



INSPIRE

Infrastructure for Spatial Information in Europe

Results of the Call for Expression of Interest for participation in INSPIRE Annex I Data Specifications according to scenario 1 and 2

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Acronyms

CT	Consolidation Team
DS DT	Data Specification Drafting Team
EC	European Commission
EEA	European Environmental Agency
EIONET	European Environmental Information and Observation Network
GCM	Generic Conceptual Model
INSPIRE	Infrastructure for Spatial Information in Europe
LMO	Legally Mandated Organisation
NMCA	National Mapping and Cadastral Agency
SDI	Spatial Data Infrastructure
SDIC	Spatial Data Interest Community
TWG	Thematic Working Group

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1 Purpose of this document

The Call for Expression of Interest for Development of Data Specifications according to scenario 1 and 2 was published on the INSPIRE web-site on 11 July 2007. The call text¹ can be accessed on the INSPIRE web-site. This document summarises the results of the call and describes the retained data specification scenarios for Annex I² data, as well as the composition of the Thematic Working Groups (TWGs).

Following the timeframe set in the Directive, priority has been given to the evaluation of the proposals related to Annex I data. The specifications submitted for Annex II and III will be evaluated as soon as the TWGs for Annex I data start to work. Likewise the TWGs for Annex II and III themes will be set up later. The deadlines for submission of candidate specifications and experts for Annex II and III will be announced via the INSPIRE web-site and will be communicated to SDIC and LMO contact points via e-mail.

The document will be publicly available as a 'non-paper', as it does not represent an official position of the Commission, and as such can not be invoked in the context of legal procedures.

2 Scenario 1: Proposals for Candidate Specifications

2.1 Description of the scenario

Scenario 1 has been adopted for INSPIRE Implementing Rule development to acknowledge the data harmonisation efforts of different stakeholders' communities, to respectfully integrate their results, and to avoid duplication of work. According to the Work Programme of the Transposition Phase (2007-2009)³ this scenario applies when a community has already agreed mature results manifested in such specifications that equally meet the requirements of the users and can be easily fit into the INSPIRE conceptual framework. Each community, involved in INSPIRE as a Spatial Data Interest Community (SDIC) or Legally Mandated Organisation (LMO) has the right to submit specifications as possible candidates to become Implementing Rules. Also the Consolidation Team (CT) can identify and propose candidate specifications.

The submitting community has to demonstrate that the specifications are the result of a consensus building process between partner organisations coming from different Member States. After verification against the recognised user requirements and conformance with the Generic Conceptual Model (GCM), the CT, based on the opinion of the EEA/EIONET and the Data Specification Drafting Team (DS DT), decides about the next step, which can be one of the following:

- The specifications can be considered as draft Implementing Rules "as-are", followed by a SDIC/LMO consultation.
- Minor adjustments are sufficient to satisfy the recognised user requirements and achieve conformance to the GCM. The adjustment can be fixed within the proposing SDIC, after which the specifications can undergo a SDIC/LMO consultation.
- Longer discussions and/or involving additional expertise are necessary. These proposals will be channelled in scenario 2.

Specifications retained for scenario 1 shall go through the review process within the SDICs and LMOs. The stakeholders' comments shall be properly addressed in the comment resolution phase and the accepted comments shall be accommodated in the new version that becomes the technical part of the Implementing Rule for the given data theme.

¹ http://www.ec-gis.org/inspire/reports/ImplementingRules/Call_scenario_1_2_final.pdf

² This report relates only to the theme of Annex I. The specifications submitted for Annex II (1 for Elevation, 2 for orthoimagery, and 1 for geology will be evaluated at a later stage).

³ http://www.ec-gis.org/inspire/reports/transposition/INSPIRE_IR_WP2007_2009_en.pdf

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2.2 Submission procedure

Any SDIC or LMO that has registered on the INSPIRE web site is eligible to propose candidate specifications for INSPIRE. The submission is open until further notice for Annex II and III, while the deadline for Annex I was 30 September 2007.

Specifications have to be proposed through the specific web-form accessible through the profile of the SDIC or LMO. The form used for submission is included in annex I.

2.3 Selection criteria

In the *Terms of Reference for developing Implementing Rules laying down technical arrangements for interoperability and harmonisation of spatial datasets*, three criteria were defined for deciding whether or not to include a proposed candidate specification in scenario 1. These criteria were representativeness, fulfilling user requirements, and conformance to GCM.

In order to speed-up the selection process, a two-step approach has been applied during the evaluation. Only specifications meeting the criterion of representativeness will also be evaluated on the fitness for the users' need and conformance to the GCM. This report only focuses on the representativeness; the other two criteria will be assessed later.

Representativeness has been evaluated by two indicators. The first indication is the fitness from thematic point of view: the specifications must have arrived from the main stakeholder community. It is well known that many data themes are fully or partially covered by several stakeholders. For example in case of Hydrography, both hydrographical offices, water authorities, and national mapping and cadastre agencies (NMCAs) have a main role in data supply responding to different segments of users' need. However, issues related to underground waters indicate that the geological community may also play a role in the specification process. Also other communities may be identified.

If more than one specification was submitted by main stakeholders, this was taken as an indication that there is a need for harmonisation and/or consensus building. Consequently, such cases should be channelled to scenario 2. Specifications submitted by not principal communities that cover only a specific part of the data theme indicate that cross theme harmonisation might be necessary, which can take place by including the representatives of such Communities in the TWG, or checking the specifications for consistency.

EIONET will be involved in determining the fitness of a candidate specification for the users' needs. Coordinated by the EEA this extensive network of experts involved in different environmental thematic fields can give important feedback about the potential usefulness of the specifications.

Beyond interoperability arrangements through services, data harmonisation may also be applicable. Harmonisation can be achieved through conformance to the GCM that collects the elements subject to harmonisation. In the case of INSPIRE the GCM has been developed by the DS DT, and the conformance of a specification to the GCM will be assessed by the DS DT.

2.4 Statistics

The SDICs and LMOs have submitted 26 specifications; some of them been proposed for more than one theme. The number of candidate specifications for each theme is specified in table 2.

Data theme	Number of specifications
Coordinate reference systems	0
Geographical grids	0
Geographical names	1
Administrative units	2
Addresses	4
Cadastral parcels	3
Transport networks	10
Hydrography	11
Protected sites	2

Table 1: Number of candidate specifications submitted for Annex I

The proposed specifications were the following:

Theme title	Name	Owner	Submitting SDIC/LMO
Geographical names	Spanish Gazetteer Model (Modelo de Nomenclátor de España)	GT IDEE	IDEA Working Group of the Commission on Geomatics (National Geographic High Council)
Administrative units	Electronic Navigational Chart Product Specification	IHO	UKHO
	Delineation of neighbourhoods	Statistics Netherlands (CBS)	Geonovum
Addresses	SS 63 70 03 Edition 2:2007 Geographic information – Locational Addresses - Application schema	SIS, Swedish Standards Institute	Stanli, LMW
	Central Reference Address Database	AGIV	GIS-Flanders
	National Land and Property Gazetteer	Local Government Information House (LGIH) part of the Improvement and Development Agency (IDeA) on behalf of UKLG.	UKLG
	Catalogus BRA 2006 definitief.pdf	Ministry of Housing, Spatial Planning and the Environment, The Netherlands (VROM)	Geonovum
Cadastral parcels	The cadastral parcel in NSDI's and in INSPIRE Information Model Kadaster	PCC and Eurogeographics Kadaster	Geonovum
	The Core Cadastral Domain Model	Delft University of Technologies, Kadaster, ICT	Geonovum
	Information Model Kadaster	Kadaster	Geonovum
Transport networks	Especificaciones técnicas de la Base topográfica 1:50000 v3.1	Institut Cartogràfic de Catalunya	Institut Cartografic de Catalunya
	Especificaciones técnicas de la Base topográfica de Catalunya 1:25000 (BT25M) v1.0	Institut Cartogràfic de Catalunya	Institut Cartografic de Catalunya
	Especificaciones de la Base Topográfica	National Geographic High Council	CNC-CSG

