INSPIRE

Infrastructure for Spatial Information in Europe

Towards a Maintenance and Implementation Work Programme for the INSPIRE Directive for the period from 2016 – 2020 (MIWP 2016)

Working title: "Taking the implementation into the home stretch"

Type	Revised draft for MIG-P[1] consultation and finalisation.
Creator	DG ENV, JRC, EEA
Date/status/version	14/07/2016 / DRAFT / version 2.2
Addressee	MIG-P (for consultation)
Identifier	**[DOC 5rev3]**
Description	The results of the INSPIRE evaluation (REFIT) and the implementation report provide a clear picture on the implementation of the INSPIRE Directive at its half-way point. A lot of progress has been made but there is no single country which has fully implemented the Directive to date. At the same time, the most challenging deadlines are still ahead. Further to the orientation debate at the MIG-P in December 2015, it was agreed to translate the direction provided by the MIG-P into a renewed and reviewed Work Programme for the collaboration between the EU level partners and the Member States, the so-called MIWP.
	A first draft was presented and discussed at the MIG-T meeting in April 2016. Thereafter, MIG-T and MIG-P members were invited to send written comments by 25 May. Comments were received from AT, BE, DE, DK, FI, FR, IT, LV, MT, PL, PT, SE, SK and UK as well as NO.
	Some important general comments were, in particular, that:
	- the draft document is appreciated and goes in the right direction. The collaborative and consultative approach was welcome.
	- However, important details (actions in Annex 1) were missing and key underlying documents such as the COM's REFIT evaluation needed to be available before finalising any decision on the MIWP.

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[1] MIG-T and MIG-P are the official MS expert groups that are mandated to support the implementation of the INSPIRE Directive. The MIG-T is the technical group and the MIG-P is the policy group that ultimately decides on the work programme.

- there are many interesting ideas in the document but they need further clarifications since they are often too generic to assess practical consequences.

Some more detailed comments were made and therefore, the enclosed document is revised taking into account these specific comments. Moreover, a more detailed set of actions is included in the Annexes (see separate [DOC6]). Supporting and background information (such as the results of the REFIT evaluation or the outcome of the bilateral meetings) will be made available separately to the meeting.

25/07/2016 Version 2.1: This new version DOC5rev is amended in the light of the comments received in writing by BE and DE on 24 June. However, most of the comments were not targeted to amend the document but require general discussions and clarifications. Hence, the revised document only includes a limited number of changes.

The aim is to discuss and agree this document at the meeting of the permanent policy sub-group of the MIG (MIP-P) on 28 and 29 June 2016. It forms then the basis for work in the second half of 2016. As necessary, it will be reviewed, refined and further developed in December 2016 to ensure up to date planning for the work envisaged in 2017 and thereafter.

14/07/2014 Version 2.2: The MIWP 2016-2020 was exhaustively discussed in the 4th MIG-P on 28-29 June 2016. This version of the document takes into account the outcome of that discussion. On request of the MIG-P the annexes are included in the main document. This document is shared with the MIG-P for consultation. Comments should be sent to the DG ENV INSPIRE mailbox (env-inspire@ec.europa.eu) by 15 October 2016. The Commission intends to publish the INSPIRE Art. 23 Report (COM(2016)478) and REFIT Staff Working Document (SWD(2016)243) on 20/07/2016. These documents will be published on http://eur-lex.europa.eu/ and we will put a link from the INSPIRE web page, once they are available. We will also notify you when the documents are published in the public domain.

Requested actions: The members of the MIG-P are invited to:

- Make comments in writing (track changes only) by 15 October 2016

- Agree to review the document and, if necessary, revise, refine and further develop it in the next meeting of the MIG-P (December 2016) with the view to ensure that it provides the most up to date planning for the collaboration under the MIF for 2017 an beyond.

- Fully endorse the MIWP 2016-2020 in the next MIG-P.

Draft conclusions (for the minutes of the 4ᵗʰ MIG-P meeting):

- The MIG-P had an exchange of views on the new MIWP as proposed and welcomed the fact that this preparation took place in a consultative way.

- However, it was noted that a final agreement on the long-term work programme was not possible yet because the Commission had not published its implementation report and REFIT evaluation which are a major driving force for developing this new MIWP. It was agreed that Member States should have a chance to analyse the Commission's documents, once available, and verify whether they translate well in the new collaborative work programme.

- Hence, the MIG-P endorsed the MIWP only on a provisional basis as a basis for work for the remainder of 2016. During its next meeting (foreseen for December 2016), the MIG-P will review, and if necessary, revise, refine and further develop this MIWP (including its annexes) with the view to ensure that it provides the most up to date planning for the collaboration under the MIF for 2017 an beyond. It will take account also of the progress and the further discussions to take place under the proposed actions so as to further develop or direct them.

- In order to allow for a proper preparation of the next meeting so that the MIWP can be fully endorsed, MIG-P members are invited to send written comments (preferably in track changes) by 15 October 2016 (provided that the Commission report and REFIT evaluation are published in July). Should MIG-P members not react in any way in writing, it is assumed that they can endorse the current document without discussion. This applies in particular for the main part.

- As far as the actions in annex 1 are concerned, it is envisaged to update the enclosed actions in the light of progress and with the view of defining the tasks for 2017 and beyond. Moreover, additional actions may be included or, actions discontinued, if the MIG-P decides so.

Towards a Maintenance and Implementation Work Programme for the INSPIRE Directive for the period from 2016 – 2020 (MIWP 2016-2020)

Working title: "Taking the implementation into the home stretch"

Table of Contents

1 Introduction

The Directive establishing an Infrastructure for Spatial Information in Europe (INSPIRE, Directive 2007/2/EC) has reached its half-way mark and important deadlines have already expired. Member States have made individual efforts of the past years which resulted in good progress. Its overall objective is to establish an European spatial data infrastructure for the purposes of EU's environmental policies and policies or activities which have an impact on the environment (Article 1 of INSPIRE Directive 2007/2/EC). This will enable the better sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe which will benefit citizens and businesses alike.

However, a large diversity exists throughout the EU and the there is no country which has fully implemented the Directive to date. Based on national reports, the Commission has undertaken a substantial evaluation of the state-of-implementation and the fitness of the Directive for its intended purpose (a so-called REFIT evaluation). The results of this substantial assessment will be published shortly[2]. A working document summarising the findings has been provided for preparation of the MIG-P of June 2016[3]. Overall, it is clear that further efforts at all levels and by all actors will have to be made over the coming years to close the identified gaps in implementation (against targets) and steer future implementation actions towards maximising the legislative, societal and environmental benefits from the INSPIRE Directive. Based on the preliminary finding, there are a number of priority issues that should be addressed at Member State level (provided this is still relevant in the particular country), in particular (in short, details see REFIT report):

- close identified implementation gaps (including improving coordination with focus should be on coordination with environmental (reporting) authorities);

- further removing obstacles and inefficiencies in national data policies;

- give priority to all the spatial data sets required for the implementation of EU environmental law, in particular monitoring and reporting (as one important use case), as well as data sets identified in relevant global processes (in particular in UN-GGIM);

- align the national INSPIRE implementation with the drive towards an EU Digital Single Market, e.g. by better coordinating with eGovernment and open data processes at the national level.

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2   The Commission intends to publish the INSPIRE Art. 23 Report (COM(2016)478) and REFIT Staff Working Document (SWD(2016)243) on 20/07/2016. These documents will be published on http://eur-lex.europa.eu/ and we will put a link from the INSPIRE web page, once they are available. We will also notify you when the documents are published in the public domain.

3   DOC3 of the 4th meeting of the MIG-P (28/29 June 2016)

The evaluation has uncovered significant differences and advances between the Member States on these subjects. This offers a significant potential for learning from each other and promoting "best practices". In this context, the high potential of using available EU financing opportunities could be explored further.

At EU level, the following actions have been recommended by the Commission (in short, see details in REFIT report), in particular:

A. evaluate the shortcomings of the national data policies in relation to the Article 17 of the Directive in more detail and explore synergies with the free flow of data initiative under the Digital Single Market with the view to resolving these issues through that;

B. review and, possibly revise, the INSPIRE implementing acts, e.g. on the INSPIRE reporting decision of 2009 or the spatial data interoperability specifications (e.g. of Annex III data) or harmonisation, taking into account the implementation risks and the complexities with the view to reducing them (simplification of requirements);

C. improve the usability and facilitate the implementation of existing INSPIRE rules, e.g. making it easier for users in the area of monitoring and reporting (as one important use case) to access and use spatial information through common tools and foster priority setting together with the Member States.

In addition to these points, there is scope to look further into the coherence and possible synergies of the INSPIRE Directive with other EU legislation and, in particular promoting its application in the wider Digital Single Market agenda and the "eGovernment" (including open data) processes. The recent eGovernment Action Plan[4] includes the implementation of INSPIRE as one of the 20 actions. Moreover, the Commission and Member States could work even closer together to promote the implementation also in all relevant European agencies and international partners to the EU (bodies of conventions etc.) with the idea to substitute, where possible, reporting on spatial data by granting access.

Taking all these recommendations into account, the Commission called on the Member States to continue the successful collaboration within the Maintenance and Implementation Framework (MIF) which was established following the adoption of the Directive to support the implementation efforts proactively and collaboratively (cf. section 2). In operational terms, this would require an update and review of the existing Maintenance and Implementation Work Programme for the INSPIRE Directive (MIWP)[5].

This document responds to this call and prepares a renewed and further developed MIWP building on the existing one but brought in line with the findings of the INSPIRE evaluation and the recommendations made by the Commission. This MIWP 2016-2020 is designed to set out the path for the period "taking the implementation of the INSPIRE Directive into the home stretch" because

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4 COM(2016) 179

5 https://ies-svn.jrc.ec.europa.eu/attachments/download/1136/MIWP_20150430.pdf

the last deadlines of the Directive expire in 2020. It is clear, however, that the MIWP will have to undergo a regular review and, if necessary, adaptation to the changing situations until then. Therefore, the documents sets out the background (section 2), establishes a long-term objective and priority setting (section 3), identifies key areas of work (section 4), strengthens the stakeholder engagement (section 5), discusses practical arrangements (section 6) and concludes including provisions for a regular review mechanism (section 7).

