

INSPIRE Spatial Data Services and Invoke Service – Draft Implementing Rules						
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Comment ID	Chapter, section or clause no./Subclause No./	Paragraph/Figure/Table	Type of comment	Comment (justification for change)	Proposed change	Proposed Resolution/Reaction by NS DT Drafting Team
CPO-1	3.3.2 CRS	requirement 4	T	The reference to Annex II.1 of the ISDSS IR is not clear as this Annex does not specify a single coordinate reference system but offers a list with options and allows for theme-specific exceptions. It is furthermore unclear what "supporting" the CRSs means. This may differ substantially from service type to service type and requiring a certain set of CRSs for each SDS type is unlikely to be appropriate.	Consider changing this to state that each harmonised SDS type must specify the spatial (and temporal) CRS-related requirements	first sentence: it is indeed needed to clarify that at least one is to be supported. Second sentence: it is assessed that "supporting" is fit for purpose.
CPO-2	3.4.1 Gazetteer Service		G	In the beginning, some emphasis was placed in INSPIRE on the role of gazetteers and DT DS developed the Gazetteer application schema several years ago. Since then, the issue of gazetteers was never raised in the implementation context and no (demand for) implementations in INSPIRE is known; as a result the application schema is likely to be removed again until gazetteer requirements in INSPIRE, if any, are clear (see http://inspire-twg.jrc.ec.europa.eu/jira/browse/DS-1903 for a detailed discussion). It is also not quite clear why GN (and all other data that uses names), AD and AU data sets should be published via "regular" download services and additionally via gazetteer services. Finally, the discussion ignores the current activities in OGC to specify a new gazetteer service standard as well as the gazetteer requirements identified the Generic Conceptual Model (while the application schema will probably be removed, the requirements are expected to continue to be documented in the GCM as input to any potential future work on gazetteers).	Drop the Gazetteer Service from the list of harmonised SDS, at least until the demand and architectural requirements have been clarified. Note that this is a cross-component issue and should only be addressed in close cooperation with the groups involved in the ISDSS drafting and maintenance.	Taking into account all comments received on the gazetteer service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of gazetteer service
CPO-3	3.4.2 Registry Service		G	If we take the list of all the relevant registers related to spatial data sets and ISDSS, it is obvious that there is no single registry service interface and no single set of QoS requirements that could be specified that fits all the different registers. And for each one, I expect the interface will look substantially different than the interface ideas from the draft registry discussion paper. As the discussion in the current revision of 19135 shows, IR requirement 12 is too strong, too. While Canada may propose to make OGC CSW ebRIM an ISO standard, this should not make this standard a direct candidate as an interface for registry services. The registries are for most parts non-spatial and most registries on the web are not and will not use CSW ebRIM. No register managed by OGC is using a CSW ebRIM based registry either.	Drop the Registry Service from the list of harmonised SDS. If such an harmonised SDS is to be specified, this should be done only after the cross-component discussion on registers by IOC-TF and DT DS is finished and then very likely on an item-class-by-item-class basis. Note that this is a cross-component issue for all registers related to ISDSS and should only be addressed in close cooperation with the groups involved in the ISDSS drafting and maintenance.	Taking into account all comments received on the registry service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of a registry service
DSS-1			G	This document is focused on technical matters. There are many issues surrounding the access and use conditions relating to the services and resulting access control. Although DT-DSS accepts that this is not the primary focus of this set of implementing rules, it would be helpful to the reader to acknowledge these issues and state how they might be addressed. If a service may need licence/ access management to make it work then this needs to be acknowledged.	Please at the least include acknowledgement of these issues.	these are valid issues but there is already a metadata element in the metadata regulation. Also this remark is a larger issue as it applies as well to NS except the discovery service but it is assessed by the Drafting Team as out of scope as it is not a geospatial specific issue (e-government, ISA, ...).
DSS-2			G	DT-DSS find it difficult to understand how an end-users know the licence conditions of the service used when it is accessed through an invoke service. As we understand it the user will be able to easily access the licence of the invoke service through the metadata of that invoke service, but (if we understand correctly) he won't be able to access easily the licence(s) of the service(s) invoked. This also applies to any chained services or services which draw on multiple other services.	Please explain	the current proposal does not include a specific INSPIRE invoke service so no need to document the access and use of the invoke service. The Spatial Data Services' access and use is already documented in the applicable metadata element (see regulation No 1205/2008).
DSS-3			G	It may be helpful to propose a way to communicate the licence through the invoked service. For example could an invoked service list in its metadata the licences of the services invoked = a copy of metadata elements "Conditions for access and use" and "Limitations on public access". Or alternatively should the licence be dealt with separately and then access enabled through a federation, or within the download service? This issue need to be addressed.	Please explain	This information is indeed useful for a user to evaluate a Spatial Data Service.
DSS-4			G	How do invokable, interoperable and harmonised services work? Examples would be extremely helpful.	Examples needed	Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improved the readability of the document
DSS-5	2		E	Error in the paragraph numbering. 'Section 2. Introduction' is followed by '3. Spatial Data Service Type' but in a smaller font size and apparently a lower level of heading.	Correct heading levels and numbering	Agreed
DSS-6	2		T	There seems to be inconsistency between the paragraphs numbered 3.1 - 3.6 and the detailed descriptions of the services which run from the bottom part of P11 to P12. For example, the 'definition' of a View Service (which is actually includes viewer client functionality) is not the same as the 'in more detail' description below - which actually has less detail!!	Re-draft to be clear what is definition and what is 'more detail'	agreed paragraphs 3.1 to 3.6 are in fact an extract of the regulation No 1205/2008 (annex D.3) and are therefore not following the document numbering.
DSS-7	2	3.6'	T	The list running from 3.1 to 3.6 is headed by a statement that these are definitions. However, 3.6 Other Services has no definition below it. The following paragraph makes reference to 'what is defined as other services in this list' but there is no definition.	Include definition of Other Services	Paragraphs 3.1 to 3.6 are an extract of the regulation No 1205/2008 (annex D.3) and therefore contains the text of the regulation.
DSS-8	3	Figure 3	T	There is no indication of the distinction between the green and orange boxes.	Please explain	orange boxes are Network Services , green boxes are Spatial Data Services.