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	Armonizada 1:5000 (BTA) v1.0		
	Cartociudad specifications	Instituto Geográfico Nacional (Spain)	IDEE Working Group of the Commission on Geomatics (National Geographic High Council)
	SS 63 70 04-1:2006 Geographic information – Road and Railway networks - Part 1: Concept model and application schema	SIS, Swedish Standards Institute	STANLI, LMV
	Products specification TOP10NL	Kadaster	Geonovum
	Electronic Navigational Chart Product Specification	IHO	UKHO
	National Street Gazetteer	Local Government Information House (LGIH) part of the Improvement and Development Agency (IDeA) on behalf of UKLG.	UKLG
	ITS Vienna Region - platform to intergrate graphs	„ITS Vienna Region im Verkehrsverbund Ostregion (ACTaFOMAS
	Additional Military Layers	NATO	UKHO
Hydrography	Especificaciones técnicas de la Base topográfica 1:50000 v3.1	Institut Cartogràfic de Catalunya	Institut Cartografic de Catalunya
	Especificaciones de la Base Topográfica Armonizada 1:5000 (BTA) v1.0	National Geographic High Council	CNC-CSG
	Especificaciones técnicas de la Base topográfica 1:5000 v2.0	Institut Cartogràfic de Catalunya	Institut Cartografic de Catalunya
	SeaZone Hydrospatial	SeaZone Solutions Ltd	SeaZone
	Information Model Water	Information Desk Standards Water	IDSW
	SS 63 70 08:2006 Geographic information – Surface water systems – Concept and application schema	SIS, Swedish Standards Institute	STANLI. LMV
	Detailed River Network	Environment Agency	EA
	Additional Military Layers	NATO	UKHO
	Electronic Navigational Chart Product Specification	IHO	UKHO
	Generic sensor format	US Naval Oceanographic Office	UKHO
Protected sites	Designated sites	Natural England	NESDIC
	Electronic Navigational Chart Product Specification	IHO	UKHO

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Table 2: Overview of submitted candidate specifications

The distribution of specifications according to the submitting SDIC/LMO is the following:

Submitting SDIC/LMO	Acronym	Number of specification proposed	Related data themes
Association of Cities and Towns and Federal Office of Metrology and Surveying in Austria (BEV)	ACTaFOMAS	1	Transport networks
Commission on Cartographic Norms (National Geographic High Council)	CNC-CSG	2	Transport Networks Hydrography
Dutch standardisation organisation for water management information	IDSW	1	Hydrography
Environment Agency for England and Wales	EA	1	Hydrography
GIS-Flanders	--	1	Addresses
IDEE Working Group of the Commission on Geomatics (National Geographic High Council)	IDEE	2	Geographical names Transport networks
Institut Cartografic de Catalunya	--	3	Transport networks Hydrography
Geographic Information Standards Initiative in Sweden	STANLI	3	Addresses Transport networks Hydrography
Geonovum	--	6	Administrative Units Addresses Cadastral Parcels Transport networks
Lantmateriet, National Land Survey of Sweden	LMV	3	Addresses Transport networks Hydrography
Natural Environment	NESDIC	1	Protected sites
SeaZone Solutions Ltd	SeaZone	1	Hydrography
United Kingdom Hydrographic Office	UKHO	3	Administrative Units Transport networks Hydrography Protected sites
United Kingdom Local Government	UKLG	2	Addresses Transport networks

Table 3: Overview of SDICs and LMOs submitting candidate specifications

One specification has arrived from Austria, Belgium and the United States, three from Sweden, six from Spain and Netherlands, and 3 of them from international organisations. The language distribution across the themes is given in table 5:

Theme	En	Es	De	NI	Se	Number of candidates
Geographical names		1				1
Administrative units	1			1		2
Addresses	1			2	1	4
Cadastral parcels	1			2		3
Transport networks	3	4	1	1	1	10
Hydrography	6	3		1	1	11
Protected sites	2					2
Total	14	8	1	7	3	

Table 4: Languages of candidate specifications

2.5 Evaluation of the submitted specifications

The evaluation of the submitted specifications is based on the criteria mentioned in section 2.3. Conformance with the framework documents (GCM and methodology) has not been assessed yet.

In addition to the listed submissions and remarks of the INSPIRE CT, it should be noted that there are a number of EU-funded projects, like those funded under the e-ContentPlus programme, that are expected to provide valuable resources to the TWGs. These projects will be invited to liaise with the relevant TWGs.

In the next paragraphs the owner of the proposed candidate specifications is indicated between brackets. The decision of the INSPIRE CT concerning the proposed candidate specifications is put in italics.

2.5.1 Geographical names

Spanish Gazetteer Model (GT IDEE)

According to the submitters' information this specification is implemented according to the OGC Gazetteer service, and makes use of ISO19112, 19113, 19114, 19115 standards as well as the Alexandria Digital Library and the Dublin Core Metadata standards. No details were given on the implementation aspects.

The INSPIRE CT decided to use this specification as a reference material and including an expert from the submitting organisation (IDEE) in the TWG on Geographical Names.

2.5.2 Administrative Units

Electronic Navigational Chart Product Specification S-57 Annex B (IHO)

The core areas of the specification above are certainly not the administrative units. However, the relevance of this product specification lies in the fact that the Electronic Navigational Chart is the only data specification allowed by International Maritime Organisations for electronic navigation. This indicates that an early check of the future INSPIRE specifications for consistency might be useful. This checking possibility can be offered right after the application schema for Administrative Units is ready. *The specification is therefore retained as reference material.*

Delineation of neighbourhoods (Statistics Netherlands CBS)

The owner of the document is the Statistics Netherlands. Statistical Offices are recognised as one of the principle user communities of administrative unit data. At this stage it is not known yet how much this very specific topic (subdivision of the community in neighbourhoods) is relevant to the data theme of Administrative Units, and it is *therefore decided to retain this*

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document as a reference material. The Administrative Units TWG should evaluate the specification based on the results of the user requirement survey.

The INSPIRE CT notes that EuroStat's Nomenclature of Territorial Units for Statistics⁴ (NUTS) and EuroGeographics' EuroBoundaryMap⁵ (previously Seamless Administrative Boundaries of Europe [SABE]) are both in use by the Commission. The INSPIRE CT will liaise with the relevant organisations aiming at making the specifications of these products available as important reference material.

2.5.3 Addresses

SS 63 70 03 Edition 2:2007 Geographic information – Locational Addresses - Application schema (SIS, Swedish Standards Institute)

The Swedish national standard adopted in 2007 provides formal specification according to ISO 19100-series, especially ISO 19112. The English translation scheduled for 2008 gives a good chance to use this standard as a strong reference for data specification development. Specifications elements required by the Directive for Annex I (like spatial referencing by geographic identifiers, application schema) are developed and published. *The representative of the submitting LMO (Lantmateriet, National Land Survey of Sweden) will be invited to the TWG.*

Central Reference Address Database (AGIV)

The results of research projects have yielded this address model (comprising UML schema and feature catalogue), which is ready for broader national use. The specific interest of this material is that other than the ISO 19000 standards have been considered, namely EN 14142-1 Postal services – Address databases – Part 1: Components of postal addresses and ISO 8601 Standard Date and Time notation. Because the submitting SDIC (GIS Flanders) has also proposed an expert within the field, *a representative from GIS Flanders will be invited to participate in the work of the TWG.*

National Land and Property Gazetteer (Local Government Information House- LGIH)

This is a national standard (Y BS 7666-2:2006) based on ISO 19112 used in the UK. Implementing the standard at local level enables aggregation of data at a national and transnational level (England-Welsh), which is an important aspect to deal with in INSPIRE. Furthermore the multi-lingual records of land and property units may give another valuable input for INSPIRE. *As the standard is applicable only in the UK, the INSPIRE CT recommends using the document as reference material for Addresses, Administrative Units and Cadastral Parcels. A representative from the SDIC will be invited to the Addresses TWG.*

Catalogus BRA 2006 (Ministry of Housing, Spatial Planning and the Environment, The Netherlands – VROM)