Disclaimer:

This document is a joint, consensual and voluntary work programme endorsed by the competent authorities of the Member States, the Commission's DG ENV and DG JRC, the European Environment Agency and experts from other countries (in particular Norway and Iceland) for the INSPIRE Directive. It is a committed to work together at EU level to close existing implementation gaps and reap the benefits of the INSPIRE Directive and complements positively (not replaces) all the significant national efforts and strategies. This document does not alter in any way the legal obligations set out by the Directive.

The current version of the document is provisional and aims at framing and mandating the work to be commenced in the second half of 2016. This document will be reviewed, and if necessary revised, at the next meeting of the MIG-P (foreseen in December 2016), in particular to allow for consideration of and ensure alignment with the Commission's implementation report and REFIT evaluation which will be published soon. ok

2 Background and context

The MIF is an informal[6] collaboration between the EU level partners (namely the European Commission, mainly DG ENV and JRC, and the European Environment Agency, short the EU Coordination Team "CT") and the Member State competent authorities responsible for the INSPIRE implementation. It has built on the work of the consultative process to prepare the numerous Implementing Acts[7] for the INSPIRE Directive and is now maintaining them. It also prepared useful guidance documents and exchanged good practices also with the help of EU-funded projects. Moreover, stakeholder engagement was part of the activities from the outset. In addition, the main achievements over the past years are, in particular:

- Providing guidance for Member States by developing technical guidelines (e.g. invocable Spatial Data Services)

- Corrective maintenance of the INSPIRE framework by managing and resolving issues in technical guidelines and preparing proposals for change for Implementing Acts (e.g Metadata & Interoperability regulation);

- Adaptive maintenance of the INSPIRE framework (e.g. sensor observation and web coverage services, Abstract Test Suites …)

- Development of tools supporting implementation (e.g. registries, validation/conformance testing)

- Building capacity in the Member States for INSPIRE implementation (e.g. webinars, best practices, presentations …);

In 2014, a new set-up was agreed within the MIF taking account of the fact that the work on Implementing Acts was completed. The technical sub-group of the Maintenance and Implementation Group (MIG-T) was complemented by a policy sub-group (MIG-P). Both sub-groups work in close collaboration having different responsibilities. However, *de facto*, the MIG-P is overseeing the MIF because of its responsibilities to agree the work programme and to endorse proposed actions and results of the technical work[8]. In addition, the MIG is also tasked "to identify and give advice about the priority issues to be addressed in the maintenance of the INSPIRE Directive". The INSPIRE Committee has not met since because there was no need after the adoption of the last Implementing Acts. During the preparation of the INSPIRE evaluation and the implementation reports, the MIG was informed and consulted.

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6   The formal cooperation is ensured through the INSPIRE Committee.

7   http://inspire.ec.europa.eu/index.cfm/pageid/3

8   See MIG Terms of References

In December 2015, the Commission services (namely DG ENV) presented the preliminary findings of this work and suggested to hold an orientation debate based on a discussion document[9]. The results of this orientation debate were, in particular, that the MIG-P:

- Welcomed the opportunity to discuss the future orientation of the MIF at an early stage and before the Commission finalised its report;

- Fully supported the need for priority setting welcoming the suggestions in the discussion document as a basis for further work;

- Acknowledged that a particular priority of the future collaborative work will be to ensure that the INSPIRE Directive helps enhancing the efficiency of environmental reporting (as one important use case) as envisaged by the regulatory monitoring initiative under the Better Regulation agenda;

- Stressed concerns on harmonization and on existing technology-focused, sometimes rigid Implementing Rules on interoperability.

- Identified a number of ideas and suggestions for future work such as simplification and streamlining of monitoring and reporting for INSPIRE;

In addition to these discussion, the Commission services embarked in a series of bilateral meetings with many Member States (between October 2015 and April 2016) to discuss specific implementation gaps and identify ways to close them. Overall, the idea was to ask Member States to prepare specific, tailor-made action plans together with the national reports which are due in May 2016. The discussions during these bilaterals gave an excellent insight into the particular challenges in the different Member States and allowed for a discussion on how the Commission could assist in addressing them[10].

The outcome of the MIG-P orientation debate and the feedback from the dialogues fed into the preparation of this MIWP 2016-2020. Moreover, the MIWP 2016-2020 had to be designed in full knowledge of a number of Commission priorities, external factors and processes which can influence the further work under MIWP positively, in particular:

- The Digital Single Market initiatives with particular relevance for the INSPIRE Directive, namely the free flow of data initiative, the e-Government Action Plan and the European Interoperability Framework, where synergies can be created;

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9   See MIG-P of 4 Dec 2015, document no. 1

10   See MIG-P of 28/29 June 2016, DOC4.

- The Better Regulation agenda driving efficiency and effectiveness whereby the INSPIRE Directive can help reducing administrative burden whilst enhancing the access to evidence for policy making and implementation;

- The Environment policy agenda based on the 7th Environment Action Programme with a strong emphasis on implementation;

- The link to EU policies and other international initiatives, in particular Copernicus, the HORIZON 2020 agenda, the UN GGIM and GEO where INSPIRE already plays an important role.

- The national eGoverment and Open Data initiatives, where convergence of efforts and alignment of implementation rules would partially address the omnipresent resource issues.

On all these and other initiatives not specifically listed here, the MIWP 2016-2020 can play an important role to contribute and can act as a platform to explore and exploit synergies to the maximum extent in a collaborative and consultative spirit that dominated in the INSPIRE implementation from the outset.

3   Objectives and priority setting

An overarching **vision** for a European spatial data infrastructure for the purposes of EU's environmental policies and policies or activities which have an impact on the environment (Article 1 of INSPIRE Directive 2007/2/EC), is to put in place easy-to-use, transparent, interoperable spatial data services which are used in the daily work of environmental policy makers and implementers across the EU at all levels of governance as well as businesses, science and citizens to help improving the quality of the environment and leading to effectiveness gains and more simplification.

This can be translated into the following **long-term objectives** of the MIWP 2016-2020:

- to support the implementation of the INSPIRE Directive so that existing implementation gaps are closed and upcoming implementation challenges are addressed in the most effective, efficient and pragmatic manner;

- to strengthen the end-user perspective by promoting or developing end-user tools which allow to harvest the benefits from INSPIRE for environmental policy makers and implementers across the EU at all levels of governance; and

- to improve access to information and thereby promote business opportunities, transparency and accountability which is essential for public administrations, businesses and civil society alike.

In line with this vision and objectives, it is timely to take specific actions to make INSPIRE work, i.e. to make the current infrastructure more user-centric, simpler for users and ready to deliver short terms results (and benefits) building on implementation efforts and requirements as set out in the Directive and its implementing rules. Meanwhile the achievement of long term objectives and the exploitation of synergies with relevant initiatives (e.g. DSM: eGov, Free Flow of Data, Cloud Initiative, Data for Policies …) should be promoted.

When talking about users, it is clear that public authorities dealing with the environment (e.g. from EU policy making to national implementation to local enforcement) are the initial primary beneficiary of the INSPIRE implementation. But just about any public authority that uses spatial data can benefit, such as an agriculture department or the transport authorities. Eventually, academics, researchers, non-governmental organizations, businesses and citizens are also expected to benefit. Business will most likely be encouraged to develop new electronic applications for markets interested in (quality) geospatial information - for example, providing shoppers with the locations of bank machines, insurance companies with information on flooding hazards, or cyclists with cycling shop locations, delivered through personal mobile phones.

Therefore, a user demands and requires get more focussed as part of the **strategic direction** as a basis for this work programme, in addition to the continued **"support for implementation"** (work area 4):

- to assess the fitness for purpose of the INSPIRE framework and promote simplification (see work area 1: **"Fitness for purpose"**: Making INSPIRE "fit for purpose" supporting solution-oriented end-user perspective);

- to deliver short term results (quick win applications) including helping to streamline reporting (which is one use case but not the only one) (see work area 2: "**End-user applications**" for environmental reporting and implementation);

- to ensure alignment and synergies with EU emerging policies and initiatives (see work area 3: "**Alignment with EU policies/initiatives**" creating a platform for cooperation).

The new strategic direction will guide the MIWP 2016-2020 and result in immediate actions so that we demonstrate that the INSPIRE Directive can be implemented in a proportionate, faster and pragmatic way. This strategy is the centrepiece of the new MIWP 2016-2020.
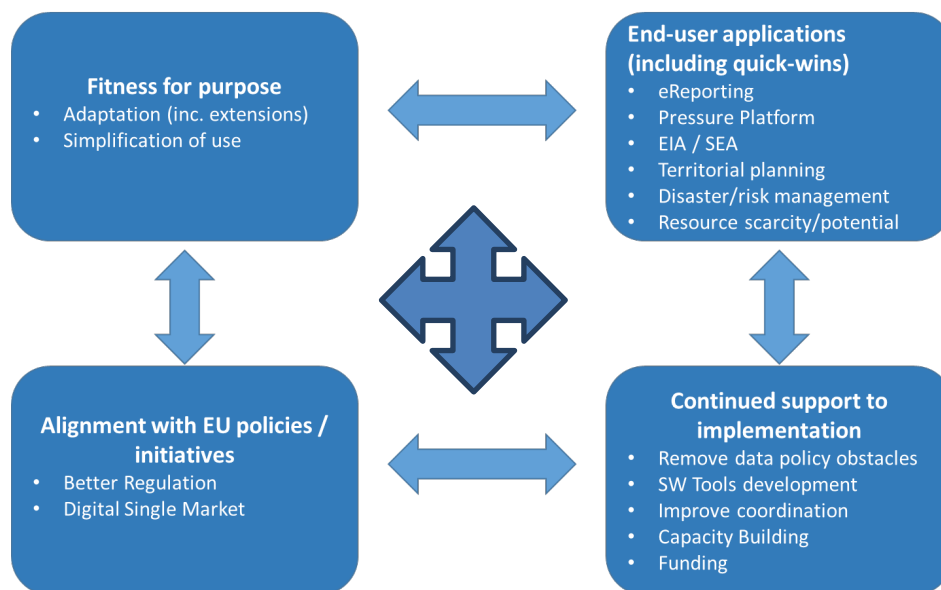

Figure 1:   The new INSPIRE strategic direction

Given the significant scope and ambition of the INSPIRE Directive, the implementation process overall would benefit from stricter EU priority setting. This would allocate the limited resources on those issues with highest priority and where tangible benefits for environment policy can be expected. It would also strengthen the cross-border and EU dimension of the INSPIRE Directive

implementation because interoperability can only be successful if all partners (EU, national, regional and local administrations) share the same priorities so that we all "pull in the same direction". Hence, when defining new actions for the MIWP the following criteria for priority setting should be considered (which would replace the prioritization template currently used):

