



INSPIRE

Infrastructure for Spatial Information in Europe

Summary report of the 13th INSPIRE MIG expert group meeting, 17 and 18 June 2021, online meeting

Title	Summary report of the 13th INSPIRE MIG expert group meeting
Creator	DG ENV
Date created	10-09-2021
Subject	Summary report of the 13 th MIG meeting
Publisher	EC and EEA INSPIRE Team
Type	Text
Description	Summary, conclusions and actions of the 13 th MIG expert group meeting.
Contributor	EC INSPIRE TEAM
Format	MS Word (doc)
Identifier	Summary Report 13 th MIG meeting
Language	En
Status	Draft

1 Approval of the agenda and of the minutes of previous meeting

The meeting was chaired by Joeri Robbrecht (ENV.E.4 - Compliance and Better Regulation).

The Commission presented the meeting agenda (DOC1) and the summary of the previous meeting (DOC2). The MIG had no comments on the meeting agenda and the minutes of the 12th meeting of the MIG.

All meeting documents and presentations have been made available on the *collaboration platform of the INSPIRE Maintenance and Implementation expert Group (MIG)*¹.

Conclusions and Actions

The meeting agenda and summary of the previous meeting were adopted.

2 Nature of the meeting

The meeting was a non-public meeting and was attended by nominated experts of 27 EU Member States (MS), Norway, Iceland, Liechtenstein, the Commission Services (ENV, JRC, ESTAT, AGRI) and the European Environment Agency (EEA).

3 List of points discussed

3.1 Update on Commission initiatives (Information and discussion)

Introduction

The Commission presented information document (DOC3) and informed the MIG about the following ongoing Commission initiatives:

- the “Green Data 4 All” initiative encompassing the evaluation and possible revision of the INSPIRE Directive,
- the roadmap for the amending act to the Interoperability regulation,
- planned reporting data flows to be supported in EEA’s Reportnet 3,
- and the INSPIRE online conference that will take place end October 2021.

The Commission presented the status of the evaluation of the INSPIRE Directive. Most targeted consultations have already taken place, the open public consultation is still running till 12 July 2021. The MIG was kindly invited to spread the news as broad as possible to maximise participation to the public consultation. The Commission also informed the MIG that it will seek internal validation for a possible revision of the INSPIRE Directive based on the evidence gathered in the evaluation. Furthermore, the Commission also presented a roadmap for a Regulation amending Commission Regulation 1089/2010 on interoperability. In June-July 2021 Commission Services will be consulted on the amending act, followed by a public consultation that will run for four weeks (August-September 2021). After these consultations

¹ <https://wikis.ec.europa.eu/display/InspireMIG/MIG+meetings>

the INSPIRE Committee will be consulted in October 2021 for further discussion and a possible vote. Member States will be asked to express their opinion in a written procedure after the Committee meeting.

The European Environment Agency (EEA) informed the MIG about the status of Reportnet 3.0 and the implementation planning for pilot reporting data flows. Regarding the implementation of reporting workflows using geospatial data, reporting under the Environmental Noise Directive and CDDA are the first workflows that are planned for 2021.

The INSPIRE Conference 2021 will again be organised as a full online conference from 25 – 29 October 2021. The Conference webpage with the draft programme will be published end of June 2021.

Conclusions and Actions

The Commission will keep the MIG informed on any progress made on the presented initiatives.

The MIG was invited to promote the open public consultation with relevant colleagues and communities.

3.2 Monitoring and reporting 2020 (Information and discussion)

Introduction

The Commission presented the results of the annual Monitoring and Reporting exercise for 2020. The preparation process was streamlined and implemented efficiently, with clear communication between the EC and MS, transparent release plans for the software used (Geoportal and Validator) and clear time windows where testing and reporting bugs was possible. A new way to visualise the Monitoring indicators through a star-based scoring system was introduced in order to better focus on the overall performance instead of the exact indicator values. Moreover, results from 2020 are now also compared with results from 2019.

In general, the situation with the availability, conformity and accessibility of INSPIRE data has improved compared to 2019. Still, significant implementation gaps exist, and the results clearly show substantial differences between individual MS.

Discussion

Several experts suggested to further extend the functionality of the monitoring and reporting dashboard with functionality to filter metadata records on organisation level. The Commission recognized the value of the proposal but does not have the capacity to include this in the implementation roadmap. It was suggested to look into possible collaboration between interested countries to raise the necessary capacity and budget for such an extension.

Conclusions and Actions

The MIG was invited to report any remaining Monitoring and Reporting issues on the INSPIRE helpdesk².

The MIG should explore possible collaboration between interested countries to raise the necessary capacity and budget for further extending the monitoring and reporting dashboard functionality.

3.3 Good implementation practices (D/E)

Introduction

Note: Good practices cannot amend, change or interpret legislation in any form. They can only refer to technical implementations that satisfy the existing legal requirements using the flexibility of the legal framework. To guarantee legal compliance every good practice shall be scrutinized on its legal conformity.

OGC compliant INSPIRE Coverage data and service implementation

The Commission presented the “OGC compliant INSPIRE Coverage data and service implementation” good practice building on the Web Coverage Service Standard and the OGC Coverage Implementation Schema (CIS).