The specification owned by the Ministry of Housing, Spatial Planning and the Environment of the Netherlands (VROM) has been proposed by the Geonovum, which is a registered LMO. The full implementation is expected by 2009 in all municipalities. *Based on the content (objects: towns, street name, house numbers and their attributes) the document should serve as a valuable reference material for the TWG on Addresses, and a representative of the LMO will be invited to the TWG.*

2.5.4 Cadastral Parcels

The cadastral parcel in NSDI's and in INSPIRE (PCC and EuroGeographics)

This material presents the results of a survey on the role of the cadastral parcel within NSDI's in general and in INSPIRE in particular and as such gives a valuable input on the state of the art of cadastre in Europe. *The INSPIRE CT recommends using it as a reference material in the specification development process.*

⁴ http://ec.europa.eu/comm/eurostat/ramon/nuts/introduction_regions_en.html

⁵ http://eurogeographics.org/eng/04_sabe.asp

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Information Model of the Dutch Cadastre (Kadaster)

Is a formal national specification (NEN3610) according to the ISO 19109 standard. The specification is partially implemented in the Netherlands. Concepts of properties of a permanent nature (cadastral parcels, pipeline systems and apartment rights), rights (real rights, mortgage rights and attachments) and paragraphs (cadastral and public documents) are modelled, which gives valuable input to the INSPIRE data specification process. *A representative of the Geonovum (submitting organisation) will be invited to the TWG.*

The Core Cadastral Domain Model (Delft University of Technologies, Kadaster, ICT)

The document jointly developed by the Delft University of Technology, Kadaster, and ICT does not provide formal specifications but represents an extensible basis for efficient and effective cadastral system development based on model driven architecture and shared ontology. *The CT recommends using this document as a reference material for the Cadastral Parcels TWG, and decided to invite a representative of the submitting organisation to take part in the specification development process.*

2.5.5 Transport networks

Especificaciones técnicas de la Base topográfica 1:50000 v3.1 (Institut Cartogràfic de Catalunya)

The formal specifications of the 1:50000 topographic database submitted by the Catalan and the Spanish Geographical Institutes provide feature catalogue and technical instructions that already have been implemented in Spain. It represents a valuable input for the TWG from point of view of an NMCA. *The representative of the Catalan Geographic Institute will be invited to take part in the work of the TWG.*

Especificaciones técnicas de la Base topográfica de Catalunya 1:25000 (BT25M) v1.0 (Institut Cartogràfic de Catalunya)

Like the previous item, this is a formal specification of a topographic database – this time at scale 1:25k. The specification makes use of ISO 19000 standards and provides feature catalogue and instructions for implementation including portrayal. *As the specification is accepted at national level, the CT recommends using it as a reference material for various topography related themes.*

Especificaciones de la Base Topográfica Armonizada 1:5000 (BTA) v1.0 (National Geographic High Council)

This specification coming from Spain and the topographic domain represents particular interest for INSPIRE, as it has been created harmonising regional databases of large scale (1:5K - 1:10K). Based on the ISO 19000 series of standards, it defines the elements of the feature catalogue and implementation rules. *It could serve as valuable reference if requirements for large scale specifications arise.*

Cartociudad specifications (Institut Geografico National, Spain)

Even though this document does not provide formal specifications but details the achievements of a project, which had the objective of harmonising and integrating official digital cartography and information produced by other suppliers of geographic information (urban blocks and parcels, buildings street axis, toponymes, census districts postal house numbers and codes, administrative boundaries). In order to check the quality of data orthophotos have been used. *As an interesting example of data integration this material can be used as reference not only for the Transport Networks, but also for Addresses, Administrative Units and Statistical Units data theme.*

SS 63 70 04-1:2006 Geographic information – Road and Railway networks - Part 1: Concept model and application schema (SIS, Swedish Standards Institute)

This Swedish standard compliant to the ISO 19000 series gives models for describing road and railway networks and how other information is attached to them. *The transnational cooperation between Swedish and Norwegian National road Administrations justifies why this specifications merit special attention of the Transport Network TWG. Representatives from the submitting organisations will be invited to participate in the work of this TWG.*

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TOP10NL (Kadaster)

Formal data specifications of the Dutch 1:10K national topographic database product that has become national standard (NEN3610), which is based on ISO 19109. It provides application schema for the whole topographic domain. Together with the Spanish and Swedish specifications gives a good starting point for specification development. *The INSPIRE CT recommends using the specifications as reference material.*

Electronic Navigational Chart Product Specification (IHO)

The reference material covers a smaller portion of the transport networks. Because of its obligatory use for maritime navigation the relevant parts have to be considered in developing data specifications for INSPIRE Transport network. Cross consistency checking with this specification should take place as soon as the first draft specification for Transport Networks is ready.

National Street Gazetteer (Local Government Information House- LGIH)

This national standard (BS 7666-1) based on ISO 19112 has been provided for the Transport Networks data theme that can be justified by the references and descriptions for highway maintenance and utility street works. The multi-lingual street names may provide input also for the Addresses data theme. *The CT recommends using it as reference material for both the Transport Networks as well as Addresses data themes.*

ITS Vienna Region - platform to integrate graphs (ITS Vienna Region im Verkehrsverbund Ostregion)

The intermodal system for references in traffic and transport, which is based on integrated graphs, provides details of an Intelligent Transport System (ITS). In addition to the ISO 19000 series of standards other ISO standards (notably ISO 14825:2002 Intelligent Transport Systems – Geographic Data Files -Overall Data Specifications (GDF4.0)) has been considered. *The document is recommended as a reference material to the Transport Network TWG.*

NATO Additional Military Layers (NATO)

This formal specification according to the NATO STANAG 7170 and ISO 8211, ISO 8601 standards covers a limited section of transport networks. However, the integration efforts within NATO might have produced widely accepted agreements worth considering within the TWG. *The CT recommends using this specification as a reference material.*

The INSPIRE CT notes that the specifications of the European Transport policy Information System (ETIS), in use by the Commission (DG Transport and Energy), are important reference material for the TWG.

2.5.6 Hydrography

Especificaciones técnicas de la Base topográfica 1:50000 v3.1 (Institut Cartogràfic de Catalunya)

Specification of the topographic database at scale 1:50K. For main characteristic please refer the corresponding on paragraph in the subsection on Transport Networks. *The specification has to be considered as reference material also for the Hydrography data theme. The INSPIRE CT decides to invite a representative from the submitting organisation to take part in the specification development within the Hydrography TWG.*

Especificaciones de la Base Topográfica Armonizada 1:5000 (BTA) v1.0 and v2.0 (National Geographic High Council)

Specifications of the topographic database at scale 1:5K. For main characteristics please refer the corresponding on paragraph in the subsection on Transport Networks. *The specifications have to be considered as reference material also for the Hydrography data theme. A representative from the submitting organisation will be invited to take part in the specification development within the Hydrography TWG.*

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SeaZone Hydrospatial (SeaZone Solutions Ltd)

The submitted document defines the feature concept dictionary of this commercial product used for general marine mapping explicitly used for other purposes than navigation. It is based on the existing IHO standards. It does not define the application schema. *The CT recommends using it as reference material for the data specifications for Hydrography.*

Information Model Water (Information Desk Standards Water)

Dutch national specification based on the Dutch Base model for Geographic Information (NEN3610) and the information maintained by Dutch Water Boards. The data is harmonised at province and national government level throughout the Netherlands and also with the WFD. In addition to the UML model and the feature catalogue, XSD / GML application schemas, and controlled code lists exist. *It can serve as interoperability demonstrator and valuable reference material for the Hydrography data theme.*

SS 63 70 08:2006 Geographic information – Surface water systems – Concept and application schema (SIS, Swedish Standards Institute)

This national standard is supported by, amongst others, the National Land Survey, Swedish Meteorological and Hydrological Institute, Swedish Maritime Administration, Geological Survey of Sweden, Swedish Environmental Protection Agency. The agreement achieved between different communities at national level may serve a model for INSPIRE, where different aspects of Hydrography have to be integrated. Conformance to ISO 191000 standards and accommodating some aspects of the RISE project and WFD give additional value to this standard. *The representative of the submitting LMO will be invited to the Hydrography TWG.*