1   Engage users!

2   Addressing emerging priorities (EC and MSs);

3   Demonstrate short term benefits of current investment;

4   Make the INSPIRE framework more effective and better exploitable;

5   Facilitate implementation (e.g. through appropriate simplification measures);

6   Ensure sustainability of INSPIRE;

7   Adapt to changes (e.g. driven by the Digital Single Market or Better Regulation).

As regards priority setting in relation to spatial data covered by the INSPIRE Directive, the following approach, from the EU (reporting) perspective, is the basis for developing and implementing this MIWP. The operational details and activities are discussed later (cf. section 4). They do not neglect user needs for planning, running and monitoring environmental infrastructures.
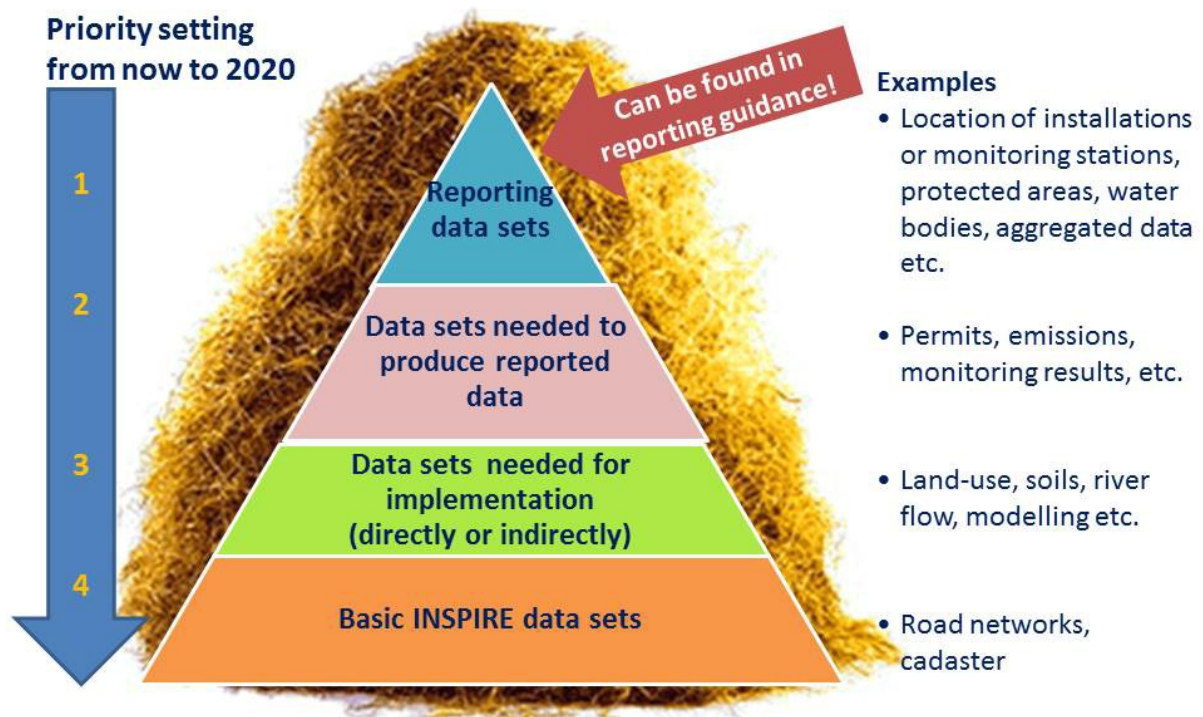

Figure 2: EU priority setting approach as regards spatial data sets and the order in which their implementation should be pursued as a minimum.

15

Any priority setting approach has its intrinsic logic that one area is prioritised over another but that ultimately, step-by-step, all issues get addressed in a systematic and efficient manner. This EU priorities complement any national and other priorities which are set elsewhere and do not alter in any way the legal obligations set out by the Directive.

4   Working areas and key activities

Building on the above-mentioned specific objectives, several working areas are defined and the overall activities are outlined. The detailed activities and tasks are set out in the Annex 1 (core activities under the working areas).

The aim of this working area is to making INSPIRE "fit for purpose" supporting solution-oriented end-user perspective which will be achieved by:

- identifying priority EU and cross-border use cases (to be addressed by "quick win" INSPIRE-based applications), analysing their requirements, in order to identify where INSPIRE specifications are too ambitious (and therefore may need to be simplified), where they need to be extended and where additional recommendations (e.g. on the exact scope of priority data sets to be made available and interoperable) are needed. A priority use case at EU level is the use of INSPIRE in eReporting (see working area 2);

- based on the above outcomes, reviewing the existing implementing provisions (Implementing acts and guidance) as well as enabling the simplification of use with the view to foster the effective application and, where necessary, open the discussion for revising implementing acts to find solutions which are more "fit for purpose" (e.g. by introducing flexibility or adapting to new technological developments) ("simplification of requirements") and

- further enhancing the exchange of implementation experiences, best practices, guidance, training material and funding opportunities and the development of re-usable tools (e.g. transformation tools for data and metadata, off-the-shelf software for network services, …) as well as custom tools (when needed) for end-user applications) ("simplification of use");

- coordinating activities at technical and political level to exploit synergies with relevant initiatives (e.g. DSM) and to identify feasible solutions for data providers and the end users (see working area 3).

These specific objectives imply that the approach in the future will be more user centric and will take into account the different purposes for which the specifications will be used. In other words, depending on the use case, a simpler, more streamlined set of specifications will be available for application in the MS. Inevitably this will require a discussion about the most important and relevant EU and cross-border use cases, in addition to the EU priority use case on reporting which has already been agreed upon (see working area 2).

The actions to be undertaken to achieve the above-mentioned objectives should focus on identifying simplification, flexibility and efficiency gains in the INSPIRE Framework (Infrastructure components, Implementing Acts and the supporting guidance) so as to reduce investment costs and administrative burden without compromising the objectives and the ambition level of the Directive.

Moreover, simplification of use (through guidance, advice, re-useable tools or else) will complement the review of the specifications. All this has to factor in the user perspective and the user needs much more than in the past allowing for different approaches depending on the needs. Simplification of use should also include making environmental information available to a larger layman public and to application developers for integration in day-to-day administrative, business and information processes.

4.1 Working area 1: Fostering "Fitness for purpose"

The REFIT evaluation has already gathered factual data but these may not be sufficient for a detailed analysis of checking whether the Implementing Acts and technical guidelines need to be simplified. Rather than starting a lengthy and burdensome collection of factual data, it is proposed to carry out a consultative process (screening) with the main stakeholders (in particular MIG and environment policy areas through Focus Group) that will help in better identify the strengths and possible weaknesses of the INSPIRE framework, to assess its feasibility (including policy, organisational and technical, issues) and identify areas where simplification should be introduced. The entire INSPIRE framework has been originally designed on the basis of use cases but has not been extensively tested especially in a full European context. So the appreciation of the right interoperability level could be the subject of possible revision in some specific areas (see proposed Framework for INSPIRE maturity levels, figure 4).
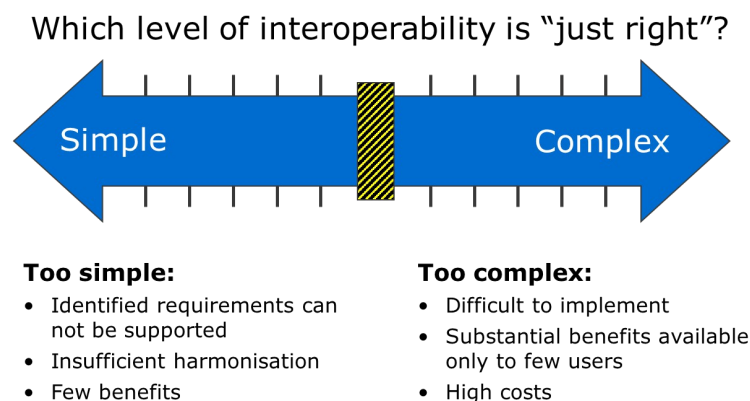

Figure 3: The Balance Challenge

This short consultative screening process will also take account of lesson learnt in developing quick win applications, the Implementing Acts (except for the 2009 Reporting Decision) and technical guidelines will be screened to identify areas where most gains could be harvested. Repeatedly, the focus of discussion is linked to the interoperability specifications, in particular in relation to Annex II data themes. A more in-depth reflection may be needed for this particular aspect. Based on the

identified obstacles and requirements, proposals for streamlining and simplification will be made. These may include, but not be limited to:

- opportunities to simplify the requirements in the Implementing Acts and Technical Guidelines (e.g. for Annex III data),

- additional guidance or clarifications through Q/A documents (e.g. to reduce differences in implementation approaches or align thematic priority setting for implementation),

- promotion or developments of tools supporting INSPIRE implementation and/or usage of INSPIRE data and services,

- setting up a tiered maturity roadmap for implementation (basic, essential, premium) – see below,

- IT mainstreaming of the technical components of INSPIRE (ISO/DCAT; GML/JSON; reuse/endorsement of existing vocabularies e.g. ELF …).

As regards the Implementing Acts, any outcome will be reported to the INSPIRE Committee.

It is ultimately for the Commission, taking into account the opinion of the Committee, to amend any Implementing acts. The screening will be overseen by the MIG with significant input from the MIG-T. Fit for purpose means to be driven by end-user applications so a step wise approach should be proposed toward simplification and/or adaptation. As far clear requirements will emerge from the quick win applications, specific proposals for changes will be presented to MIG for endorsement.

As a result, some priority activities are identified at the end of 2016 for implementation in 2017 and, if appropriate, beyond. These priority activities have to be aligned with the implementation deadlines and situations in the Member States so as to ensure continuity, where appropriate, and maximise positive effects over the years to come without compromising the investments that have already taken place.

Any possible adaptations of the implementing aspects must stay strictly within the limits of the Directive. However, the Directive itself is usually quite flexible and adaptable in most areas. Care should be taken that the changes to the Implementing Acts and the guidance do or did not introduce unnecessary complexities or lack of flexibility. Any further work should also look carefully at the technological developments and its potential to drive innovation (i.e. technological watch and adaptation to emerging technologies) since the adoption of the INSPIRE Directive and the related policies and processes which are (also) driving spatial data infrastructure investments, namely the open data policies in the Digital Single Market, the environmental monitoring and reporting provisions as well as the global efforts in information standardisation (eg. through ISO, W3C, …).