DSS-9	3.4.1	First para and Recommendation 5	E	The name of the INSPIRE theme is Administrative Units (AU) not 'Administrative Boundaries (AB)'	Correct reference to INSPIRE theme	agreed.
DSS-10	3.4.2		E	Reference to Annex B not correct p.22 Section 3.2 A long list of registries is discussed in IOC TF- see Annex B --> it is actually Annex A	Correct	agreed.

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DE-1	3.3.2 Interoperability arrangement – coordinate reference systems	requirement 4	T	Interoperability of spatial services in view of coordinate reference systems requires the services either to use the same coordinate reference system, or to apply a transformation service between the services. The reference to Annex II.1 of the ISDS IR is not a proper solution, as this Annex does not specify a single coordinate reference system but offers a list with options (e.g. four map projections with the <i>Two-dimensional Coordinate Reference Systems</i>), and allows for theme-specific exceptions. Moreover, I expect the Network Services Drafting Team to at least consider the role of Transformation Services in linking services / datasets that do not use one of the predefined systems from the list in Annex II.1.	consider transformation services.	The regulation No 1089/2010 leaves the choice between several coordinates reference systems for harmonized spatial data sets without specifying further the applicability of each of the listed CRS, it is therefore out of scope of these draft Implementing Rules to constrain further the required CRS. For what concerns the reference to the Transformation Network Service the amendment of regulation No 976/2009 indeed introduced the transformation services to be implemented by the Member States and was accompanied by in particular Technical guidelines for the coordinates transformation that could be useful for ensuring the sequencing of several spatial data services.
DE-2	3.3.3 Temporal reference system	requirement 5	G	IR Requirement 5 repeats a requirement from the ISDS IR. It is not necessary to repeat it, as requirement 9 already states that implications for member states relate only to new developed services relating to harmonised data, where "harmonised data" indicates compliance with ISDS IR.	drop requirement, refer to ISDS IR	It is needed to create a self standing document.
DE-3	3.3.5 Interoperability arrangement – encoding	requirement 7	G	IR Requirement 7 repeats a requirement from the ISDS IR. It is not necessary to repeat it, as requirement 9 already states that implications for member states relate only to new developed services relating to harmonised data, where "harmonised data" indicates compliance with ISDS IR.	drop requirement, refer to ISDS IR	It is needed to create a self standing document.
DE-4	3.3.4 Interoperability arrangement – performance criteria, quality of Service		G	The Directive does not mandate an implementing rule laying down the minimum performance criteria for spatial services. Article 16 demands performance criteria for network services only. If harmonisation of spatial services is treated similar to harmonisation of spatial datasets, the DT NS should be aware of the decision for ISDS IR where minimum quality criteria for spatial data sets is NOT mandatory, by intention.	change requirement to recommendation	agreement with the first two statements. The NS DT still believes that there is a need to have performance criteria for interoperability arrangements to ensure that new Spatial Data Services will have sufficient availability to be usable.
DE-5	3.4.1 Gazetteer service	recommendation 5	T	A dataset of administrative boundaries is not a gazetteer. However, a gazetteer service may extract relevant information from a data base that relates administrative codes (such as NUTS) and/or the geographical names of administrative units with the geometry of administrative units (i.e. the administrative boundaries).	change recommendation 5 from "...the Location type should be either an address, a geographical name, or an administrative polygon" to "...the Location type should be either an address, a geographical name, or an administrative code (national Code, NUTS Code)"	comment agreed. Taking into account all comments received on the gazetteer service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of gazetteer service
DE-6	3.4.1 Gazetteer service		G	The Geographical Names community in Germany supports the move to harmonise the Gazetteer services. They refer to the EuroGeonames project for good practice.	none	noted. Taking into account all comments received on the gazetteer service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of gazetteer service
DE-7	4.1.1	Title	E	User Case: Locate a location instance	Use Case: Locate a location instance	agreed
DE-8	1.3, 2nd sentence	"However, Spatial Data Services play a role in the infrastructure, that, though less well-known, is equally important."	E	The sentence does not say anything.	Delete the sentence.	agreed.
DE-9	1.4 - Figure 1	"Harmonised SDS"	T	The paper suggests that for harmonised SDS there are only Gazetteer and Registry. (Isn't the directive a Download_Service??)	"Gazetteer / Registry"	the DT proposed these 2 services and the DT indicates that a gazetteer is not only a download service.
DE-10	1.6 (4)	spatial data service types	E	in the directive there is the word "mean" in between. Please write it down here as well, for you cannot get the meaning.	"(4) spatial data service mean the operations which may be performed..."	agreed.
DE-11	3 - Figure 4		E	in order to make it a little clearer to the reader...	Add some words to the figure: Compliant with Harmonisation >> Registry, Gazetteer Compliant with Interoperability >> WMS, WFS, WCS, CSW Invokable >> e.g. Downloadservice for shape-data, non-ogc-service for raster-data etc. "-types, e.g. geographical names (GN), addresses (AD), administrative boundaries (AB) and statistica Units (SU)."	Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improve the readability of the document
DE-12	3.4.1 Gazetteer Service	first sentence	E	Statistical units (SU) should be added, because it is quite obvious they will be needed in case administrative units and statistical units vary.		Agreed.
DE-13	2	Figure 2	E	Figure is not consistent with Figure 3 and SDS Requirement 1 (chapter 3) which says that "Network services are a subset of invocable spatial data services"	Extend the dark blue colored "invocable" rectangle to include the discovery, view, download and transformation network services.	Point taken.
DE-14	3	all	G	The terminological clarifications are appreciated. However, the distinction of the different types of SDS and especially the distinction of Network Services according to the existing regulation (View, Download, etc.) and SDS is still not completely clear.	Please elaborate further, also using practical examples.	Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improve the readability of the document
DE-15	3.2	Second paragraph (list)	G	According to Figure 3, Network Services are a subtype of Invokable Spatial Data Services. Thus, the conditions for invocability create additional requirements which are not mandatory according to the regulation and technical guidance documents for the existing Network Services (View, Download, etc.). This applies to the following conditions: "resource locator defines an activation point and shall be an URL", metadata entry for conformance to ISO / OGC standards, "well-documented and accessible description (e.g. SOAP / WSDL)", "well documented and accessible quality of service characteristics".	Clarify that these additional requirements do not apply to Network Services according to the existing regulation.	agreed
DE-16	3.2	Second paragraph (list), last paragraph	G	A web service description using WSDL / SOAP is listed as condition to make a service invocable.	Please remove or explain the rationale for the WSDL / SOAP requirement. We suggest to write "well defined interface" instead of "WSDL/SOAP".	agreed to avoid any misunderstanding even if the reference to WSDL/SOAP is only an example.