Detailed River Network (Environment Agency)

This document is a valuable source for specifying the Hydrography theme for INSPIRE as the subject is approached from point of view of an environmental agency. The cross-referencing to the base reference objects demonstrates data interoperability potential, which is very relevant for every spatial data infrastructure. The application schema has not been published yet, but the feature catalogue conforms both to ISO 19110 and the DNF(Digital National Framework) feature catalogues. *The representative of the submitting LMO will be invited to the Hydrography TWG.*

NATO Additional Military Layers (NATO)

This specification has been derived from the International Hydrographic Organisation S-57 Electronic Navigational Chart specification, with military extensions to the Feature Catalogue. It conforms to the NATO STANAG 7170 standard and ISO 8211 and 8601. As it contains six specifications (layers) their documentation can be used other INSPIRE themes too. *A representative of the submitting LMO will be invited to the TWG.*

Electronic Navigational Chart Product Specification (IHO)

As reference material for INSPIRE it should be checked how the provisions of this specifications can be considered in INSPIRE. *A representative of the submitting LMO will be invited to take part in the Hydrography TWG.*

Generic Sensor Format (US Naval Oceanographic Office)

The Generic Sensor Format was developed by US Naval Oceanographic Office (USNOO) to archive their multibeam survey data for ocean mapping in a product/system independent way. It is based on ISO 8601 and US military standard MIL-STD-490A. Since its adoption, the format has been made open source to allow greater implementation by commercial software companies. The CT recommends using it as reference material for the data specifications for Hydrography. *A representative of the submitting LMO will be invited to take part in the Hydrography TWG.*

The INSPIRE CT notes that important reference material based on extensive consensus building is already available in the form of the Water Information System for Europe (WISE) GIS Guidance, which is endorsed by the European water authorities. The Guidance document is currently being revised, and the TWG will have to interface with the relevant people in WISE. It is also noted that the Water Resources Information Model (WRIM), which is gaining importance at international level, is considered to be important reference material for the Hydrography TWG.

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2.5.7 Protected sites

Electronic Navigational Chart Product Specification (IHO)

This specification may cover a smaller part relevant to the Protected Sites data theme. The CT recommends consistency checking of the specifications developed for Protected Sites by the experts of the submitting LMO.

Designated sites (Natural England)

The document provides technical provisions how nature protection data used for reporting are handled. The SSSI/SAC/SPA (Sites of Special Scientific Interest / Special Area of Conservation / Special Protection Area) specifications underpin, amongst others, the Habitats Directive. The spatial object used in the specifications are cross referenced with the OS Mastermap. *The CT recommends using this material as a reference in the data specification development process for Protected Sites data theme. Also, a representative of the submitting SDIC will be invited to the TWG.*

3 Scenario 2: Specification Development with stakeholders' participation

3.1 Description of the scenario

Scenario 2 applies when no candidate specifications have emerged for a particular data theme. This scenario relies on voluntary contributions of the SDICs and LMOs that may offer their expertise in terms of reference material and experts. The proposed contributions and the reference materials are sufficient and appropriate for the given theme, however in this scenario there is a need to streamline the cooperation within the various SDICs and LMOs, to validate the proposed use-cases, and harmonise the specifications. For this purpose a TWG is set-up, consisting of experts from various SDICs and LMOs.

The members of the TWGs are selected by the CT from the experts proposed by the SDICs and LMOs. The TWG will be completed by the facilitator, and when necessary by the editor, designated by the CT. The CT reserves the right to modify the composition of the TWG.

The scope of the work is:

- to analyse and take into account, when appropriate, the reference materials and the user requirements submitted by the INSPIRE stakeholders for the specific spatial data theme;
- to analyse and take into account the standards developed by organisations established under the international law (Article 7(1) of the Directive);
- to seek advise of the EIONET at the initial identification of requirements and any time when there is a need to do so;
- to apply the INSPIRE conceptual framework to ensure conformance to the INSPIRE Generic Conceptual Model and overall consistency in specification development process applying the agreed methodology (D2.3, D2.5, D2.6, D2.7);
- to develop technical specifications for the IR(s) they are considering;
- to apply, whenever possible, the terminology, coordinate reference system, the feature catalogue, and other items maintained in the INSPIRE registers;
- to propose via the CT newly specified items or changes to existing items to the maintainers of the registers;
- to ensure consistency, when appropriate, by cross-theme checking;
- to propose to the CT to assign an expert from other domain or to organise a technical workshop especially in case of cross thematic issues;
- to document the specification process with full references and justifications;
- to analyse and consolidate the comments received from the CT and DS DT in the first review cycle;
- to analyse and consolidate the results of the review and the testing results from the SDICs and LMO and assist the CT in conflict resolution;
- to follow the timeframe of the work programme and the INSPIRE Directive;
- to deliver the following documents:
 - Analysis of the reference materials;

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- Analysis of the user requirements and documentation of the use-case development;
- Resolutions of the comments submitted by the stakeholders in frame of reviewing the draft data specifications

3.2 Submission procedure

Any SDIC or LMO that has registered on the INSPIRE web site is eligible to propose experts for scenario 2. The submission is continuous for Annex II and III, while the deadline for Annex I experts was 30 September 2007.

The experts have to be proposed through the specific web-form accessible through the profile of the SDIC or LMO. The form used for submission is in Annex 2 to this report.

3.3 Selection criteria and method

The selection criteria for the experts measured their capacities to fulfil the tasks listed above. The requirements are the following:

- Domain expertise of the theme,
- Understand the INSPIRE conceptual framework (D2.3, D2.5, D2.6, and D2.7).
- Capacity to express and synthesise user requirements
- Experience in specification implementation (data transformers, or data provider),
- Expertise in data product specifications,
- Knowledge of ISO 19 000 series of standards,
- Participation in INSPIRE-like activities (national, European)
- Ability to work in “virtual” teams using Internet and telecommunications facilities
- Experience in consensus building
- Availability for a reasonable amount of time (commitment)

These criteria have been assessed based on the CVs of the proposed experts, on the commitment declaration of the supporting SDIC/LMO, but also the activity fields of the organisations at which the expert works has been considered.

Because of the expected workload and organisational reasons (the TWGs are expected to work in parallel) the CT avoided to select an expert for more that one data theme, regardless to the eventual competence.

According to the Work Programme and the Terms of Reference for data specifications the size of a TWG should not have exceed 4-5 domain experts. However it was not always possible to follow, especially in case of “compound” data themes, where the expertise rightfully comes from different domain. Likewise, in case of themes where more difficult harmonisation process is expected the number of domain experts has been increased.

This selection process has not dealt with the selection of the facilitators and the editors of the TWG, which will be carried out in a separate procedure which is published on the INSPIRE web-site⁶. It should be noted that the selected domain experts are eligible for applying to these roles.

After a first selection of the expert the supporting SDICs and LMOs have been asked to confirm their commitment and the expert’s availability to participate in the specific theme assigned. The ones that have not confirmed the participation were not included in the TWG.

3.4 Statistics

The distribution of the proposed experts across data themes and their functions (user / producer / coordinator) is given in table 6:

⁶ <http://www.ec-gis.org/inspire/reports/INSPIRE-Request-for-Interested-Experts.pdf>

Data theme	User	Producer	Coordinator	Selected
Coordinate Reference Systems	15	11	8	5
Geographical Grids	8	2	4	1
Geographical names	16	15	9	5
Administrative units	11	10	7	4
Addresses	17	18	14	5
Cadastral parcels	15	16	13	7
Transport networks	18	17	16	6
Hydrography	13	16	15	5
Protected sites	6	5	2	3

Table 5: Number of proposed experts for scenario 2

There is a strong overlap between the functions of the proposed experts; many of them are users, producers and coordinator at the same time. Furthermore many experts have been proposed for several themes. There are a total of 78 individuals supported by 39 SDICs and LMOs. 40 of these experts have been selected and assigned to 8 TWGs.