To this end, it is useful to classify INSPIRE implementations into different classes of implementation maturity or sophistication such as INSPIRE basic, INSPIRE essential and INSPIRE premium, a so-called: **"Framework for INSPIRE implementation maturity levels".**

An illustration of this system of implementation levels is given below. This system will be developed and refined as part of the activities under this working area. It is possible that some implementations will be at different levels for different components and/or different data themes, e.g. *premium* for data sharing (e.g. open data), *essential* for metadata and network services and *basic* for data interoperability. The Coordination Team (CT) will draft a proposal, for comments and endorsement by the MIG after the strategic direction has been agreed.
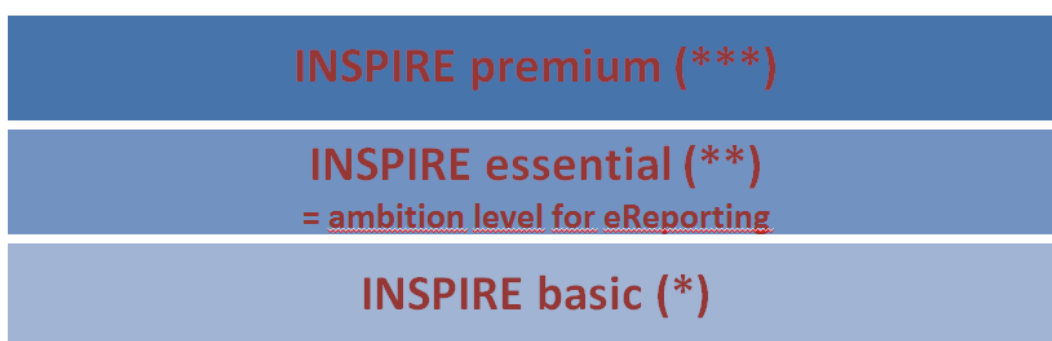

Figure 4: System of INSPIRE implementation levels, fit for different purposes and for different user needs (for the example of the EU eReporting use case).

4.2   Working area 2: End user applications (incl. "quick wins")

The discussions on an EU priority setting have led to the above-mentioned result where the use of INSPIRE for environmental monitoring and reporting as one of the important use cases was considered paramount. The INSPIRE Directive implementation has also been identified as one of the main vehicles to streamline existing reporting processes in order to make them more effective and efficient. The two initiatives also have similar objectives in terms of facilitating information flow between public administrations (data-sharing) and by also facilitating this toward the general public. Combining these two initiatives will also promote the active dissemination and open data policies of the EU. Hence, this will become the first and foremost priority use case in the field of environment policy.

To support this development, a number of concrete activities will be implemented where the INSPIRE MIF will play an important role but where the INSPIRE community will not be able to develop and implement them alone (see below). Such activities are, in particular the development or promotion of:

- a rolling, minimum list of spatial data sets essential for monitoring and reporting of EU environment policy linking to the Eionet core data flows,

- an EU eReporting project (or projects)[11] to support the monitoring and reporting of EU environment legislation.

- end-user tools and applications, e.g. in relation to eReporting ("quick-win applications")

where the MIG can play an important consultative role.

As mentioned, close collaboration between the INSPIRE community and the experts working on environmental reporting in the various policy areas will be needed. The action 21 has been reviewed to ensure the necessary coordination and allow contribution to the above-mentioned activities.

In addition to helping streamline the reporting under other pieces of legislation, the monitoring and reporting regime under the INSPIRE Directive itself needs streamlining. The current system is based on Article 21 and the 2009 Reporting Implementing Decision[12]. In addition, a guidance documents[13] exists. The experience from the previous reporting rounds and the evaluation has shown that this system leaves room for improvement. On one hand, there are several data flows which result in similar data being available several times. Moreover, administrative and textual information is still quite significant in this system but since the assessment of these aspects has now been carried out (e.g. on coordinating structures) it is not meaningful to collect these, or slightly updated information, on a regular basis. Moreover, the principles on streamlined monitoring and reporting currently developed in the context of the Environment Fitness Check strongly argue for using numeric data for "key performance indicators" and making the rest of the information publically available at national level. Finally, the progress in the monitoring action and the validation and scoreboard tools linked to the Geoportal and run by the EEA would allow for a much more streamlined, electronic and simple monitoring and reporting process under INSPIRE. As a result, this working area will carry out activities to significantly simplify and streamline monitoring and reporting under the INSPIRE Directive well in time before the next national reports due in 2019. An analysis of the existing documents (Reporting Decision and guidance) needs to be carried out and a concept for developing the future approach will be developed until the end of 2016. In 2017, this concept would then be implemented. Before involving the Committee, the MIG-P will oversee this work supported by the MIG-T.

As part of these activities, the EU geoportal will play a crucial role. The Commission is currently discussing the future direction in implementing the Geoportal. The Member States will be associated and consulted in this process to ensure that whatever solutions are envisaged, they are complementary to the national geoportal efforts and they result in administrative efficiencies and streamlining.

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11   One idea which would be cutting across many pieces of legislation, is an Interoperable Information Platform on environmental pressures has been mentioned and the concept is under development

12   http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:148:0018:0026:EN:PDF

13   http://inspire.ec.europa.eu/index.cfm/pageid/5022

4.3 Working area 3: Alignment with national, EU and international policies/initiatives

The implementation of the INSPIRE Directive is embedded in a number of national, EU and global policy developments. There is already a high level of awareness on these issues in the expert community. However, there are no dedicated, coordinated and systematic efforts between the EU level partners and the Member States to create synergies and align the INSPIRE work with those other policies. Since this area covers potentially a large number of areas, a structured and focussed effort needs to be agreed in relation to a number of priority areas.

This area could address questions of financing opportunities and project coordination with available EU funds and projects will be explored. Moreover, discussions will need to identify other concrete short-term, time limited actions or more long term activities in this area, e.g. in relation to the Digital Single Market or Copernicus. INSPIRE is now increasingly featuring in the implementing actions for the Digital Single Market, such as the eGovernment Action Plan[14] and there are opportunities to use existing calls for proposals in related areas such as ISA[2] or the Connecting Europe Facility[15]. Also the coordination of input to global processes, such as UN GGIM could be of interest in the context of the INSPIRE implementation.

4.4 Working area 4: Continued support to implementation

In addition to the above-mentioned new priorities, the MIF will continue to support the implementation of INSPIRE in the Member States through a number of activities, including e.g.:

- developing technical guidelines (including simplified guidance material) or exchanging best practices (which can include, e.g. use cases and examples of successful implementation in a Member State of a single topic under an INSPIRE Annex theme);

- corrective maintenance of the INSPIRE framework by managing and resolving issues in technical guidelines and preparing proposals for change for Implementing Acts;

- adaptive maintenance of the INSPIRE framework to take into account emerging standards and technologies; development of tools supporting implementation and/or use of INSPIRE data and services including e.g. (cost-free) offer (for MS at least) of officially endorsed tools to validate data, metadata and services;

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14   See action 19 in COM(2016) 179

15   See new ISA[2] programme 2016 (http://ec.europa.eu/isa/isa2/index_en.htm) and CALL FOR PROPOSALS CONCERNING PROJECTS OF COM-MON INTEREST UNDER THE CONNECTING EUROPE FACILITY IN THE FIELD OF TRANS-EUROPEAN TELECOM-MUNICATION NETWORKS (https://ec.europa.eu/inea/sites/inea/files/2016-2_ceftelecom_calltext_publicopendata_superfinal_120516.pdf).

- building capacity in the Member States for INSPIRE implementation (e.g. webinars, best practices, presentations, (seed) training (i.e. central training of one or two MS representatives that then would give the training to homeland colleagues …); and

- stakeholder engagement, including coordinating the further development of the INSPIRE knowledge base and contributing to its operation and engagement of thematic communities.

These activities will have to be defined in detail to ensure that the necessary resources are available and provided that they do not prevent the work on the other priorities.

4.5 Other activities

The activities under the above working areas are clear priorities resulting in the core set of activities agreed and implemented in the context of the MIWP 2016-2020. The EU partners (DG ENV, JRC and EEA) will allocate the majority of their resources to implement these core activities and national authorities active in the MIF are called upon to review their investments into the MIF and align them with this MIWP, as appropriate. However, it is recognised that there are other valuable activities or interests of national experts, e.g. in the context of the EU interoperability and information initiatives. Moreover, there are numerous EU or other funded projects ongoing, e.g. ISA/ISA² actions: Are3na, EULF, ELISE or regional initiatives (The Nordic INSPIRE network, DRDSI)…. To identify actions or projects of wider interest, a non-exhaustive list is provided in Annex 2. This list is mainly for information purposes and every authority can decide individually in how far it engages and uses the results of such activities and projects.

Whilst the Annex 2 does not form part of the MIWP 2016-2020, there may be circumstances or particular results which could indeed be valuable for the INSPIRE implementation overall. E.g. it could be envisaged that a particular standard or guidance is considered useful to be applied in the more formal INSPIRE context. Therefore, a mechanism will be developed by which the MIG-T can make an evaluation and recommendation as regards such particular projects or results and the MIG-P will be reviewing these recommendations. As a result, the MIG-P could decide to endorse a particular "product" stemming from a project outside the MIWP and make it an "official" guidance under the INSPIRE implementation. A specific procedure will have to be agreed and the publication of such products would have to be clearly indicating the more official status (e.g. by using the INSPIRE logo more restrictively only for officially endorsed products from the MIF). The MIG-P will be asked to endorse such a procedure following consultation of the MIG-T on proposal made by the EU partners. ok

5 Stakeholder engagement

The development and implementation of the INSPIRE Directive is characterised by a wide consultative and collaborative approach. With an increased focus on user needs, the engagement with stakeholders through, e.g. capacity building will be increasingly important.