DE-17		Second paragraph (list), last paragraph	G	"Well documented and accessible quality of service characteristics" are listed as condition to make a service invocable. The meaning of "accessible" in this context is not clear.	Explain "accessible" in this context.	point taken.
DE-18	3.4	all	G	Within MS, registry services are currently being implemented according to specific needs in order to support the internal SDI processes. A general need for harmonised registry services is not completely clear.	Explain why a registry service was chosen from the list of service types (annex to metadata regulation) as candidates for detailed implementing rules to achieve service harmonisation.	Taking into account all comments received on the registry service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of a registry service
DE-19	3.4	Fourth paragraph	G	The decision to implement the proposed harmonised SDS Gazetteer and Registry is left to the MS (which we advocate).	Please state this as recommendation or explain why they are to be included in a legally binding regulation.	Taking into account all comments received on the registry and gazetteer services that do not indicate strong support for these harmonized services. The NS DT do not see the case for proceeding further with the specifications of a registry service
DE-20	3.4.1	all	G	According to the Directive, Download Services have to be provided for the spatial data themes "Addresses" and "Geographical Names". The implementation of both a Gazetteer and a Download Services for Addresses is deemed to be partially redundant.	With the requirement for download services for addresses and geographical names a gazetteer service becomes redundant and should be removed from the draft SDS IR.	partially agreed as the proposed description of a gazetteer service contains more than a download service.
DE-21	3.4.1.1	Third paragraph	G	Implementation as a SOAP-based service should not be required for Gazetteer Services.	Delete the paragraph.	agreed
DE-22	1.6	terms and definitions	G	define "harmonized dataset"	harmonized datasets: "datasets in full conformance to ISDSS"	point taken. An harmonized data set is a spatial data set compliant with regulation No 1089/2010
DE-23	1.4	figure 1	G	"service bus" is not the correct wording, the correct wording according the directive (e.g. Art 4 c (ii)) is "network" (same on figure 2)	change to "service bus" to "network"	out of scope of the document to change architecture terminology as this figure uses terminology already included in several existing guidelines
DE-24	1.4	figure 1	G	GeoRM and digital rights management list out of scope for INSPIRE (same on figure 2)	change to "optional: AAA-Layer" (authentication, authorization and accounting)	out of scope of the document to change architecture terminology as this figure uses terminology already included in several existing guidelines

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DE-25	3.2	first red box, p16	T	feedback: there is no need to specify this for every service type. Do it more general on a broader level. E.g. one concept for referencing to OGC-services. Plus one concept for referencing to a WSDL registries.	create a general concept for referencing to services. E.g. check the ogc-service registry and just explain the pattern to be used in the INSPIRE metadata when referring to a OGC-service type. If there are other communities than OGC, check if there are also general patterns possible and document them. You may first restrict it to OGC. Put this issue also to the INSPIRE-registry discussion. Consider to model this as a codelist in the inspire registry, that is extendable on demand. This codelist shall not be restricted in any legal binding document. The development of the codelist shall be part of the INSPIRE maintenance process.	Point welcomed.
DE-26	3.2	second red box, p16	T	feedback: requirements for service descriptions.	NO! This decisions about service descriptions (e.g. WSDL) should be independent from inspire and especially independent from the legal inspire act. This decisions are up to the standardisation organisations ISO, OGC and others. "Inspire builds on existing infrastructures....." Trust OGC, ISO & CO! INSPIRE shall not restrict here in any way. This decision was already taken in the IOC TF for network services and shall be similar handled here.	Point welcomed.
DE-27	all	all	E	There was some confusion by our readers about the difference between invoke service and invokable service. Please add a paragraph to explain.	proposal: "invokable services are services that can be invoked by applications or services. A services that is able to invoke one or more other services is called invoke service. There are no specific requirements for invoke services. It is not even required to establish invoke services. However, if invoke services are offered in the sdi, they will match also to the DSD-criteria and this will require at least to provide discovery metadata for them as for any other SDS.	Point taken and proposal welcomed
DE-28	all	all	G	Positiv Feedback: Very good: In the whole document the word "INSPIRE invoke service" occurs only in the title and the document focuses on "invokable services". We like to express that we support this view.	.	thank you.
DE-29	3.3.x	IR-Requirements 3,6,9	G	With the ongoing INSPIRE implementation process, we expect that the number of network services providing harmonized data will evolve rapidly. With the increasing availability of harmonized data we expect further that a wide variation of spatial data services will be adjusted to use harmonized data rather than to use various heterogeneous data. In the categorization according this document, these services will all be classified as "new developed SDS". Hence the combination of requirements 3 (make it mandatory), 6 (availability 99%) and 9 (new developed sds) will potentially put a much bigger burden on the MS than the implementation of the network services. We think that this burden will rather tend to hinder than to help the establishment of spatial data services. Further we don't see the legal obligation for these requirements. (please note: this comment may potentially be a blocker)	(1.) Change Requirement 6 (availability) to a recommendation and (2.) Change Requirement 9 (new developed sds) to a recommendation.	Disagree as it is a rather generic statement without supporting evidence (e.g. "... will potentially put a much bigger burden on the MS than the implementation of the network services") On the legal obligations, they are given by article (7)(1) of the INSPIRE directive requiring implementing rules: laying down technical arrangements for the interoperability and, where practicable, harmonisation of spatial data sets and services
DE-30	3.3.x	IR-Requirements 3,9	G	While network services do only serve for the common use cases like "discovery, view, download" all thematic use cases must be served by a wide variation of spatial data services. These thematic usecases are very valuable in a SDS but they do naturally come with their own specific use cases and individual requirements. It is likely that Requirement 9 will formally fit, but the fulfillment will result in contradicting the foreseen use case. E.g. think of a SDS service that acts as an adapter between harmonized data service and a proprietary client application. This service will formally be affected by Req#9 (and others) but fulfilling the requirement does contradict the foreseen use case.	add in requirement 3 "where practical" and change requirement 9 to a recommendation.	It is not clear why requirement 9 would impend an SDS in fulfilling the foreseen use case.