The distribution of the experts according to the place of employment is in table 7 and is shown in figures 1 and 2.

Country	Experts proposed	Experts selected
Belgium	7	4
Denmark	2	2
Finland	6	3
France	5	2
Germany	9	7
Hungary	1	1
Italy	2	1
Latvia	1	0
Netherlands	2	2
Norway	6	3
Poland	1	1
Portugal	1	0
Spain	13	3
Sweden	4	4
UK	13	6
European Commission	5	1
European Environmental Agency	1	1

Table 6: Place of origin of the experts for scenario 2

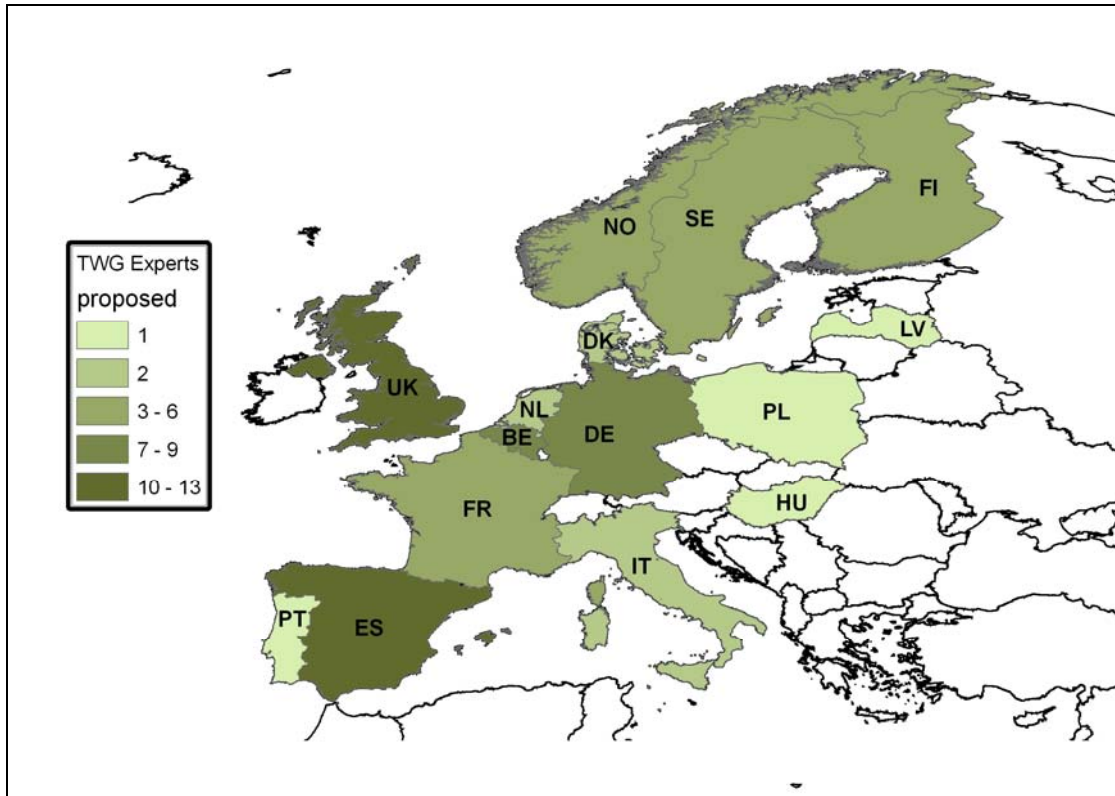


Figure 1: Experts proposed according to the country of employment

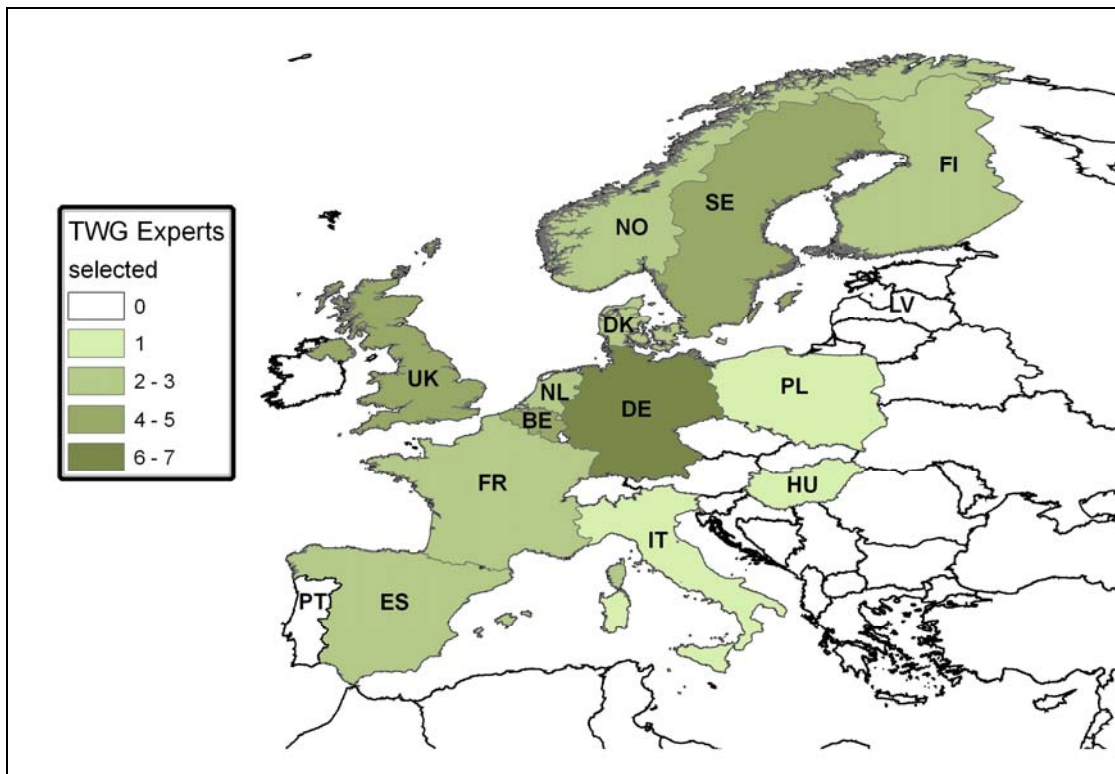


Figure 2: Experts selected for TWG membership according to country of employment

The number of experts proposed by the SDICs and LMOs and the number of experts selected by the CT is provided in table 8.

SDIC/LMO	Experts proposed	Experts selected
AGI	1	0
Bundesanstalt für Gewässerkunde	1	1
Cadastre, Land Registry and Mapping Agency	1	1
CNC-CSG	1	1
DNF	5	3
EA	1	1
EEA	1	1
EUREF	3	2
EuroGeographics	31	16
EuroSDR	6	4
Finnish Geodetic Institute	2	1
FPGI / PFIG	5	3
General Administration of Patrimonial Documentation	1	1
General Directorate for Cadastre	1	1
Geonovum	2	2
GIS-Flanders	2	1
IACS-CAP	5	1
IDEE Working Group of the Commission on Geomatics (National Geographic High Council)	10	2
IDsW	1	0
Institut Cartografic de Catalunya	2	1
Institute of Geodesy, Cartography and Remote Sensing	1	1
Lenkungsgremium GDI-DE (Steering Committee GDI-DE)	2	2
LMV	4	4
Ministère des transports, de l'équipement, du tourisme et de la mer	1	0
National Land Survey of Finland	4	2
ND	3	1
NESDIC	1	
NGI (Nationaal Geografisch Insituut) IGN (Institut Géographique National)	4	1
OGESDI	1	1
Ordnance Survey	7	3
RVDI	1	0
UKLG	3	1
United Kingdom Hydrographic Office	1	1