Many actions to engage with a wide group of stakeholders have successfully taken place in the past, e.g. through workshops, webinars, communication material and the web page. In particular the annual INSPIRE Conference[16] which will take place for the 10th time in 2016 has proven to be a widely recognised forum and gathering of the European spatial data community. Despite these efforts and achievements, the engagement with some stakeholder groups has been less successful, in particular the environment policy and implementation community including the reporting experts for EU environment legislation (as one important user community). Moreover, there is no systematic and structured engagement with the business sector or the environmental organisations. Also the contacts to key governmental organisations and the digital innovation communities are mainly project-related or happen through the conference. To overcome these issues, some organisational aspects of the MIF will be reviewed (see next section) and the focus of stakeholder engagement will particularly be shifted to the environment policy community.

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16 http://inspire.ec.europa.eu/index.cfm/pageid/501

6 Working arrangements and practicalities

The working arrangement of the past were established in 2014 following the finalisation of the first stage of work, in particular on implementing acts where the Committee was a main actor. The mandate and the current terms of references (ToRs)[17] are largely those established for expert groups at EU level although no detailed rules of procedures (RoPs) have been laid down. Hence the general RoPs[18] apply. So far, however, no systematic engagement with stakeholders (industry, civil society and other organisations) has been foreseen. Therefore, the revision of the existing ToRs will be discussed and, if possible, agreed. This would then be an opportunity or to clarify the RoPs as well as some other issues including the roles and working arrangements to ensure a smooth and effective operation of the MIWP.

The MIWP has no mandate by the Directive in relation to tasks assigned to the **INSPIRE Committee**. Activities mandated to the Committee (see annex 3 for overview) are proposed by the Commission and the Committee acts in accordance with the procedures[19]. The Committee has its own RoPs and can, of course, decide to make use of the expert structures under the MIWP for preparing certain deliverables that it is mandated to address. Currently, no concrete activities which would fall under the remit of the INSPIRE Committee exist. However, this may change in the light of the follow up to the Commission's INSPIRE evaluation. The Commission will call for a meeting of the Committee in late 2016 and then ensure a smooth functioning between the Committee and the MIWP by ensuring a regular information exchange and by arranging, where and as appropriate, back-to-back meetings of the Committee with the MIG-P.

The **MIG-P** is the policy sub-group with particular focus on strategic and political questions and with responsibilities to agree the MIWP as well as to endorse outcomes of the MIWP and thereby give them an informal (i.e. not adopted by Commission or Committee) but still official status (i.e. validated by the official INSPIRE Expert Group). The current practices (e.g. regarding disclaimers for final documents) will be reviewed and brought in line with similar Common Implementation Strategies and process under other environmental legislation (e.g. water or nature).

The **MIG-T** is the operational and technical arm for the INSPIRE implementation. Many of the concrete actions are carryout under the remit of the MIG-T. However, the interplay between MIG-T and MIG-P will be refined, e.g. by sequencing the meetings allowing for appropriate preparation and follow up of the meetings.

It is also common practice to establish technical, ad hoc or sub-groups. Whilst this approach has proven useful in the past, clearer mandating and oversight should be developed so that the deliverables are being prepared within the timeframe, quality and expectations set out at the

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17   http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=21650&no=1

18   C(2010)7649 and SEC(2010) 1360

19   Since the adaptation to the Lisbon Treaty (delegated and implementing acts) has not happened yet, the procedures laid down in Directive 1999/xxx/EC as amended by 2006/xxx/EC still apply.

beginning. Hence, as a rule, it is for the MIG-P, with possibility for suggestions from the MIG-T, to decide on any other groups of whatever nature. The mandate of existing sub-groups has been reviewed and agreed by the MIG-P.

The MIWP 2016-2020 in its present form represents a rolling work programme until 2020 (or maybe even beyond). The detailed arrangements for the review are set out below. Collaboration with experts outside the MIWP is essential for the INSPIRE implementation success. Some concrete arrangements have been mentioned above under other activities (section 4.4).

Finally, implementation of the agreed actions under the MIWP will not happen if the necessary resources are not allocated by all partners involved. The EU partners will prioritise their resources around the agreed core actions. However, a concrete commitment can and will only be made on an annual basis following the availability and agreement of the needed resources for such actions in the EU budget. Member State experts are invited to do the same and, ideally, inform the MIG-P about their investment. Actions without agreed and committed resources cannot be agreed as part of the MIWP. In some cases, a priority of allocation of resources will also be necessary. The Commission will, e.g. consider the future of re-imbursement of experts in line with its procedures and budget availability, as an effective investment in the INSPIRE implementation given the administrative costs involved.

7 Conclusions and outlook (incl. review)

The MIWP 2016-2020 is designed to continue the successful work under the MIF in the past and identify objectives, working areas and practical arrangements for the future taking account the results of the INSPIRE mid-term evaluation and the feedback from the bilateral meetings. The current MIWP covers the period from 2016 to 2020 clearly identifying the concrete core actions in more detail for 2016 and 2017 and less detailed for later. Hence, a regular review of the MIWP will be undertaken by the MIG-P with input from the MIG-T, in particular monitoring progress and delivery of the agreed actions, ensuring quality control of the deliverables and identifying new activities to be included in Annex 1, provided they contribute to one of the agreed working areas and provided resources are available and allocated. A first review and completion of the work programme, in particular with regard to the annex will be discussed in December 2016 taking account the early experiences with this way of working and making adjustments, where necessary. A complete review of the work programme and an updating of the specific activities and actions will take place towards the end of each year, starting with 2017. It will be also important to critically review and evaluate the success and the effectiveness of the MIWP at the next evaluation stage for the INSPIRE Directive which is likely to take place around 2020. Finally, the partners in the MIWP should coordinate and combine efforts to communicate and promote the actions undertaken and results agreed under the MIWP with the view to wider the user base and engage with as many partners as possible in order to continue to make the INSPIRE implementation a success.

Annex 1: Core actions under the MIWP linked to the main working areas

This annex features the core MIWP 2016-2020 actions, endorsed by the INSPIRE Maintenance and Implementation expert Group, under their respective working areas.

Working area 1: Fostering "Fitness for purpose"

2016.1: INSPIRE fitness for purpose – Analysis

Title	INSPIRE fitness for purpose – Analysis			
ID	2016.1			
Status	☐ Proposed	☒ Endorsed	☐ In Progress	☐ Completed
Issue	Member States and stakeholders have repeatedly expressed concerns regarding the (perceived) complexity of the INSPIRE data models and guidelines, in particular for Annex III, and the expected difficulty to have them implemented by the 2020 deadline. In the report to Council and European Parliament[20], the Commission is recommended to "review, and possibly revise, the INSPIRE rules, in particular on spatial data harmonisation, to take into account the implementing risks and complexities with a view to reducing them (simplification of requirements)". While many of the actions in the current MIWP are already aiming at simplifying INSPIRE implementation for stakeholders in the Member States (e.g. through improvement of and additional Technical Guidance, development of tools and best practices), no *systematic* screening of the requirements in the legal and technical framework and of the implementation practices and concrete difficulties in the Member States has taken place yet. Such a screening would allow collecting the practical experiences with the implementation, in particular the implementing rules and the guidelines since 2008. At the same time, the work programme 2016-2020 aims at making INSPIRE more user-centric. Hence, any investigation into possibilities for simplification should not be a theoretical exercise, but based on existing implementation experience and concrete requirements from end-user applications, in order to make INSPIRE more fit for purpose. Ideally fit for purpose and simplification go hand in hand. DSM and other digital drivers have big political leverage and critical resource mass behind them that can deliver the necessary capacity for further INSPIRE implementation. As already indicated by several MS (MIG-P, MIG-T, Action plans ...), aligning INSPIRE with the principles set out in these initiatives would allow MS to focus resources on the development of a generic information infrastructure ready to be harvested for environmental end-user applications and use cases such as reporting, while at the same time the objectives for the INSPIRE Directive can be aligned with Commission priorities. OK			
Proposed action	The action aims at systematically analyzing and reviewing INSPIRE requirements in the legal (implementing rules) and technical (guidelines, etc) framework and of the implementation practices and concrete difficulties in the Member States, with the aim to identify and propose to the MIG possible measures for streamlining and simplification of INSPIRE			

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20   Reference to be added

implementation.

The analysis should not be a theoretical exercise, but pragmatic and based on concrete implementation experience in the Member States. It is therefore important that feedback from all levels of the implementation, the policy makers and the actual implementers in public authorities will be collected. It should also aim at a differentiated view, investigating the situation for different themes and Member States. Suggestions for simplification already made by some Member States can be tabled as written input to the review. (FR & UK)

The approach to the review and the preparation of proposed actions shall take into account the existing and relevant legal provisions of the INSPIRE Directive (e.g. Article 7.2 regarding feasibility and proportionality), the outcome of the Commission's REFIT evaluation and the Better Regulation Guidelines (COM(2015)111), which provide a methodological framework for assessing "fitness for purpose".

Based on the analysis, one or several follow up actions will be proposed, which will be discussed and, if relevant, endorsed by the MIG-P or the Commission, following consultation of the Committee (depending on the nature of the proposed action).

For example, such measures may include, but are not be limited to:

- proposals for simplifying the requirements in the Implementing Acts and/or Technical Guidelines,ok

- developments of tools supporting INSPIRE implementation and/or usage of INSPIRE data and services (e.g. for complex GML schemas),ok

- additional guidance and/or best practices, e.g. on the harmonization of national implementation approaches (e.g. definition and provision of national environmental reference data sets) or on the harmonization of thematic priority setting for implementation,

- setting up implementation roadmap(s), based on different implementation levels and concrete use-case-driven priorities at different levels of governance (e.g. use cases for environmental reporting at EU level, management of an underground cadaster and/or utility network infrastructure at national level, cross-border flood management or air quality observation and forecasts at regional or local level, etc.), ok, bien vu

- documentation of good implementation examples, reference implementations and answers to FAQs.