DE-31	3.3.5	IR-Requirement 7	T	if you think of a adapter service that acts as a bridge between a harmonized data service and other formats this requirement does not make sense as it contradicts the foreseen use case for this service.	change to a recommendation	Agreed.
DE-32	3.3.8	IR-Requirement 8	G	As stated before, it can be assumed that invokable services do already implement a invokable and well defined interface (e.g. a OGC-service), so this requirement is potentially obsolete.	consider to remove requirement 8	not agreed as it is difficult to assume that more thematic/specific spatial data services will always have a well known interface
DE-33	3.4	first paragraph	G	in the paragraph 1.2 is stated that MS develop gazetteer and registry where practical. We support this view! The term "where practical" assumes that it is a recommendation. Add this statement explicit as a numbered recommendation in the document.	add recommendation to implement gazetteer and registry.	point taken.
DE-34	3.4.2		T	We do suport the registry approach very much! However we see the most important point in operating a registry on european level. From our point of view the whole registry topic is still in development and it is too early to mandate operating special interfaces for a registry services on MS level.	add a requirement "A registry shall be operated on european level. (the INSPIRE Registry). This registry shall support extension points that enable member states to connect MS-registers to the INSPIRE registers. The extension points shall not require special interfaces. The extension point design shall foresee to register individual URL-patterns for the connection. This would enable to match european registers with member states registers while still allowing flexible and individual implementations on MS level. The only requirement for MS level registries shall be that registers and items on MS level are accessible by a well defined HTTP-URL scheme. The INSPIRE registry shall provide the mapping via extension point.	Taking into account all comments received on the registry service that do not indicate strong support for this service to have harmonized interfaces and parameters, The NS DT do not see the case for proceeding further with the specifications of a registry service
DE-35	3.4.2	table	G	The table was foreseen specific for codelists and is still in discussion. Maybe it is already obsolete.	check with IOC TF if table is obsolete and maybe remove it.	point taken , the table was given as an example. It Will not be there in the next version as the Registry Services will be removed from the harmonized spatial data services section
DE-36	all	all	G	general feedback: Our most urgent comments are that we disagree in putting too much burden on the MS by mandating too much in general, e.g. QoS (e.g. availability) while the use cases are very individual. We would like to see this IR more to support the evolving SDI by creating a good framework for SDS rather than demanding things that tend to hinder the general acceptance of INSPIRE. At the same time we see here exelent progress towards this good framework that goes clearly into the right direction. In this context we are happy with the progress and would like to express our support to and thanks to the team.	.	Point taken
SDS_F11	3		G	It is confusing that the 'Invoke Spatial Data Service' is not included in the conceptual model of service in figure 3 even if the category is included in the INSPIRE Directive and the Metadata IR. Perhaps the figure could be drawn in another form (see appendix).	See attached INSPIREServices.ppt	point taken but the invoke spatial data service is not included in the draft IR.
SDS_F12	3		G	There is no need to update the figure of the INSPIRE Architecture. The Gazetteer service is not a part of architecture, but an implementation of a service type even if there would be certain requirements concerning it. Otherwise one should describe different options of download services, transformation services and view services in the architecture as well.	See attached INSPIREServices.ppt	not agreed. Gazetteers and registry are service type too.

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SDS_FI3	3		G	The most important question is: when a spatial data service is a SDS in INSPIRE context? That question should be clearly answered. The criteria could be that the metadata describing a spatial data service should be available when - the service is maintained by an authority which maintains the spatial data in INSPIRE context and - the service is invocable and - the service is able to handle spatial data in INSPIRE context When the metadata is available the spatial data service is discoverable.		Point taken
FRA-1	General		G	This document describes the invocable services but doesn't deal with the invoke service itself. It should be more detailed on the definition of invocation.	Clarify the rules to be applied to the invoke service.	there is no INSPIRE invoke service so no need to detail it more.
FRA-2	General		G	In a general way, if we agree about the inclusion of gazetteer's services in the field of the IR, as use case and first SDS, we would like to point that this inclusion will be difficult in a regulation. We keep in memory the difficulties to match technical guidelines and legal text after the previous regulations about network services.	Please	gazetteer services would be in the harmonized services category, meaning they would be implemented "where practicable". Also Taking into account all comments received on the gazetteer services that do not indicate strong support for these harmonized services, The NS DT do not see the case for proceeding further with the specifications of a gazetteer service
FRA-3	General		G	It's difficult to understand how an end-user know the licence conditions of the service used when it is accessed through an invoke service. As we understand it the user will be able to easily access the licence of the invoke service through the metadata of that invoke service, but (if we understand correctly) he won't be able to access easily the licence(s) of the service(s) invoked. This also applies to any chained services or services which draw on multiple other services.		these are valid issues but there is already a metadata element in the metadata regulation (CONSTRAINT RELATED TO ACCESS AND USE).
FRA-4	1.4	Figure 1	G	It would be clearer to give a different acronym for spatial data sets IR and for spatial data services IR (even if the official name is the same)	Call the first IR Interoperability and the second IR SDS	not agreed
FRA-5	1.5		E	the reference to ISO 19112 does not reference the year (not coherent with other ISO standards)	replace "EN ISO 19112" by "EN ISO 19112:2003"	agreed.
FRA-6	1.5		E	Reference to ISO 19118:2011 is missing. It is used in section 3.3.5.	Add the reference to ISO 19118:2011.	agreed.
FRA-7	1.6	(1) service	E	the definition of "service" term is adapted from ISO/IEC TR 14252	add "adapted"	agreed.
FRA-8	1.6		E	interoperability is defined but harmonisation is not (whereas both concepts are used later in the document)	Define also "harmonisation"	point taken but interoperability is defined article 3 (7) of the INSPIRE Directive while harmonisation is not and is defined by the content of the implementing rules
FRA-9	1.7		E	Many acronyms missing	Add at least NCP, DT, SOAP, WSDL, SLA, OGC	agreed to define the acronyms. Update the document
FRA-10	2		E	- The Invoke Service is missing on Figure 2.	Add the Invoke Service on Figure 2.	there is no INSPIRE invoke service so no need to detail it more.