Table 7: SDICs and LMOs proposed experts for the TWGs

3.5 Selected experts

Coordinate Reference Systems and Geographical Grids

Name	Organisation	Country	Function ⁷
Alessandro Caporali	University of Padova; Eurogeographics; EUREF	Italy	U, P, C
Paul Cruddace	Ordnance Survey	UK	U, P, C
Lars Erland Engberg	Lantmateriet, National Land Survey	Sweden	U, P, C
Bruno Garayt	Institut Géographique National; Eurogeographics	France	P
Lassi Lehto	Finnish Geodetic Institute	Finland	U, P, C
Heinz Habrich	Federal Agency for Cartography and Geodesy (BKG) EuroGeographics, EUREF	Germany	U, P, C

Table 8: Selected experts for the Coordinate Reference Systems and Geographical Grids TWG

Geographical Names

Name	Organisation	Country	Function
Kathleen Van Doren	Institut Géographique National; Eurogeographics	Belgium	U, P, C
Teemu Leskinen	National Land Survey of Finland; Eurogeographics	Finland	U, P, C
Kent-Jacob Jonsrud	Norwegian Mapping Authority; Eurogeographics	Norway	U, P, C
Paloma Abad Power	National Geographic Institute	Spain	U, P, C
Pier-Giorgio Zaccheddu	Bundesamt für Kartographie und Geodäsie (BKG); Eurogeographics	Germany	U, P

Table 9: Selected experts for the Geographical Names theme

Administrative Units

Name	Organisation	Country	Function
Frederic Mortier	General Administration of Patrimonial Documentation (GAPD) FPGI; Eurogeographics	Belgium	U, P, C
Ingrid Naumann	Bundesamt für Kartographie und Geodäsie (BKG), Eurogeographics	Germany	U, P
Alina Kmiecik	Intergraph Poland Ltd; OGESDI	Poland	U, P, C
Ulrich Düren	Landesvermessungsamt	Germany	P

Table 10: Selected experts for the Administrative Units theme

Addresses

Name	Organisation	Country	Function
Morten Lind	National Survey and Cadastre; EuroSDR	Denmark	U, P, C
Per Sundberg	LMV, Sweden	Sweden	U, P, C
Ziggy Vanlshout	AGIV	Belgium	P, C
Yvette Ellenkamp	Geonovum	Netherlands	U, P, C
Sara Greenwood	Ordnance Survey	UK	P

Table 11: Selected experts for the Addresses theme

⁷ U – user, P-producer, C-Coordinator

Cadastral Parcels

Name	Organisation	Country	Function
Gyula Iván	Institute of Geodesy, Cartography and Remote Sensing	Hungary	U, P, C
Tarja Myllymäki	National Land Survey of Finland	Finland	P, C
María Amalia Velasco Martín-Varés	Spanish Directorate General for Cadastre	Spain	U, P, C
Olav Jenssen	Norwegian Mapping Authority; Eurogeographics	Norway	P, C
Peter van Oosterom	Kadaster (TU Delft); Eurogeographics	The Netherlands	P
Søren Riff Alexandersen	National Survey and Cadastre; Eurogeographics	Denmark	U, P, C
Wim Devos	JRC; IACS-CAP	Italy	U, P, C

Table 12: Selected experts for the Cadastral Parcels theme

Transport Network

Name	Organisation	Country	Function
Jorge Escriu Paradell	Institut Cartogràfic de Catalunya	Spain	C
David Russell	Ordnance Survey; EuroGeographics; EuroSDR, DNF	UK	U, P
John Mikalsen	Norwegian Public Roads Administration	Norway	U, P, C
Ulf Sandgren	Lantmäteriet	Sweden	U, P, C
Ward Velinden	National Geographic Institute (FPGI/ PFIG); Eurogeographics	Belgium	U, P, C
Dominique Laurent	Institut Géographique National; Eurogeographics	France	U, P, C

Table 13 : Selected experts for the Transport Network theme

Hydrography

Name	Organisation	Country	Function
Peter Parslow	United Kingdom Hydrographic Office-UKHO	UK	P
Alexander Coley	Environment Agency Wales	UK	U, P, C
Helen Eriksson	National Land Survey	Sweden	U, P, C
Anja Hopssock	Bundesamt für Kartographie und Geodäsie –BKG; Eurogeographics	Germany	U, P
Klaus Fretter	Bundesanstalt für Gewässerkunde,	Germany	P, C

Table 14: Selected experts for the Hydrography theme

Protected Sites

Name	Organisation	Country	Function
Dirk Hinterlang	Landesamt für Natur, Umwelt und Verbraucherschutz NRW	Germany	P
Rania Spyropoulou	EEA	Denmark	U, C
Keith Porter	Natural England NESDIC	UK	U, P, C

Table 15: Selected experts for the Protected Sites theme

For the Protected Sites Data Theme additional experts are being identified and contacted to complete the TWG.

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4 Results of the call

Coordinate Reference System and Geographical grids

No candidate specification has been proposed for the **Coordinate Reference System** by SDICs or LMOs. The number of experts proposed for the theme specification development was 16, equally representing the user and the producer communities. The producer side is represented by NMCAs, and 3 of the proposed experts are supported by European Reference Frame (EUREF), the leading European organisation within the field of coordinate reference systems.

The INSPIRE CT believes that European Terrestrial Reference System 89 (ETRS89) previously developed by EUREF and NMCAs, and adopted by EUREF in 1990, could be proposed as the **terrestrial** reference system for INSPIRE, as recommended in the proceedings of a joint European Commission – EuroGeographics workshop on *Map projections for Europe* (European Commission and EuroGeographics, EUR 20120 EN)⁸ and other relevant documents⁹. Following the workshop, the European Commission adopted ETRS89.

No candidate specification has been proposed for **Geographical Grids** by SDICs and LMOs. The number of experts proposed for this theme was 8. 6 of them came from NMCAs. One user represented the hydrographical and the environmental communities, and one the patrimonial documentation. There were no experts from the statistical, meteorological, geological and soil communities.

Also for the Geographical Grids data theme, the CT believes that European specifications previously agreed (in 2003) and following official adoption by the European Commission, the EEA and other European communities (Soil, Forest, ..), satisfy the selection criteria for several usages.

Both specifications satisfy the following principles

- they are the result of consensus building efforts across thematic communities;
- they have been adopted by various communities that are involved in INSPIRE, including EIONET.

References:

- European Commission 2003. *Proceedings of the workshop on European Reference Grids (27-29 October 2003)* EUR 21494 EN¹⁰.
- EEA, 2006. *Guide to geographical data and maps*, version 2 (pp. 20-26)¹¹.

Considering the close relationship between the Coordinate Reference Systems and Geographical Grid, the CT has decided to address both themes in one TWG. This TWG, which will consist of 5 experts, will develop the specifications following **scenario 2**, whereas specific parts of already mature specifications will follow the process of **scenario 1**.

Geographic Names

One candidate specification was submitted with national relevance. For clarifying the position of other Member States and considering the results of international initiatives already in place it is necessary to set up the TWG and develop harmonised specifications.

16 experts have been proposed, evenly representing the user and the producer communities. The CT has decided to set up the TWG consisting of 5 domain experts, and to develop and document specifications according to **scenario 2**.

⁸ <http://www.ec-gis.org/document.cfm?id=425&db=document>

⁹ See, for example, http://www.eurogeographics.org/eng/01_EuroSpec_reference.asp

¹⁰ <http://www.ec-gis.org/sdi/ws/grid2003/European%20Reference%20Grids%20EUR21294.pdf>

¹¹ <http://www.eionet.europa.eu/gis>

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Administrative Units

Each of the two submitted candidate specifications covers only a smaller part of the data theme. It is well known that there are other data harmonisation initiatives in Europe that already have achieved agreements within the field. In particular, the INSPIRE CT notes that the Nomenclature of Territorial Units for Statistics (NUTS) and the Seamless Administrative Boundaries of Europe (SABE) are in use by the Commission.

It will be the task of the TWG to clarify how the aspects of these two candidates can be accommodated and harmonised with them.

The number of experts proposed for this theme (12) gives the opportunity to harmonise this data theme according to **scenario 2**.

