Group.

4.3.4 Resources

Funding of the Consolidation Team activities is ensured through the budget of the Commission Services involved in INSPIRE

4.4 Legally Mandated Organisations terms of reference

4.4.1 Mandate

The main tasks of the Legally Mandated Organisations (LMO) are:

- To collaborate within the SDICs, or autonomously in providing technical specifications
- To help identify user needs
- To contribute to the analysis of the technical and operational feasibility of implementation of proposed draft Implementing Rules
- To provide feedback on the cost/benefit consequences of Implementing Rules at Member State level.

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4.4.2 Identification of LMOs

A particularly important group in relation to the INSPIRE proposal are all the public authorities, institutions and bodies who already got or will get a legal mandate to set up and run one or some of the components of national and regional SDIs, and which are eligible to become the MS' contributors to the ESDI for a particular component. These components cover all fields of activity targeted by INSPIRE and can be either of a technical nature, or of a policy and organisation related nature.

Examples of such LMOs can be:

- either umbrella organisations legally mandated to cover the core components of the set up and operation of an SDI at regional or national level (e.g. BE: GIS-Flanders, CTC, CIBG; DE: IMAGI, etc...)
- or organisations covering only one or a few but very specific components essential to the set up of an SDI at regional or national level:
 - Cadastral agencies, if legally mandated to collect and maintain cadastral parcels (and eventually buildings as well);
 - Geodetic services or NMAs, if legally mandated for e.g. co-ordinate reference systems, selected topographical themes etc...;
 - Statistical agencies, if legally mandated to collect and maintain census units;
 - Environmental agencies, if legally mandated to collect or co-ordinate environmental data acquisition;
 - Ministries of transport, if legally mandated to collect and maintain the spatial information on transport networks (and eventually hydrography as well);
 - Administrations or institutions, if legally mandated to set up SDI service components such as metadata service, data viewing services etc...;
 - SDI service components such as metadata service, data viewing service, if legally mandated to set up and run these services
 - Agencies covering specific thematic topics (geological institutes, nature conservation institutes...)
 - ...

LMO input and assessment is important for the drafting of the Implementing Rules, since these are among the organisations who will have to apply the INSPIRE measures for one or more components internally in the public authorities of the MS.

It is up to those instances that can be considered as LMOs to explain their legal mandate in relation to either the overall set up and operation of an NSDI/RSDI, or to the set up and operation of one or a few components of an NSDI/RSDI.

4.4.3 Working methods

Given the legally mandated responsibilities of LMOs within the MS, it is strongly encouraged that they would participate in the activities of the SDICs they belong to, by way of contribution to the draft Implementing Rules development process in the INSPIRE Preparatory Phase.

The components of an SDI as a result of a legal mandate hold by an LMO, serve as a basis to develop downstream value added applications and services. As such an LMO is expected to be well placed to have a clear understanding of operational user needs in their field of activity. LMOs can provide the SDICs with concrete identification of the "largest common denominator" of a series of operational user needs they are aware of, and which should be dealt with when writing/editing draft Implementing Rules. It is then up to the SDICs to transmit the information on crucial elements of user needs to the CT as part of the basic material needed to successfully draft the IRs.

A particularly crucial activity foreseen for LMOs concerns the analysis of the technical and operational feasibility of the implementation of the proposed draft IRs at MS level, as well as the provision of feedback on the cost/benefit consequences of IRs at MS level.

Taking into account the different configurations of LMOs in the MS, it will be up to the LMOs themselves to propose an appropriate method of working to collect and process information on technical feasibility and cost/benefit implications. However a minimal set of requirements can be identified in relation to this part of the LMO's review tasks:

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Meetings and Communication:

- Each LMO should establish the necessary consultation with their user communities to ensure realistic estimates of feasibility, eventual obstacles and expected consequences. To that end it is encouraged that each LMO organises meetings with representatives from their user communities whenever required.

Reporting requirements:

- The CT will provide a template to report feasibility and implications issues.
- Although the collection and processing of information will be done according to each LMO's best professional judgement, the transparency on the methods applied should be maintained and reflected in the reporting.
- Reporting shall be done to the CT on major versions of the draft IRs.
- The reporting has to provide essential information to support the Commission to get a clear view on the feasibility of the implementation of a draft IR in the MS, in order to evaluate the opportunity of presenting a draft IR to the INSPIRE Committee for adoption.
- The reporting has to identify eventual legal obstacles or interferences at MS level with the draft IRs.

Final deliverables:

The final deliverable of an LMO is an advice on both technical feasibility of the implementation of a draft IR in its MS, and on the legal/organisational implications of this implementation.

4.4.4 Resources

No specific funding from the EC resources for the LMOs is foreseen.

4.5 Overall Co-ordination by Commission services

4.5.1 Tasks

The main task of the Commission Services in relation to the work programme for the Preparatory Phase is to ensure the overall co-ordination of the Implementing Rules development process. As such the Commission Services are responsible for the updating of the work programme. The co-ordination task affects all the phases described in Chapter 6 of the work programme, and is presented in figure 1. More particularly following subtasks are identified:

- To organise the calls for interest (SDICs, experts, LMOs)
- To set up the Drafting Teams
- To set up the Consolidation Team
- To facilitate the operation of the Consolidation Team and the Drafting Teams
- To organise the INSPIRE Expert Group meetings
- To organise various formal internet consultations
- To set up communication channels to inform stakeholders on the status of the activities
- To formalise the draft Implementing Rules to be submitted to the INSPIRE Committee
- To decide on the closing down of activities of various subgroups
- To coordinate with SDICs and LMOs in other issues not strictly related to Implementing Rules development
- To coordinate with relevant European and International initiatives
- To coordinate with geo-spatial standardisation bodies such as ISO, CEN and OGC

4.5.2 Commission Services involved

During this "Preparatory Phase", Commission services will bundle the resources from the Joint Research Centre, EUROSTAT and DG ENV, as well as other DGs where appropriate. In preparation of the establishment of the INSPIRE secretariat, the three services will collaborate through the Consolidation Team according to their respective roles as described in Chapter 6 of this work programme.

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4.6 Communication Strategy

The success of the INSPIRE development so far is to a large extent based on the openness of the process from the beginning, explicitly involving the stakeholders as much as possible. During the development of the Implementing Rules it is equally important to keep the process as transparent as possible, whilst keeping it manageable and avoiding misunderstandings of any nature. Some clear communication rules should ensure correct and timely information towards and from all stakeholders involved:

Roles and responsibilities:

- INSPIRE communication is under full responsibility of the Consolidation Team.
- SDICs, LMOs and Public should interact with the CT to address specific questions related to the IR development.

Information channels:

- The INSPIRE website will be used as the central point of access to INSPIRE related information.
- The CT shall publish an INSPIRE newsletter on a regular basis
- The INSPIRE web site and newsletter are the official way to communicate progress and achievements of INSPIRE development.
- An automatic notification tool will inform all registered stakeholders about new topics on the site.

Types of information:

- The CT shall systematically include minutes of the meetings and progress reports from the DTs into the site.
- All intermediate documents for which comments have been requested by the DT and approved by the CT will be made available on the site.
- All deliverables up to and including the draft IRs will be made available on the site.
- A list of events where INSPIRE topics will be presented and discussed will be maintained on the site.

Restrictions:

- However, any document considered by the DT as immature for publication shall not be published until an acceptable level of maturity has been reached and agreed upon within the DT, in consultation with the CT.