FRA-11	3	Figure 3	T	The "access service metadata to enable service invocation". Metadata that enable service invocation are directly provided by the invocable service (for example through GetCapabilities operation). So the link "access service metadata to enable service invocation" is not justified.	Clarify the meaning of the link "access service metadata to enable service invocation".	agreed. Figure to be updated
FRA-12	3.2	recommendation 2	E	It would be nice to provide some examples.	Provide some examples of GIS functionalities that could be considered as a spatial data service.	Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improve the readability of the document
FRA-13	3.2	Paragraph 2	T	According to the last bullet, documentation of quality of service is required for an invocable service: - How and where can it be documented? On the service side?	Clarify	invocable services are only defined and not required.
FRA-14	3.2	last Paragraph	G	We do not support reference to WSDL and SOAP. The main reason is the weak feedback of real implementation in the field of spatial services, and a strong doubt about the performance of such process in our own field. Again, technical issues should be kept out of the IR.	Delete any mention of WSDL & SOAP	proposed change not agreed. It is only given as an example.
FRA-15	3.3	interoperability arrangements	T	The set of requirements looks globally fine but: - is performance criteria really about interoperability? - there is no rationale for this set of requirements	To be better explained.	interoperability in the context of INSPIRE also includes QoS.
FRA-16	3.3.5	Recommendation 4	E	All themes guidelines provides at least one encoding, so "it" is not justified. "Themes" could be worded more clearly.(Annex I, II and III themes)	Rephrase the recommendation : "...shall follow more concrete specifications for the different themes in Annex I, II and III given in the corresponding technical guidelines"	agreed.
FRA-17	3.4.1	First paragraph + recommendation 5 + 3.4.1.1	E	Right name for INSPIRE theme is Administrative Units (AU) instead of Administrative Boundaries (AB)	To be corrected	agreed.
FRA-18	03/04/02	Registry services	G	we are very reserved about inclusion of registries in the IR. The question of the place of the registries in the INSPIRE's architecture is unclear. During the 6 th Committee, France asked for a EC's position and the answer was not positive. We understood, in the following debates, that the registries are an issue strongly connected to maintenance's organization, which is yet not formally defined. Furthermore, we understood that the OGC (and ISO) works on the use of permanent URLs as mean to get access to registers's elements. From our point of view, the question of registries is not yet stabilized and should not be in an IR.	Delete reference to registry services in the IR.	point taken. Taking into account all comments received on the registry service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of a registry service. Also looking at the 6th INSPIRE Committee minutes the mentioned EC position is not easily identifiable without additional details.
FRA-19	3.4.2	Requirement 12	T	ISO 19135 does not deal with registry services.		ISO 19135 deals with the process of maintenance of registry and is therefore applicable.
PL-1	Figure 2 and Figure 3	Figure 2 and Figure 3	editorial	Figure 2 and Figure 3 are not consistent.	If network services are subset of Invocable SDS, dark blue rectangle indicating Invocable SDS in the figure 2 should be extended over network (discovery, view, download and transformation) services.	point taken.
PL-2	Chapter 3.2	Bullet point "the service type of the service belongs into one of the categories 200, 300, 400, 500, 600, 700, 800 as defined in the Metadata Implementing Rule"	editorial	Classification of SDS is defined in Part D 4 of Regulation 1205/2008 and not in Metadata Implementing Rules	Bullet point should be changed to "the service type of the service belongs into one of the categories 200, 300, 400, 500,600, 700, 800 as defined in D 4 of Regulation 1205/2008"	Agreed.
CZ-1	01-mars	Text	G	Since the start of the development only those 4 examples of possible SDS have been presented. From the first presentation we thought SDS will cover other OGS services (WPS, WCS). But the document describes mostly gazetteer. It does not even include an example of a registry service and the other was round none of the WPS and WCS from the examples given is mentioned.	Please add some more examples and use them later in the text where appropriate. Like this it looks like the technical rules are developed far from the practice. We know, that this is usually a work for the TG documents, but since SDS are still quite unclear, we think it would help to understand the document better.	Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improve the readability of the document

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CZ-2	2	Figure 2	G, T	According to this figure discovery, view, download and transformation services are not invocable, moreover they are not interoperable, neither harmonized. All these services should be interoperable and they should operate (in future) above harmonised data sets. We think discovery, view, download and transformation services should be included in the section of harmonised, interoperable and invocable as well. Is there a point of having services that would be invocable, but not interoperable or not harmonised?	Discovery, view, download and transformation services should be included in the section of harmonised, interoperable and invocable services. Otherwise, please give an example of a service, which does not have to fulfil these three conditions (being harmonised, interoperable and invocable).	point taken.
CZ-3	3	Figure 3	G,T	In addition to the previous comment (No.1) the chain of the diagram of "Network services" should be moved two levels lower under "Harmonised spatial data service", because discovery, view, download and transformation services should also be harmonised.	A new diagram should be made with the part of "Network services" two levels lower under "Harmonised Spatial Data Service".	it is a conceptual model driven by the current legal acts status.
CZ-4	3	Figure 4	G	This figure should include a relation to the implementing rules of the network services, since they are supposed to be a subset of SDS.	Please take into considerations also the implementing rules of the network services for a new figure.	the figure relates exclusively to Spatial Data Services not including the Network Services.
CZ-5	03-févr	2nd paragraph	G	What is mentioned by "the service has well documented and accessible quality of service characteristics"? What exactly is "well documented"? Is it planned that only the invoke service will have these characteristics as mandatory elements in metadata? It is not mandatory for the metadata of other network services.	Please explain.	well documented is to be seen from the invocability point of view, i.e. what is the information required to invoke a service. Also the current draft implementing rules do not propose the implementation of an invoke service consequently any additional metadata would be for the spatial data services.
CZ-6	03-mars	3rd paragraph	T	To develop the comment No.4 we would like to remind that the data quality IR development was stopped in February 2011. Or at least no further information has been given since the Brussels workshop in 02/2011.	If any metadata elements on quality will be mandatory in future, please indicate them either to this document or to a separate document on Data Quality otherwise it will cause an inconsistency between what requires the SDS IR and what is mandatory in the Metadata Regulation.	point taken but the quality mentioned is about Quality of Service (QoS) not data Quality.