Addresses

This data theme generated high interest in a wide variety of communities. 4 candidate specifications have been submitted from 4 Member States. There is a need for harmonisation. The stakeholders' high interest is expressed through the number of experts proposed for scenario 2. Five experts out of 18 have been selected to form the TWG that will develop specifications for Addresses according to **scenario 2**.

Cadastral Parcels

Two of the three submitted candidate specifications concern specific solutions within one Member State. The third material is not a specification but rather a reference that underpins the necessity of further harmonisation efforts.

Due to the nature of this data theme, the majority of experts proposed for specification development come from NMCAs. The CT has decided to assign 7 domain experts to this TWG in order to accommodate the wide range of solutions. The harmonisation will take place according to **scenario 2**.

Transport networks

The high number of submitted candidate specifications (10) indicates the amount of work to be done for the harmonisation of this data theme. 8 of them originate from national sources, mainly from specifications of topographic databases. However, in some countries national standards have been developed with involvement of road authorities, which opens the possibility to carry out the harmonisation of the data theme from a wider perspective. The harmonisation process also should consider the results of some European projects that have been made available as reference materials for INSPIRE.

The experts proposed for specifications development of this theme come from different domains. The 6 selected domain experts will be invited to develop harmonised specifications according to **scenario 2**.

Hydrography

The number of candidate specifications (11) already shows the interest in this data theme of various communities. Representatives of the NMCAs, the hydrographical, marine and the environmental communities have submitted specifications and also nominated experts. The domain-specific views and also the proposed national solutions require therefore data harmonisation work. The TWG consisting of 5 domain experts selected from 4 communities will work according to **scenario 2**.

Protected sites

The international specification (Electronic Navigation Chart Product) submitted for this data theme covers only a smaller part of the topic, while the other submission describes the UK's solution how to handle the tasks that stem both from national and European legislative requirements. For exploring European practices and harmonising the possible solutions a TWG will be established that will work according to **scenario 2**.

The CT selected 3 experts for this TWG.

The summary of the scenarios that apply to specification development of Annex I is given in table 17.

Data theme	Scenario
Coordinate reference systems	2
Geographical grids	1
Geographical names	2
Administrative units	2
Addresses	2
Cadastral parcels	2
Transport networks	2
Hydrography	2
Protected sites	2

Table 16: Scenarios applied for Annex I themes

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5 Conclusions and way forward

First of all, the INSPIRE Team wants to express its gratitude to SDICs and LMOs that have made available specifications and proposed experts to participate in the INSPIRE process.

Reference material for all Annex I data themes is now available. With the exception of one data theme, all set up TWGs that follow the Scenario 2 approach consist of an appropriate number of experts.

By their nature, Annex I data themes raised interests and competences of NMCAs more than of other stakeholder communities. It is anticipated that for specification development for Annex II and III data themes, other communities will be properly represented as well. Still, proposed contributions to Protected Sites data theme show that the interest and the representation of the environmental community need to be strengthened. This is a task that the INSPIRE team will need to pursue in the short term in close collaboration with the EEA. In addition, there are a number of EU-funded projects that are expected to provide valuable resources to the TWGs. These projects will be invited to liaise with the relevant TWGs.

The geographical distribution of the proposed and consequently selected experts is uneven. A limited number of experts from New Member States was proposed and has been selected for TWGs. No proposals were submitted from Ireland, Luxembourg, and Greece. The majority of proposed – and selected – experts belong to Germany, the Scandinavian countries, the UK and Belgium. In preparation of the setting-up of the TWGs for Annex II and III data themes, the INSPIRE team will take a pro-active approach to involving new Member States.

In case of scenario 1 the call has not yielded the expected results. Perhaps the requirement for representativeness has not been underlined enough, leading to the submission of many national standards and specifications. On the other hand, European initiatives with wide acceptance and agreed specifications have not proposed their documents for this process. It is important to clarify the reasons for this, and if necessary to fine-tune the process in view of setting-up TWGs for Annex II and III.

The short term actions connected to launching the specification development for Annex I is to strengthen the Protected Sites TWG as soon as possible with some other domain experts and select the editors and the facilitator for all the themes. The CT will continuously monitor the performance of the TWGs and when necessary will involve additional experts preferably from the underrepresented domains and Member States.

The kick-off meeting of the TWGs for Annex I themes will take place on the 14-15 February 2008. The specification process will run for Annex I themes in parallel, and can have different internal milestones. However it is expected that the draft Implementing Rules shall be ready by April 2009 for all Annex I themes.

Annex 1: Submission form for candidate specifications

Basic information about SDIC or LMO

- a.) **REGISTERED SDIC/LMO:**
- If SDIC or LMO is already registered to the INSPIRE database the basic information about SDIC/LMO will be obtained from the database. SDIC or LMO should update this information if it is needed.
- b.) **UNREGISTERED SDIC/LMO:**
- If SDIC or LMO has not been already registered to the INSPIRE database, they will have to register first, following the existing registration procedure "SDIC/LMO Registration" on the website: http://www.ec-gis.org/inspire/sdic_call/index.html.
 - After the successful registration they can continue to register the proposal for candidate data specifications.

BASIC INFORMATION OF SDIC

The registration form corresponding to the application form published on the web site:

SDIC DESCRIPTION		
Title		
Acronym		
Mission and Objectives		
Mandate		
Formal Mandate	International/European Conventions	<input type="checkbox"/>
	European Commission	<input type="checkbox"/>
	National Government	<input type="checkbox"/>
	Regional Government	<input type="checkbox"/>
	None	<input type="checkbox"/>
Main Activities		
SDIC URL		
Membership		
Typology	Regional	<input type="checkbox"/>
	Thematic	<input type="checkbox"/>
	Sectorial	<input type="checkbox"/>
Comments		
SDIC CONTACT INFORMATION		
Contact Person	Name	Surname
Function		
Address		
Organisation		
e-mail		
Tel/fax	Tel	Fax

Activity type of SDIC/LMO

Activity type of SDIC/LMO	
Activity type <i>(It is allowed to mark more than one field)</i>	
• Coordination	<input type="checkbox"/>
• Data user	<input type="checkbox"/>
• Data transformer*	<input type="checkbox"/>
• Data producer	<input type="checkbox"/>
• Competence in multiple fields	<input type="checkbox"/>
Description of competence in multiple fields	< text >

* producers of value added products based on the data themes of INSPIRE

Relation of SDIC/LMO regarding INSPIRE implementation

Relation of SDICs/LMOs regarding INSPIRE implementation	
Formal involvement in the implementation of the Directive	
• Producer of datasets within the scope of the annex themes	<input type="checkbox"/>
• Which data themes	< select >
INSPIRE influence on core activities	
• User of data within the scope of the annex themes	<input type="checkbox"/>
• Existing application(s)	< text >
• Foreseen application(s)	< text >

Description of Candidate Data Specifications:

(Description of candidate data specifications should be provided for each marked theme)

Candidate data specification	
Please select the theme <i>(from the list of INSPIRE themes)</i>	< select >
Title of the candidate specification	<text>
Acronym of the candidate specification	<text>
Owner of candidate specification <i>(name of organisation)</i>	<text>
Community where the specification is used/has participated:	<text>
• Type of community	<text/date>
• Starting date of development/project	<text/date>
• Starting date of use	<text>
• Comment	<text>
Geographical extent of use:	<input type="checkbox"/>
• Global	<input type="checkbox"/>
• International	<input type="checkbox"/>
• Europe	<input type="checkbox"/>
• Transnational	<input type="checkbox"/>
• Regional	<input type="checkbox"/>
• Comment	<text>
Status of candidate specification	<text>
<i>(Describe the status of development, status of use, status of standardisation process of candidate data specification, harmonisation level of candidate data specification, the scope of use, ...)</i>	

Use of relevant standards <i>(Describe the relevant standards used in specification, like: ISO, CEN, others)</i>	<text>
Examples of implementation <i>(Describe examples of implementation, URL, accessibility (public, internet, private network, intranet, ...), average frequency of use, ...)</i>	<text>
Implementation issues of candidate data specification	
Already implemented	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partially
Extent of the implementation <i>(Describe the extent of existing operational use of specification and differences and plans to cover the full geographical extent of use.)</i>	<text>
Operational implementation <ul style="list-style-type: none"> • Organisation that manages/operates the system • Main users • Description of the system(s) and application(s) 	<text> <text> <text>
Pilots and prototypes <ul style="list-style-type: none"> • Pilots and prototypes • Organisation that runs pilots or prototypes 	<input type="checkbox"/> <text>

Explanation of the proposal	
Explanation of the proposal <i>(Describe the important issues of candidate data specifications that fit to the principles and purpose of INSPIRE.)</i>	<text>

Upload documents	
Candidate Data Specification	<upload file(s)>
Documentation related to candidate data specification	<upload file(s)>

6 Annex 2: Submission form for proposing experts for scenario 2

Basic information about SDIC or LMO

1a.) **REGISTERED SDIC/LMO:**

- If SDIC or LMO is already registered to the INSPIRE database the basic information about SDIC/LMO will be obtained from the database. SDIC or LMO should update this information if it is needed.