For each proposed measure, the likely impact (e.g. on the existing legal and technical framework and on existing implementations in the MS or information on costs or benefits) should be described as much as possible within the available timeframe. If any proposed action would require more in depths analysis of such impact, this should be highlighted as well. Also, possible dependencies, impacts and synergies with other MIWP actions should be considered.

| Links & dependencies | The following proposed actions under the previous MIWP could be relevant in this context and could feed into the review as a way to address some of the potential shortcomings that will be identified. |

	- MIWP-1 Making TGs more readable, as initiated with Data Specifications (this could become one of the proposed measures) Pas d'avis - MIWP-2 INSPIRE FAQ (this could become one of the proposed measures) Pas d'avis - MIWP-xx GML-related issues, e.g. flattening, better client support (this could become one of the proposed measures) A examiner, sans doute inutile. 2016.4: The collection of the thematic implementation issues and proposals for changes If necessary, these actions will be refined or revised and will be presented for endorsements as a follow up to the review at a later stage. No other activities under these proposed actions is foreseen at the moment. Also coordination with the parallel action 2016.2 on streamlining monitoring and reporting will be needed.
Organisational set-up	The analysis of issues and development of measures and new MIWP actions to be proposed to MIG will be carried out by DG ENV and the JRC in close collaboration. The action should be supported by a dedicated temporary MIG sub-group "fitness-for-purpose review" based on the mandate set out here. This sub-group will receive input from experts of all Member States, including the policy level, the implementers and the technical experts. To be discussed : the previous stage showed that participating experts are not representing the public authorities as a whole nor the thematic communities, and it could be the first explication for some of the difficulties we have to face. Usually, the technical experts are not fully aware of the users need, specially those at local level, and see the world through IT spectacles. The would have to work downstream the analysis to propose solutions [On ISA² 's day, all the speechs were about users, but only two showed a real care of user and a different method The group should consist of volunteers of the MIG-P and the MIG-T that are well aware of the implementation in their country (in all thematic domains) and across borders. They should also be familiar with the legal, technological and organisational approach proposed for INSPIRE implementation. The aim is to have a small, operational sub-group (10-15 MS participants + ENV, JRC and EEA) with a good geographic distribution across Europe. The main communications will mainly take place electronically but 1-2 face-to-face workshops are planned between September and November 2016 (either in Ispra or in Brussels). The meetings will discuss the analysis and proposed measures and prepare a document for the next MIG-P meeting. The sub-group will also design a simple questionnaire which will allow collecting views and inputs from all Member States. Once agreed, the questionnaire will be circulated to all MIG-P and MIG-T members and feedback will be expected in October, at the latest. The sub-group will then compile and review the input and take them into account when finalizing its proposals. The questionnaire could also allow others, e.g. users, other administrations, businesses, international organizations (with through the webpage or at the INSPIRE conference) to provide feedback. This needs to be discussed and agreed in the light of time and resource availability.
Lead	DG ENV (chair) and JRC
Scope	In terms of possible simplifications, the IRs and TGs will be analysed and reviewed.

	A review of the INSPIRE Directive itself is not foreseen and therefore out of scope. This action does not include the 2009 Decision on monitoring and reporting which will be covered by a separate, parallel action (see 2016.2).ok
Tasks **Stratégique**	• Review the Commission's REFIT evaluation and identify relevant aspects for this action. • Prepare questionnaire to systematically gather input from all Member States on which elements of the INSPIRE Directive work well and which my need attention (e.g. which implementing rule, which guideline, which other aspect) and collect suggestions for simplification. • Review feedback from questionnaires and outcome of other input received and identify those priority areas which need most urgent attention. • Identify (additional) obstacles to implementation not identified in the Commission's REFIT evaluation, features in the INSPIRE framework that are not being used and opportunities for streamlining through feedback from the working group members as well as desktop studies (e.g. analysing issues raised in the past by MIG, and MIG sub-groups e.g. current Proposal for changes to the INSPIRE Data specification (IR,TG), MS action plans, M&R 2016, the mid-term evaluation survey and the minutes of the bilateral meeting with MS). • Develop proposals for streamlining and simplification, including an analysis of the potential impact, as far as possible within the available timeframe. • Draft document for MIG-P (or Committee, if appropriate) with proposal for MIWP actions for 2017 and beyond.
Outcomes	This action / sub-group will prepare a discussion document by November 2016 with the following elements: • List of issues/obstacles/requirements including their proposed solutions • List of proposed MIWP action(s) for 2017 and beyond for implementing the proposals for streamlining and simplification
Proposed Impact	☒ Technical Adjustment / Bug Fixing ☒ Technical Improvement / Development ☒ Practical Support for Implementing Process ☒ Cost Reducing Effect for Implementing Process ☐ Direct Support on Policy-Making / - Activities
Timeline	Date of Kick-off: *September 2016*
	Proposed date of Completion: 30/11/2016 Thereafter, the sub-group seizes to exist unless a new mandate is agreed by the MIG-P.
Required human	Members/Volunteers from the MIG-P and the MIG-T (or NCP and other INSPIRE

resources and expertise and possible funding	stakeholders if relevant) with an "ear on the ground", i.e. who have first-hand information what issues implementers and potential user of INSPIRE data and services face. Note, only one participant per Member State will be accepted (either MIG-P or MIG-T). Reimbursement of travel for face-to-face workshops with 10-15 participants.
Required financial resources	The coordination of the activity and the creation of the outputs will be funded by DG ENV through the Administrative Arrangement with the JRC. Additional resources may have to be made available by the sub/group members to prepare input to the work, by everybody to complete the questionnaire and by implementers in the MS to implement the agreed MIWP actions.
Risk factors	<table><tr><td>Overall risk level of the action ☐ High ☒ Medium ☐ Low</td><td>Risk factors to be considered ☒ Missing Resources (especially in 2016 as resource planning for 2016 already took place) ☒ High Complexity ☒ Interdependencies with other Actions Others: ● The announcement of possible changes in the Implementing Acts may cause to implementers to stop their implementation until further directions are clear. ● Limited time available</td></tr></table>

Working area 2: End user applications

2016.2: Streamlining the monitoring and reporting for 2019

Title	Streamlining the monitoring and reporting for 2019			
ID	2016.2			
Status	☐ Proposed	☒ Endorsed	☐ In Progress	☐ Completed
Issue	The current Monitoring and Reporting system (requirements, processes and supporting tools) is based on Article 21 of the Directive and on the 2009 Reporting Implementing Decision. Experience from the previous reporting rounds and the evaluation have shown that this system leaves room for improvement and streamlining. Textual information is still quite significant in this system but since it is not always relevant nor comparable and that it represents a significant burden, updated information should be collected in an easier, comparable and less burdensome way for the reporting actors (MS, EEA, EC). While the resources needed at MS and EC/EEA level to handle the monitoring process have been reduced due to the work of the finalised MIWP-16, the reporting process is reported by MS as being still time consuming and of an unknown added value. In particular, the			

	current process does not allow for the provision of comparable results across MS. This concern was also highlighted in the discussions at the MIG-P meeting in December 2015.

In MIWP-16 the monitoring indicators have been evaluated and several issues indicated in the final report of action still need to be addressed. This might require changes of the 2009 Decision and corresponding technical guidelines. It is therefore relevant to review the INSPIRE Monitoring and Reporting process and obligations in order to develop and implement an optimized and effective process according to Art. 21 of INSPIRE Directive, in line with the Better Regulation Guidelines (COM(2015)111) and the aims of the Fitness Check on environmental monitoring and reporting (http://ec.europa.eu/environment/legal/reporting/fc_overview_en.htm). |
| **Proposed action** | Review of current indicators and development of Key Performance Indicators (KPI) that allow for a consolidated view of some elements of the reporting; Development of country fiches (synoptic presentation of the status of INSPIRE implementation in a country in a 4-5 pages document) as a main and quick result of the three annual reporting; Development of forward-looking critical success factors as part of country fiches; Ensure that all elements requested for reporting can be gathered from metadata and complemented by targeted surveys (or similar means); Review and integrate proposals for updates to the monitoring done by MIWP-16; Propose rationale and ideas for amendment of the 2009 Reporting Decision and corresponding technical guidance documents as an input to discussions in the Committee (provided that the Commission gets the mandate to revise the Decision in 2017 or 18) ; Development of a new, streamlined monitoring and reporting process; Prototyping, testing and implementation of the new monitoring and reporting process. |
| **Links & dependencies** | Dependencies: Recommendations of the MIWP-16 about updates to the monitoring process; INSPIRE monitoring dashboard; MIWP-Fitness for purpose regarding metadata and/ or key words for discovery services Tools to automate the generation of monitoring indicators based on the metadata served by INSPIRE Discovery Services. Links: The activity on priority INSPIRE datasets for environmental reporting: some KPIs will likely be related to the availability of data for environmental reporting |

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Action 2016.1 on the fitness-for-purpose review.
Focus Group on environmental monitoring and reporting (internal group preparing the Reporting Fitness Check) and Stakeholder Workshop (at the INSPIRE Conference)

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<td>**Organisational set-up**</td>
<td>A dedicated temporary sub-group is suggested, similarly to what has been done for MIWP-16. The sub-group should ideally consist of members of MIG-P, MIG-T and INSPIRE rapporteurs in order to have a right mix of hands-on and policy knowledge. It should also include users of the report. The sub-group may organise itself in working groups if deemed appropriate by its members.

Furthermore the contractor(s) or staff in charge of the actual implementation of the IT tools to be produced as outcome of the activities of this MIWP, e.g. the Project Steering Committee of Monitoring dashboard, should be involved at latest at the time of the drafting of the functional analysis and ideally already before (e.g. for the needs analysis).</td>
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<td>**Lead**</td>
<td>JRC (in collaboration with DG-ENV)</td>
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<td>**Scope**</td>
<td>Reviewing 2009 MR Decision and related guidelines. The scope of the action should be to modernise and streamline the monitoring and reporting process in order to make it more fit for purpose, less cumbersome for all partners involved and based to the maximum extent possible on indicators automatically derivable from existing INSPIRE services.