CZ-7	04-mars	table	G	We strongly support the Register of Licences.	The column "INSPIRE implementation" should be filled in. E.g. by "Will support and facilitate data sharing"	The creation and maintenance of registers is out of the scope of these Implementing Rules.
CZ-8	06-janv	text	G	We do not think the Annex C should make a part of this document. Just because it rewrites all the sentences with "spatial data service" from all the INSPIRE documents, it does not justify the need of SDS IR. It only looks like because it is mentioned a lot, it is important. But all the sentences would make sense with "network services". In none of the draft IR developed before, such annex formed a part of the draft.	Remove annex C.	not agreed, the INSPIRE Directive requires Spatial Data Services Implementing Rules to be created (article 7 (1)). Also the annex summarizes the legal background and it will be not be part of the Implementing Rules.
CZ-9	all the document	.	G	We appreciate the effort of the drafting team; on the other side we do not see much progress from the first presentation of this issue in Krakow conference (June 2010). It is maybe time to admit that some plan were too ambitious during the development of the INSPIRE Directive and now they cannot be fulfilled. The position of SDS is still very unclear and very artificial in all the complex of INSPIRE services. That is why all this draft does not even cover anything that would lead to the technical solution. We know that a feasibility study about the need of an IR for SDS has been made, but since we still are not able to explain to the Czech stakeholders, what the benefit of having IR for SDS is, or what the examples of SDS are (except of those 4 examples of SDS that have been presented since Krakow), we suggest finishing these efforts and declare following: "All the network services are SDS and invoke service is a discover service".	We suggest not to develop further the SDS and invoke services IR.	not agreed. Also Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improved the readability of the document
UK1	1,3	Cited examples of Spatial Data Services	G	Neither the "gazetteer of Scotland" (footnote 2) nor the royal mail postcode service (footnote 3) are examples of what this document describes as a Spatial Data Service (SDS), certainly not an invocable SDS. We are unclear as to how these came to be cited as SDS, and are uncomfortable with their inclusion here (especially given that Royal Mail is a private organisation). Their inclusion suggests that anything which does a "geo search" could be an SDS, which clearly isn't what was intended. Keeping these references is likely to confuse rather than clarify.	Remove references to gazetteer of Scotland and Royal Mail postcode service as examples of an SDS. Provide examples of what is an SDS, and what isn't.	agreed.
UK2	2.2.1-2.6	text	G	The structuring of the section puts all services and types at the same level - in reality it is a hierarchy	Services are effectively a hierarchy. This is diagrammed later but it would be helpful to structure the text within that way here. In that there are spatial data services, a sub-set of which are network services, and that these include view, discovery, download etc. Then there are the non-network service SDSs, and cutting across there are invocable services.	agreed, paragraphs 3.1 to 3.6 are in fact an extract of the regulation No 1205/2008 (annex D.3) and are therefore not following the document numbering.
UK3	3,5	Page 11	G	Surely "Invoke Spatial Data Service" isn't really a service. It is just an interface to a service, the service being the "Other Services" defined at 3.6. That seems to be confirmed by the fact that "Invoke" isn't shown in Figure 1. It is not clearly defined what the service is that an "Invoke" service provides.	Don't classify Invoke as a "Service".	indeed the current draft implementing rules does not propose to define an invoke spatial data service. Also the list referred to is in fact an extract of the regulation No 1205/2008 (annex D.3) that provides different spatial data services type not limited to the Network Services even if they share the same name.
UK4	3,6	Figure 2, Page 12	G	This diagram shows "Invokable SDS" as a distinct category of SDS from "harmonized" and "interoperable". Yet figure 1 doesn't show Invokable as a distinct service. This is confusing. It is good to see registries formally recognised as important but are they spatial data services?	Ensure consistency between Figure 1 and Figure 2, and clarify the relationship between these services.	agreed.
UK5	3 and 3.4.2	text and figure 3	T	There could be a number of registries that are provided by the commission side and some provided by member states. They could be quite different and may not all need the same interface.	There won't be one registry service.	Taking into account all comments received on the registry service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of a registry service
UK6	3,1	Page 15	G	Would a metadata service record actually be needed for all SDS types? For example a registry?	Clarify requirement.	the metadata regulation already requires a metadata record for all spatial data services.
UK7	3,2	Page 16	G	Bullet 4 on page 16 states that "the service is conformant to a commonly agreed or standardised specification". This could be perceived as limiting, in that it requires there to be an already published standard or specification in place. Given the current maturity of this area, would it not be preferable to allow MS or Data Providers to define their own specifications (only where no standards are available) to allow SDS to be published and incorporated into the INSPIRE infrastructure.	Consider whether services just need to have a well-defined specification, rather than a commonly agreed or standardised specification.	agreed.
UK8	3.4.1.1	Page 21	T	This section states that "It is thus suggested that this service will be a SOAP-based service". There is a very strong trend toward RESTful web-services. Furthermore, UK Location aspires to a Linked Data implementation of the INSPIRE Directive - which is predicated on the use of HTTP URIs, thus shall not use SOAP-based services.	Consider a RESTful web-services approach to implementation.	point taken.
UK9	3.4.2	Page 22	G	A Registry Service seems to be a different kind of Service when compared to something like a Gazetteer service. It does not seem to be a service that acts on the underlying spatial data (which I understand an SDS to be), rather a service which supports the description of that underlying spatial data. It seems to relate more to metadata than to the spatial data itself. This is illustrated by the architecture (Figure 2) which clearly shows Registry Services not operating against Spatial Data Sets. I totally agree that Registries are a key part of the evolving INSPIRE architecture, it's just they don't seem to fit as an SDS.	Consider whether a Registry Service is actually a Spatial Data Service, or whether it should be dealt with as a separate class of service.	not agreed a registry service is an SDS following the definition of SDS in the INSPIRE directive and is listed in regulation 1205/2008 as one category for the classification of spatial data services (annex D.4)

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UK10	3.4.2	Page 23	T	We believe that ebRIM is a time-expired technology - it provides a formalised information model for Registers / RegisterItems and a mechanism for creating user-defined 'slots' to carry additional information. With the advent/adoption of Linked Data, we can directly implement the ISO19135 Register/RegisterItem model and implement, for example, using Linked Data API. However, the OGC CSW Specification - ADDITIONALLY, provides an API (e.g. a set of operations that can be used to interrogate the registry / catalogue). The ISDS Implementing Rules refer to OGC CSW-ebRIM 1.01. Again, this is woefully outdated. If we are to adopt an API for search across (federated) catalogues we recommend OGC CSW 3. The major benefit here is the adoption of OpenSearch as the _ONLY_ mandatory API. The fact that it _IS_ mandatory means that one should be able to assume that _ALL_ CSW3-compliant end-points understand OpenSearch - and thus one can build an architecture that can federate search queries to multiple repositories - which is an essential requirement for UK Location (if not INSPIRE itself!).	Consider the adoption of OGC CSW 3.	Point taken. The referred paragraph is a note in the document not to be considered as part of the draft implementing rules.