1b.) **UNREGISTERED SDIC/LMO:**

- If SDIC or LMO has not been already registered to the INSPIRE database, they will have to register first, following the existing registration procedure “SDIC/LMO Registration” on the website: http://www.ec-gis.org/inspire/sdic_call/index.html .
- After the successful registration they can continue to register the proposal for candidate data specifications.

BASIC INFORMATION OF SDIC

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SDIC DESCRIPTION		
Name		
Acronym		
Mission and Objectives		
Mandate		
Formal Mandate	International/European Conventions	<input type="checkbox"/>
	European Commission	<input type="checkbox"/>
	National Government	<input type="checkbox"/>
	Regional Government	<input type="checkbox"/>
	None	<input type="checkbox"/>
Main Activities		
SDIC URL		
Membership		
Typology	Regional	<input type="checkbox"/>
	Thematic	<input type="checkbox"/>
	Sectorial	<input type="checkbox"/>
Comments		
SDIC CONTACT INFORMATION		
Contact Person	Name	Surname
Organisation		
Function		
Address		
e-mail		
Tel/fax	Tel	Fax

INSPIRE Themes¹²

(Mark the INSPIRE themes for which you want to provide experts and working environment for the development of IR for data specifications. It is allowed to mark more than one theme.)

INSPIRE Themes			
Annex	No.	Theme	Proposed experts and working environment for theme(s)
Annex I	1	Coordinate reference system	<input type="checkbox"/>
	2	Geographical grid systems	<input type="checkbox"/>
	3	Geographical names	<input type="checkbox"/>
	4	Administrative units	<input type="checkbox"/>
	5	Addresses	<input type="checkbox"/>
	6	Cadastral parcels	<input type="checkbox"/>
	7	Transport networks	<input type="checkbox"/>
	8	Hydrography	<input type="checkbox"/>
	9	Protected sites	<input type="checkbox"/>
Annex II	1	Elevation	<input type="checkbox"/>
	2	Land cover	<input type="checkbox"/>
	3	Orthoimagery	<input type="checkbox"/>
	4	Geology	<input type="checkbox"/>
Annex III	1	Statistical units	<input type="checkbox"/>
	2	Buildings	<input type="checkbox"/>
	3	Soil	<input type="checkbox"/>
	4	Land use	<input type="checkbox"/>
	5	Human health and safety	<input type="checkbox"/>
	6	Utility and governmental services	<input type="checkbox"/>
	7	Environmental monitoring facilities	<input type="checkbox"/>
	8	Production and industrial facilities	<input type="checkbox"/>
	9	Agricultural and aquaculture facilities	<input type="checkbox"/>
	10	Population distribution – demography	<input type="checkbox"/>
	11	Area management/restriction/regulation zones and reporting units	<input type="checkbox"/>
	12	Natural risk zones	<input type="checkbox"/>
	13	Atmospheric conditions	<input type="checkbox"/>
	14	Meteorological geographical features	<input type="checkbox"/>
	15	Oceanographic geographical features	<input type="checkbox"/>
	16	Sea regions	<input type="checkbox"/>
	17	Bio-geographical regions	<input type="checkbox"/>
	18	Habitats and biotopes	<input type="checkbox"/>
	19	Species distribution	<input type="checkbox"/>
	20	Energy resources	<input type="checkbox"/>
	21	Mineral resources	<input type="checkbox"/>

¹² For definition of the themes please refer to the Directive on http://www.ec-gis.org/inspire/directive/I_10820070425en00010014.pdf

Activity type of SDIC/LMO

Activity type of SDIC/LMO	
Activity type <i>(It is allowed to mark more than one field)</i>	
• Coordination	<input type="checkbox"/>
• Data user	<input type="checkbox"/>
• Data transformer*	<input type="checkbox"/>
• Competence in multiple fields	<input type="checkbox"/>
• Description of the competence in multiple fields	< text >

* producers of value added products based on the data themes of INSPIRE

Relation of SDIC/LMO regarding INSPIRE implementation

Relation of SDICs/LMOs regarding INSPIRE implementation	
Formal involvement in the implementation of the Directive	
• Producer of datasets within the scope of the annex themes	<input type="checkbox"/>
• Which data themes	< select >
INSPIRE influence on core activities	
• Core user of data within the scope of the annex themes	<input type="checkbox"/>
• Existing application(s)	< text >
• Foreseen application(s)	< text >

Expertise and experience of SDIC/LMO

(Description in the following forms should be provided for each of the marked themes)

SDIC/LMO's expertise relevant to the selected themes	
SDIC/LMO's expertise	
– Domain expertise in selected theme	<input type="checkbox"/>
• Specification development (expertise in data product specifications)	<input type="checkbox"/>
• Specification implementation	<input type="checkbox"/>
• Participation in standardisation work	<input type="checkbox"/>
• Knowledge of ISO 19 000 series of standards	<input type="checkbox"/>
• Experience in geographic information product development	<input type="checkbox"/>
• GI software development	<input type="checkbox"/>
• GI software deployment	<input type="checkbox"/>
• Data analysis and assessment	<input type="checkbox"/>
• Research in the field	<input type="checkbox"/>
• Knowledge of the INSPIRE conceptual framework*	<input type="checkbox"/>
• Others	<input type="checkbox"/>
Comment <i>(Describe expertise)</i>	< text >

* INSPIRE conceptual framework includes D2.3, D2.5, D2.6, D2.7, more information is available in Terms of Reference

Expert Registration

Expert Identification	
Name	< text >
Surname	< text >
Organisation	< text >
• Name of the organisation	< text >
• Link with SDIC/LMO	< text >
• URL	< text >
Address	< text >
Email	< text >
Phone	< text >
Fax	< text >
Short CV including qualifications and dominant area of expertise	< text >
Full CV	< upload.>

Background	
Specifications where the expert has been involved (in the development and/or maintenance)	< text >
Involvement/activities for the definition of INSPIRE	< text >
Implementing Rules	< text >
Participation in projects related to INSPIRE	< text >

Area of Interest					
Annex	No.	Theme	User	Pro-ducer	Co-ordi-nator
Annex I	1	Coordinate reference system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2	Geographical grid systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3	Geographical names	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4	Administrative units	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5	Addresses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6	Cadastral parcels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7	Transport networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8	Hydrography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9	Protected sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annex II	1	Elevation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2	Land cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3	Orthoimagery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4	Geology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annex III	1	Statistical units	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2	Buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3	Soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4	Land use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5	Human health and safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6	Utility and governmental services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7	Environmental monitoring facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8	Production and industrial facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9	Agricultural and aquaculture facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	10	Population distribution – demography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	11	Area management/restriction/regulation zones and reporting units	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	12	Natural risk zones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13	Atmospheric conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	14	Meteorological geographical features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	15	Oceanographic geographical features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	16	Sea regions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	17	Bio-geographical regions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	18	Habitats and biotopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	19	Species distribution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	20	Energy resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	21	Mineral resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Commitment	
Declaration of commitment	< text >
Total man-month committed	< text >
Additional comments	< text >