Any IT developments done should be usable by MS at MS level for MS needs and by the EC at European level for EC needs.</td>
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<td>**Tasks**

MIG & BRGM</td>
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Conceptual [2016]

Development of a work plan including feedback lookups between tasks
Collect issues raised by MS
Perform a needs analysis about use of MR coming from MS and EC and maybe other actors?
Identification of functional requirements.
Synchronisation with the geoportal and/or the content of the INSPIRE discovery services (including all necessary to get the same data sets and services available and reported)
The need for drafting technical requirements

Including dashboard
Including outcomes from MIWP-16

Check of legislation and existing technical guidance documents and propose changes as needed and prepare document for discussion at the Art. 22 Committee.
Collaborate with other MIWP activities/groups

Implementation [2017] (provided that a mandate for revision of the 2009 Decision is given)

Delivery of technical proposals for an updated MR decision and corresponding technical guidance documents
Prototype / agile development of updated dashboard according to the technical specifications
Country fiche system: editing / visualization
Guidelines (user documentation)

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	● Testing and improvement [2018]	
Outcomes	● Technical input for the updated of 2009 MR Decision and corresponding technical guidance documents ● Proposals for an updated dashboard with a system to visualize and edit country fiches ● User documentation	
Proposed Impact	☐ Technical Adjustment / Bug Fixing ☒ Technical Improvement / Development ☒ Practical Support for Implementing Process ☒ Cost Reducing Effect for Implementing Process ☒ Direct Support on Policy-Making / - Activities	
Timeline	Date of Kick-off: *June 2016*	
	Proposed Date of Completion: 31/12/2018	
Required human resources and expertise	MIG-P, MIG-T and INSPIRE rapporteurs with experience of at least one monitoring and one reporting exercise. Ideally some of those people would have been active in MIWP-16 and would be already using the tools developed under MIWP-16 to ensure a good transfer of knowledge.	
Required financial resources and possible funding	Some funding is foreseen by DG ENV through the Administrative Arrangement with the JRC. Financial resources will be needed to finance the implementation of the updated dashboard and to follow the development of the needs' analysis, functional analysis and their translation into technical requirements. Most resources will be needed in 2017 for actual implementation and slightly less in 2018 for testing and improvement. From 2019 onwards, funding should come from the same mechanisms put in place for the validators of MIWP-5. Assuming that a facilitator does not need to be paid, resources should be put aside for a minimum of 2 physical workshops per year.	
Risk factors	Overall risk level of the action ☐ High ☒ Medium ☐ Low	Risk factors to be considered ☒ Missing Resources (especially in 2016 as resource planning for 2016 already took place) ☒ High Complexity ☐ Interdependencies with other Actions Others: ● No political mandate for Revision of 2009 MR Decision or need to prepare an impact assessment before adopting the revision (see Better Regulation Guidelines). Note: the political mandate, i.e. the decision of the Commission to review and revise the implementing Decision 2009/442/EC will be requested following consultation of the Committee in December 2016. Only when the Commis-

		sion has given a mandate for revision, this action will go continue in 2017. At that point, adaptations may need to be made in the light of this mandate.
		● Lack of funds for implementation, nominated people do not have the right expertise and/or availability.

Working area 3: Alignment with national, EU and international policies/initiatives

No concrete actions are defined yet in this working area.

Working area 4: Continued support to implementation

2016.3 Validation and conformity testing

Title	Validation and conformity testing			
ID	2016.3 (previously MIWP-5)			
Status	☐ Proposed	☒ Endorsed	☒ In Progress	☐ Completed
Issue	As INSPIRE is coming into a practical implementation phase there is a great need of tools for validation (metadata, service and data). There is a validation service (web service) available at the EU-portal and some countries have also developed tools for validation of metadata and services, for instance in the Netherlands and Germany. These validators might include slightly different interpretations of standards. To ensure that result from a tests of conformity are identical, a common, officially approved, validator should be accessible from INSPIRE web. Software vendors claim that their products are INSPIRE-compliant without having undergone a certification process. The abstract test suites in INSPIRE data specifications define the set of tests to be applied but there is no reference implementation of those abstract test suites.				

Proposed action OK, mais pas de suivi par FR faute de ressource	● Develop a commonly agreed European validator for data, metadata and network services (incl. performance testing)
	     o Testing should focus on interoperability of applications and services
	     o legal compliance cannot be checked based on conformity with TG
	     o The validation rules should be made explicit so that data providers in Members States know what is validated upon exactly and how is validated
	     o the MIG should jointly agree on the tests to be included in the validator
	     o Investigate feasibility of executable tests and/or tools or services for checking conformance of datasets with the various DS ● Establish rule that all new TG need to ATS and executable tests ● Discuss the possibilities for setting up a compliance certification facility and process				

	similar to the OGC
Links & dependencies	Dependencies: ● The action may be affected by updates to TGs in actions MIWP-7a/7b (download services), MIWP-8 (metadata), 2016.4 (data specifications) and the ad-hoc MIG-T action on Spatial Data Services Links ● MIWP-6: Registries and registers (setting up a register of conformance classes and test cases)
Organisational set-up	This action is carried out by a MIG sub-group including MIG representatives and experts from the pool of experts, with support from the ARE3NA ISA action for the implementation of the commonly agreed European validator.
Lead	● Italy (Carlo Cipolloni) for MIWP-5 ● JRC for coordinating the work of MIWP-5 and the ARE3NA ISA action
Scope	● Validation of data, network services and metadata based on requirements in the TGs ● Validation against the requirements in the IRs is out of scope

Tasks	● Policies and procedures
	    o Define scope of validation and testing
	    o Define policies and procedures of validation and conformity testing, e.g. rules for developing/maintaining tests.
	    o Establish INSPIRE testing maintenance framework based on results of ii. (e.g. operational activities)
	    o Investigate feasibility of setting up a compliance certification facility and process similar to OGC CITE or other rate system
	
	● Software development
	    o Define use cases for a common validator (for metadata, data and services)
	    o Derive requirements (functional and non-functional) based on use cases.
	    o Collect information on existing validation tools/platforms and approaches, including languages/approaches for documenting tests
	    o Evaluate existing tools/platforms and approaches on how they meet the requirements
	    o Derive software/test development requirements
	    o Software development in according with requirements defined.
	
	● Test development
	    o Analyse requirements in the TGs and develop Abstract Test Suite (ATS) for metadata and network services
	    o Develop Executable Test Suite (ETS) based on the ATS for metadata and network services
	    o Investigate feasibility of testing INSPIRE data sets as pilots based on ATS of data specifications

Outcomes	- Change management process proposal for maintaining ATS, ETS, software, documentation etc. - Use case descriptions - Specification of (functional and non-functional) requirements - Overview about existing validation tools/platforms (including developments in ISA action 4.2.6 Interoperability Testbed) - ATS for metadata and network services (agreed by MIG-T) - ETS for metadata and network services (agreed by MIG-T) - Pilots (ETS) for testing data sets based on data specifications
Timeline	Date of Kick-off: May 2014
	Proposed Date of Completion: 30/06/2017
Required human resources and expertise	The members of the temporary sub-group should have expertise in one or several of the following areas: - Specification of validation rules for metadata, network services and/or data (incl. data model and data content validation) - Specification and/or development of validation software (for metadata, network services and/or data) at national level - Development software on service performance monitoring. - Implementing Rules and Technical Guidelines for metadata and their implementation. - Implementing Rules and Technical Guidelines for network services and their implementation - Implementing Rules and Technical Guidelines for data interoperability and their implementation (incl. data transformation and ATS). - Spatial data service development The implementation of the commonly agreed validator requires expertise in software development for distributed information architectures.
Required financial resources	- Workshop reimbursement - Expert contracts for specification of ATS/ETS - Contracts for software design and development - Hosting and operation of operational service

Risk factors	Overall risk level of the action ☐ High ☒ Medium ☐ Low	Risk factors to be considered ☒ Missing Resources ☒ High Complexity ☒ Interdependencies with other Actions Others: Lack of feedback on ATS
Possible funding	- ARE3NA ISA action / ELISE ISA2 action - JRC institutional / competitive budget - MS funding	

2016.4: Theme specific issues of data specifications & exchange of implementation experiences in thematic domains

Title	**Theme specific issues of data specifications & exchange of implementation experiences in thematic domains**
ID	2016.4 (previously MIWP-14)
Status	☐ Proposed ☒ Endorsed ☒ In Progress ☐ Completed
Issue	- A number of the issues of INSPIRE implementation is theme-specific. There is currently no agreed way for implementers in the Member States to share their experience and discuss about (theme-specific) issues they encountered, approaches they used for implementation or planned extensions or value-added thematic applications. - A number of theme-specific issues have been raised for the data specifications of PS, AD, EL, US, TN, BU, CRS and HY. This includes PS (Full application schema), which needs to brought in line with Annex III themes and has therefore temporarily been removed from the updated PS data specification (see MIWP-10). - Since the TGs still allow some degrees of freedom for implementing the IRs there is a need of active collaboration to support "harmonised" approaches for implementation. - There is also currently no coherent overview of the status of the implementation for the different INSPIRE data themes. - Finally, there are a number environmental and non-environmental thematic policies, for which the links, dependencies and usage of INSPIRE data should be discussed and clarified, in particular (but not only) in relation to reporting obligations, e.g. air quality, MSFD, IED, noise, UWWTD, WFD/WISE (direct link to the MIWP – 21 Thematic pilots)
Proposed change or action ok	- Build communities of INSPIRE implementers in the EU as well as in MSs for the proposed clusters of themes - Create a platform (e.g. a wiki or a re-designed INSPIRE forum) for sharing experiences and for discussing implementation issues (including results from usability tests) and approaches. This platform should be open to all INSPIRE stakeholders.

	• Address already identified issues on data specifications of Annex I, II and III and propose (if relevant) concrete change proposals to the TG to the MIG • Use the platform to better understand thematic implementation issues, approaches and requirements in each MS to seek common "harmonised" solutions, i.e. what tools or which options in the TG are used (where there are several), what extensions or value-added applications are developed or planned. This could be done through questionnaires or surveys on different topics. The results should be made publicly available on the platform to be re-used by all whenever relevant. • Support the successful implementation (e.g. developed applications) of INSPIRE by MSs or thematic communities in order to demonstrate its benefits.
Links & dependencies	Links • Concrete implementation issues and proposals for streamlining that are collected on the TC platform will be used as input to action 2016.1 INSPIRE fitness for purpose – Analysis. The questionnaire developed in that action will be actively promoted on the TC platform. • Proposed changes to INSPIRE TGs may have an impact on Action 2016.3 Validation and conformity testing and MIWP-6 Registers and Registries (from the previous MIWP)
Organisational set-up	The action will be supported by: • thematic communities for the following clusters, each of which will be supported by a thematic facilitators 　○ GE, SO, NZ, MR, ER 　○ LU, LC 　○ EL, OI, GG, RS 　○ EF, O&M 　○ AF, PF, US 　○ GN, AU, CP, AD, BU, TN, HY 　○ OF, SR, AC+MF 　○ PS, AM, HB, SD, BR 　○ SU, PD, HH Several thematic applications and policies affect more than one cluster. Therefore, the initial clusters based on INSPIRE themes may be re-organised or complemented with cross-thematic working groups. • a temporary MIG sub-group consisting of one facilitator per thematic cluster and chaired by the EC & EEA INSPIRE team. This sub-group will also be open to interested MIG representatives.
Lead	• JRC (Robert Tomas)
Scope	• Validation of data, network services and metadata based on requirements in the TGs • Validation against the requirements in the IRs is out of scope