UK11	General	General	G	General feedback from a number of reviewers is that the document is confusing in its content, its intentions, and the context and status of the implementing rules and recommendations. The document appears to be addressing a number of issues, but it is unclear what the obligations are on member states as a result of this.	Restructure document to provide greater clarity on what SDS are and how they fit into INSPIRE, and on member states obligations with regard to implementation of SDS.	point taken.
UK12	General	General	G	There is very little mention of licensing and how this will work with regards to invoking services. For example how will harmonising e.g. a gazetteer service for the UK work with different licensing regimes involved between different sources of addresses - can these be separate yet linked spatial data services? How can you invoke a service automatically and get around licensing and other access constraints?	Document needs to consider how licensing and access management will impact on the implementation of these services.	The draft implementing rules do not propose to define an invoke service. The licensing regimes should be provided in the INSPIRE metadata element "CONSTRAINT RELATED TO ACCESS AND USE" for each spatial data service.
UK13	General	General	G	As a general comment on the document as a whole, the relationship between "Invoke" and "Spatial Data Services" is still as confusing as it was in the documents published last year.	There needs to be a much clearer and simpler explanation of the key concepts that this document is trying to explain.	point taken
BE-1	3	Figure 4	editorial	Should be position of networkservice not been included in the figure. As a subset of Spatial data services?	Adapt figure	the figure relates exclusively to Spatial Data Services not including the Network Services.
BE-2	3	3.2	editorial	First sentence is: "if there exists and is accessible"	Split in 2 sentences. First on the content of the metadata and second on the accessibility of these metadata	agreed.
BE-3	3	3.1 - 3.2	General	In 3.1 there is: the is no obligatory QoS of service in the metadata. And 3.2 one can read: The service has well documented QoS characteristics. Contradictory sentences?		no contradiction, 3.1 is about discoverable SDS and 3.2 about invocable SDS that are a subset of discoverable SDS.
BE-4	3	3.3.6	Technical	Requirement 8: Must the metadata returned by GETServiceMetadata in the service return all needed metadata according to the IR on metadata or can it be a subset?	Clarification	point taken.
BE-5	3	3.3.4 - 3.4	Editorial	Recommendation 3 vs Requirement 11. They are not in contradiction but at first reading they are. The difference between the two is that for each service the requirements on QoS can be different and this is not clear when reading recommendation 3.	Recommendation 3 No further requirements shall be mandatory for the performance or quality of spatial data services in general. For each SDS type, particular requirements will apply.	Recommendation 3 is in the context of the Interoperability Arrangements while requirement 11 is applicable only for "harmonised SDS".
BE-6			General	There are now 2 examples. But there will be more of SD services. Could a list be set up of potential services without already going into detail?		Taking into account all comments received on the need to provide examples and/or more explanations the NS DT agrees that providing examples would improve the readability of the document
BE-7	3	3.3.7	General	Is it correct that existing SDS will not have to be made compliant with the IR on SDS? Only SDS developed 2 years after the adoption of the IR have to be made compliant. Older SDS are not affected. Correct?		Yes
AT-1	1.2	Paragraph 3	G	Definition of the term "computer application" is needed, since this term is neither defined in 1.6 (Terms and Definitions) nor in the INSPIRE regulation	Specify in Chapter 1.6	Not agreed.
AT-2	1.2	Paragraph 7	G	It is not clear if and to what extent the implementation of the gazetteer and a registry service an obligation for the MS or not. The viewpoint of the notion "where practicable" is not well defined.	Please provide a clear understandable explanation for the notion "where practicable".	point taken. The definition of "where practicable" is not in the scope of implementing rules for the spatial data services implementing rules as it is mentioned in the INSPIRE framework Directive (article 7 (1) and article 11 (a)).
AT-3	3.4.1	Recommendation 5	G	If a gazetteer is mandatory, a minimum set or amount of data location types should be conditionally mandated.	Define the minimum set of data location types for mandatory gazetteer services.	point taken even if the gazetteer service has been proposed in the harmonised Spatial Data Services where the practicability of implementation is mentioned. Also taking into account all comments received on the gazetteer service that do not indicate strong support for this harmonized service. The NS DT do not see the case for proceeding further with the specifications of a gazetteer service
AT-4	1.4	List of elements	G	What is the meaning of the abbreviations e.g. "ISDS IR"? Where do these abbreviations refer to?	Provide the reference for the abbreviation "ISDS IR"	agreed.
AT-5	3.4	Whole chapter 3.4	G	It is not clear how the delimitation of a harmonized service is to be understood: is a SDS harmonized, when it fulfills the interoperability arrangements plus the QoS like a network service, or is a SDS harmonized by definition (e.g. every gazetteer, every registry service, ...). For our understanding the existence of all QoS-parameters defines a harmonized SDS.	Please confirm that the difference in terms of QoS is the definition / delimitation of the harmonized SDS.	that latter corresponds to the content of this version of the draft implementing rules
AT-6	3.4.1.2	Whole Chapter	G	The QoS values do not have any realistic fundament. The proof of concept is missing for the definition of these QoS parameters values.	Base the mandated values of the QoS parameter on concrete results of tests or on best practice results (in terms of really needed QoS values for machine to machine communication in order to avoid golden plating).	agreed the number were included to trigger feedback
AT-7	3.4.2	Whole Chapter	G	The QoS values do not have any realistic fundament. The proof of concept is missing for the definition of the QoS parameters values.	Base the mandated values of the QoS parameter on concrete results of tests or on best practice results (in terms of really needed QoS values for machine to machine communication in order to avoid golden plating).	agreed the number were included to trigger feedback
AT-8	3.3.5	Requirement 7	G	We do have the impression that IR requirement 7 profoundly restricts the output of interoperable SDS. According to Article 7 of Commission Regulation (EU) No 1089/2010 of 30. November 2010 schemas for a transformation to an unknown target (INSPIRE schema of a today's unknown SDS) have to be developed by the provider.	Please reformulate IR Requirement 7	Agreed.
AT-9	3.3	Page 17, third paragraph	G	"... freely exchange ..." must not include terms of licensing and pricing	Clearly describe the understanding/scope of "freely exchange"; e.g. change to "...freely exchange in terms of technical communication..."	agreed.
SWE-1	1.8		T	What is an SDS Requirement	It should just be two type of requirements: IR (legal) och TG (recommendation)	point taken.
SWE-2	General (and 1.2 + 3.4)		G	If we understood the document correctly there will be no special requirements for the MS to set up services (=other SDS)		not correct, the document proposes 2 harmonised services to be implemented by the MS. No action
SWE-3	1.6		T	Some central definitions are missing	Add definition to "Invoke spatial data service" (see 3.5), "Other service" (see 3.6) and "Harmonised SDS" (see figure 3). Regarding the last term; is it data och service that should be harmonised?	point taken.
SWE-4	3.6		G	Unclear about the scope. The title of the document is "INSPIRE SDS and Invoke service" but in 3.6 it is stated that "This document deals with what is defined as other services". Invoke is not an other service.	Pls clarify	agreed, the quote refers to the spatial data service type as defined in the regulation No 1205/2008 (annex D.3) and the referred to paragraph is not part of the section 3.6
SWE-5		Figure 2 and 3	T	The two figures don't correspond. All services are a subset of Invocable SDS.		there is a need to ensure consistency.
SWE-6		Figure 2	T	Network services are also invocable and interoperable	see our suggestion in attached PPT	network services are indeed invocable and interoperable .
SWE-7		Figure 3	T	network services should be a subset of Harmonised SDS. All should be discoverable and invocable. So what's the need of two different levels; SDS and Invocable SDS	see our suggestion in attached PPT	the concept of invocability is required by the invoke service implementing Rule. The INSPIRE directive only mandates SDS to be discoverable not invocable.

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SWE-8		Figure 2 and 3	G	A network service can serve both non harmonised and harmonised data until INSPIRE "deadline" for harmonisation of data (2012/2017 and 2015/2020). We assume that this document will just reflect the situation when all network services will operate on harmonised data.	Please clarify	The assumption is wrong because figures reflect the current situation not once the SDS IR have entered into force.
SWE-9		Figure 4	E	The relation to IR should be SDS/Invoke not two separate IR		the INSPIRE directive requires 2 sets of IR. The final decision on the number of legal acts is not yet taken.
SWE-10	3.1	Recommendation 1	T	Should be an IR requirement		thanks but not agreed
SWE-11	3.3.7			Spatial data service is the term for all services, but this requirement will just apply for "other services"	Please clarify	as indicated in the document, the Interoperability Arrangements are not applicable to the Network services.
SWE-12	3.4.1	Link Gazetteer Service	T	Unclear description	Please clarify what is needed	disagreed it is a quote from the regulation: 976/2009
SWE-13	General		G	In the directive (11.6) Invoice service is understood as a service among the other network services, but in the draft IR invoke is more a state of services. Is that correct?		it is correct that it is not a service.
CT-1	3.3.7	IR REQUIREMENT 9	T	Article 7 (3) of the INSPIRE Directive requires Implementing Rules to be applied to existing Spatial Data Services as well not only new ones	Change Requirement to indicate existing SDS shall be conformant with technical interoperability arrangements following the 7 years indicated in article 7.3 of the INSPIRE directive	Agreed
CT-2			G	It is well written and clear. One thing not clear in the document, is whether the gazetteer and registry services are the only two services proposed to be harmonised, or the two key ones to ground the interoperability of the infrastructure, and others may be proposed in future. Congratulations to those who drafted the report.	Clarify what's the progression path for harmonised services	The 2 harmonized services have been removed and generic requirements introduced for the harmonisation.
CT-3			T	Only 2 harmonised SDS are identified Based on use cases. The Gazetteer and the Registry service. it is not clear where the Recommendation 2 GIS functionalities will be in the SDS Implementing Rule ... Is it right to assume these will follow from the section 4.2 Use Case - Registry ? Will there be SDS which will be invocable to 'do something' with the attribute data ? For example aggregation of values to a grid, etc.etc. ? looking at of the 'oilspill use case' http://inspire.jrc.ec.europa.eu/documents/Spatial_Data_Services/BestPractice_OilSpill.pdf for example. The 'processing services' found in the diagrams are precisely the type of 'operations on spatial data that would be expected to find in the INSPIRE SDS. It's also these kind of 'use-cases' which allow better explain what the SDS are about and where they will make a change compared to the current situation.	1. clarify how GIS functionalities will be adapted or/and harmonised. 2. Clarify how the interoperability arrangements will ensure invocability of existing and new services. 3. Provide additional examples and detail them from the point of view of the improvements provided by the Implementing Rules	1. With the proposed harmonized services (gazetteer/registry) being removed from the IR document, there is no further work to be done on the concrete harmonized services examples. Thus there will be no harmonized, GIS based, services proposed. The adaptation of the harmonized services will be done by the interoperability arrangements applied to any Spatial Data Service that exposed part of the functionality of any GIS system provided that IR requirement 1 is followed (the SDS relates to spatial data sets in themes in Annex I-III, or their related metadata). The invocable section of the IR document explains that it affects all SDS where the service type of the spatial data service belongs into one of the categories 200, 300, 400, 500, 600, 700, 800 as defined in the Metadata Implementing Rule. 2. This is mainly done by the metadata requirements, metadata should contain the information that will enable invocation of the SDS. The requirement 2 describes this obligation. In addition, requirements 8, 9 and 10 provide information on metadata. 3. The examples are to be provided by all team members, when this is done, the document will contain proper examples