Tasks	- Identify relevant stakeholders in order to build communities of INSPIRE implementers across the EU; - Collect information on the status of the implementation of INSPIRE and feedback on specific issues from the stakeholders in the relevant thematic cluster; - Identify successful implementation (applications, services etc.) of INSPIRE in the thematic domain; - Identify re-usable SW tools used for implementing INSPIRE in the thematic domain; - administer the on-line discussion platform set up and provided by the JRC; - promote the use of the platform inside (but not only) the thematic cluster community; - based on discussions on the platform, develop concrete change proposals, based on implementation experience, of the Technical Guidelines to the INSPIRE MIG for further discussion and endorsement.
Outcomes	- Overview on the approaches, software tools used for INSPIRE implementation and evolution in the MS for each of the thematic clusters. - Availability of harmonised thematic data content in line with INSPIRE IRs - Lists of maintenance issues / agreed updates proposals (ideally based on concrete implementation experiences) to be addressed in the MIF - Overview of existing applications based on interoperable INSPIRE data. - Proposals for further developments or consolidated solutions
Timeline	Date of Kick-off: spring 2014
	Proposed Date of Completion: 30/06/2018
Required human resources and expertise	Thematic cluster facilitators / MIWP-14 sub-group members should have: - good general knowledge of INSPIRE, especially the INSPIRE data specifications; - experience in (international) community building & facilitation; - thematic / domain expertise for the data themes relevant to the cluster, - experience in the development of the legal and technical framework of INSPIRE, implementation of INSPIRE in the thematic domains / Member States and/or participated in relevant EU-funded projects or EU-wide thematic activities; - a good level of experience of using on-line collaboration tools (such as open fora, wikis, issue tracking systems etc.).
Required financial resources	- Expert contracts for thematic facilitators - Software development and operation of the discussion platform

	● Reimbursement of MIWP-14 meetings	
Risk factors	Overall risk level of the action ☐ High ☐ Medium ☒ Low	Risk factors to be considered ☒ Missing Resources ☐ High Complexity ☒ Interdependencies with other Actions Others: Difficulty to engage actual implementers in the platform
Possible funding	● Funding by DG ENV through the Administrative Arrangement with the JRC for the facilitators of the Thematic Clusters ● In-kind contributions (INSPIRE Pool of Experts) ● JRC & EEA & DG ENV institutional budget ● European thematic organisations ● Competitive projects (FP7 and Horizon 2020)	

Annex 2: Other activities of interest (for information)

This annex includes other projects and activities of interest, e.g. from ISA/ISA[2] actions, national or regional projects, etc.

ARE3NA guidelines and best practices for access control

Title	ARE3NA Guidelines and best practices for access control	
Status	☒ In Progress	☐ Completed
Issue	According to the INSPIRE Directive data providers may limit access to services for a number of reasons. However, there has been no attempt to harmonise how access control and rights management are implemented, leading to a plethora of approaches across Europe. Data providers need to manage access for a number of reasons, and in some instances need to make a charge too. In these latter cases, the Directive stipulates that they must use e-commerce. Again, there is no attempt to harmonise how this is done. The result is that access to INSPIRE services is not interoperable, thus reducing the value of the data and services. This is also an issue for the INSPIRE geoportal, since several view and download services described in the metadata harvested by the INSPIRE geoportal from the national discovery services are not accessible and thus makes it impossible for users to access these services through the INSPIRE geoportal. Furthermore, the current usage of a free text field for conditions applying to access and use in the INSPIRE metadata does not allow for automatic analysis and filtering.	
Proposed change or action	Develop guidelines and best practices for addressing these issues in a more harmonized way.	
Links & dependencies	Links: ● Harmonised approaches to AAA/access control can help readily develop pan-European applications such as the EIA/SEA and the Pressures Platforms.	

Organisational set-up	● The ARE3NA ISA action is running a study on AAA (authentication, authorisation and accounting), which will
	  ○ review the state of the art in relevant technologies, standards and best practices for AAA/access control,
	  ○ implement a testbed to examine potential AAA/access control solutions in practice.
	  ○ explore the current types of access control on services based on INSPIRE metadata and developments in European e-government solutions
	
	● The MIG can interact with / contribute by providing inputs to the	

	study, including contributing and providing feedback to the work's final report.
Lead	• JRC for coordinating the work of the ARE3NA ISA action
Scope	In scope: • Understanding the current organisational and technical barriers to accessing data and services in INSPIRE from a user perspective • Understanding the potential role of Access Management Federations (AMF) and European solutions related to the eIDAS Regulation in supporting access to INSPIRE data and services Out of scope: • Establishing and running a fully-operational AMF
Tasks	• Testbed development and demonstrator (completed) • Analysis of INSPIRE protected services from the EU Geoportal (completed) • In-depth interviews exploring the motivations and approaches to AAA in some examples (ongoing) • Presentation in final report and MIG Feedback (pending)
Outcomes	• Overview of the currently used approaches for AAA/access control in the MS • Guidelines and best practices for AAA/access control in INSPIRE • AMF testbed • Options for common AAA tools for INSPIRE/eGovernment
Timeline	Date of Kick-off: January 2014
	Proposed Date of Completion: 30/11/2016
Required human resources and expertise	The action requires expertise in the following areas: • Access control/AAA technologies • Spatial Data Services • Data Policy • software development for distributed information architectures (for the testbed development)

Required financial resources	- Contracts for software design and development - Contracts for studies - Hosting and operation of operational service	
Risk factors	Overall risk level of the action ☐ High ☒ Medium ☐ Low	Risk factors to be considered ☒ Missing Resources ☒ High Complexity ☐ Interdependencies with other Actions Others:
Possible funding	ARE3NA ISA action	

Annex 3: Transition from the MIWP 2014-2016 to the MIWP 2016-2020

This annex describes the transition of the actions included in the 2014-2016 work programme to the MIWP 2016-2020 (see Table 0).

Actions MIWP-5 and MIWP-14 will be continued as actions 2016.3 and 2016.4, respectively. Four further actions (MIWP-6, -7a, -7b and -8) will also be continued, but are not included in this work programme for readability, since they are expected to be completed by Q3/2016. All other actions are not included in the MIWP at this stage as their problem definition, scope and envisaged objectives can be impacted by the fitness for purpose analysis under core MIWP action 2016.1. Some of these actions may be re-introduced based on the outcome of this action.

Table 0. Transition of actions from the MIWP 2014-2016 to the MIWP 2016-2020

ID	Title	Status in the MIWP 2014-2016	Status in the MIWP 2016-2020
MIWP-1	Improve accessibility and readability of TG	proposed	Not currently included in the MIWP, but may be re-introduced as a possible follow-up action of action 2016.1. ok
MIWP-2	Create and maintain FAQ page	proposed	Not currently included in the MIWP, but may be re-introduced as a possible follow-up action of action 2016.1. ok
MIWP-3	Guidelines and best practices for access control	on-going activity in ARE3NA ISA action	Included as "other action" in Annex 2. ok
MIWP-4	Managing and using http URIs for INSPIRE identifiers	past activities in ARE3NA ISA action	Not currently included in the MIWP, but may be re-introduced if concrete issues can be identified, e.g. in relation to the development of end user applications. It is one of the most important point for INSPIRE successful implementation. As ARE3NA is mostly an IT project, it cannot be a right place as it need to get a real governance about it. Disagree
MIWP-5	Validation and conformity testing	on-going	Included in Annex 1 as action 2016.3. ok
MIWP-6	Registries and registers	on-going, to be completed in Q3/2016	Not included to improve readability. Support for the INSPIRE registry service and the Re3gistry software developed under ARE3NA will be provided by JRC. ok
MIWP-7a	Extension of Download Service TG for observation data	on-going, to be completed in Q3/2016	Not included to improve readability. ok

ID	Title	Status in the MIWP 2014-2016	Status in the MIWP 2016-2020
MIWP-7b	MIWP-7b: Extension of Download Service Technical Guidelines for Web Coverage Services (WCS)	on-going, to be completed in Q3/2016	Not included to improve readability. ok
MIWP-7c	Extension of Download Service TG for tabular data	proposed	Not currently included in the MIWP, but may be re-introduced as a possible follow-up action of action 2016.1. ok
MIWP-8	Update of Metadata TG	on-going, to be completed in Q3/2016	Not included to improve readability. ok
MIWP-9	Future directions for INSPIRE geoportal	proposed	Not currently included in the MIWP, but may be re-introduced as part of a new MIWP action on "end user applications". ok
MIWP-10	Update Annex I data specifications	completed	
MIWP-11	Simplification and clarification of GML encoding for spatial data	proposed	Not currently included in the MIWP, but an action on GML-related aspects may be re-introduced as a follow-up action of action 2016.1. ok
MIWP-12	Clarification of UML-to-GML encoding rules	proposed	Not currently included in the MIWP, but an action on GML-related aspects may be re-introduced as a follow-up action of action 2016.1. ok
MIWP-14	Theme specific issues of data specifications & exchange of implementation experiences in thematic domains	on-going	Included in Annex 1 as action 2016.4. ok
MIWP-15	Overview of INSPIRE coordinating structures, architectures and tools	proposed	Removed from MIWP, since this action is covered by the 3-yearly INSPIRE reports, activities in ARE3NA (reference platform) and the Thematic Clusters. ok
MIWP-17	Data and service sharing & licencing models	proposed	Not currently included in the MIWP, but an action on data sharing could be re-introduced in the MIWP at a later stage depending on developments under DSM (e.g. the "free flow of data" initiative). ok
MIWP-18a	Annex I xml schema update	completed	
MIWP-18b	XML schema maintenance	proposed	Not currently included in the MIWP, but an action on GML-related aspects may be re-introduced as a follow-up action of action 2016.1. ok

ID	Title	Status in the MIWP 2014-2016	Status in the MIWP 2016-2020
MIWP-19	Explore and improvement on the situation of controlled vocabularies in the framework of INSPIRE	proposed	Removed from MIWP. ok
MIWP-20	Improved guidelines for harmonised layer names	proposed	Removed from MIWP. The described issues should be covered by action 2016.4. ok
MIWP-21	Pilots for INSPIRE-based applications ongoing	endorsed, but not started	Not currently included in the MIWP. The action will be redefined and aligned with other new actions. ok