The good practice will provide an implementation for the provision of (raster) coverage data that will allow:

- Efficient and interoperable provision of (raster) coverage data, reusable by the relevant INSPIRE thematic domains referred.
- Compliance assurance of INSPIRE coverage models to OGC CIS 1.0 modelling paradigms without major modifications to data models.
- Data to be provided using any WCS service publication engine conforming to OGC CIS 1.0.
- Interoperability through agreement on a generalized solution towards encoding, avoiding diverse options defined by MS or thematic community, and enabling consistent provision via WCS/WCPS.
- An increased availability of coverage data, underpinning the huge potential of WCS/WCPS in raster data analytics.

Discussion

Conditional to the adoption of the good practice, the MIG raised attention to the need to further promote the good practice. For the moment, only one software product has been tested and validated (Rasdaman). Although having already one implementation example is

² <https://github.com/INSPIRE-MIF/>

very helpful to demonstrate the good practice, more software should be tested by the community and the software providers against the good practice.

Conclusions and Actions

Subject to an assessment of its compliance with the INSPIRE legal framework, the MIG has endorsed the good practice “OGC compliant INSPIRE coverage data and service implementation”. Conditional to the adoption of the good practice, the MIG raised attention to the need to further promote the good practice to get a better proliferation amongst and support from different software products.

3.4 Maintenance and Implementation Work Programme 2021-2024 (I/D)

The colleagues from EEA, JRC and ENV have provided us with a full update on the ongoing actions under the current Work Programme.

3.4.1 Action 1.1 - Towards a digital ecosystem for the environment and sustainability

Introduction

The Joint Research Centre (JRC) updated the MIG on the progress of MIWP action 1.1 and presented the status of the work on good practices and modernising the INSPIRE technological stack.

Good practices

Five good practices have been endorsed by the MIG: GeoDCAT application profile for metadata, SDMX encoding for statistical data, OGC API-Features, OGC Sensor Things API and in this meeting the MIG also endorsed OGC compliant INSPIRE Coverage data and service implementation.

For the OGC API-Features the support for additional Coordinate Reference Systems, as requested by the MIG, was included in collaboration with experts from DK, FI and OGC. Work is also ongoing and already advanced to include the tests for validating OGC API-Features instances in the INSPIRE Reference Validator.

The effort by the INSPIRE community to adopt the OGC API-Features was recognized and welcomed by the larger geospatial community.

Pool of experts on data-driven innovation

JRC has established a pool of experts under the ELISE project to investigate novel ways of data sharing and data-driven innovation. Several prominent topics were identified (e.g. governance of and with data) around which small pilots will be executed to test several technologies (containerisation, edge computing, asynchronous transactions ...) to update the current INSPIRE infrastructure. The outcome of these experiments will be documented in a JRC Technical Report that will be made publicly available.

JRC Science for Policy report “INSPIRE - The Public Sector Contribution to the European Green Deal Data Space: A vision for the technological evolution of Europe’s Spatial Data Infrastructures for 2030”

The European Commission (JRC and ENV) and Geonovum (the National Spatial Data Infrastructure executive committee of the Netherlands) are working on a new JRC Science for Policy report. This report will summarise the lessons learned and define a vision for the future of INSPIRE as the public sector contribution to the European Green Deal data space.

Main elements of the future vision are that INSPIRE should blend in with the broader data ecosystem, should open up to a broader community, should become more flexible and agile and that technical specifications need to be simplified. The report will be shared with the MIG when available.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

3.4.2 b) Action 2.1 - Need-driven data prioritisation

Introduction

The European Environment Agency (EEA) updated the MIG on the progress of the action on need-driven data prioritisation. A first introductory subgroup meeting took place end of April 2021 and was organised together with the Eionet community to present the scope of this action and the subgroup activities.

The subgroup now has to develop a common work plan. This work plan should also take into consideration the Implementing Act on High Value data sets (HVD) under the Open Data Directive since the HVD data categories have a strong overlap with prioritised environmental and reference data under action 2.1. Unfortunately the Implementing Act is delayed and this impacts the timing and progress of action 2.1.

The subgroup members will run a Member State driven session on the need-driven prioritisation at the INSPIRE 2021 Conference.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

3.4.3 c) Action 2.2 - Roadmap for priority-driven implementation

Introduction

DG Environment informed the MIG that the action 2.2 subgroup has not been kicked off yet. So far ten experts from eight Member States have joined the subgroup (NL, ES, PL, CZ, SK, AT, EL, FR). Furthermore, it was proposed and agreed in the 65th meeting of the MIG-T to also address the issue of harmonised and non-harmonised data sets under MIWP action 2.2. To better prepare for this, a mini-workshop was organised dedicated to this issue in the 13th meeting of the MIG. A first meeting of the subgroup will be organised after summer.

Conclusions and Actions

A first meeting of the subgroup working on the roadmap for priority-driven implementation is tentatively scheduled for Q3/Q4 2021.

The MIG experts were kindly reminded that they can still delegate experts for this subgroup (mail to Joeri.Robbrecht@ec.europa.eu, ENV-INSPIRE@ec.europa.eu in CC).

3.4.4 d) Action 2.3 - Simplification of INSPIRE implementation

Introduction

The Joint Research Centre (JRC) presented:

- **The state of sub-action 2.3.1 - The governance of INSPIRE artefacts**

All schemas and Technical guidelines have been moved to GitHub repositories (<https://github.com/INSPIRE-MIF/>) for better change management. Furthermore, the sub-group working on action 2.3.1 was kicked off. The sub-group consists of seven experts from five Member States for the moment, but is always open for new members to join. The sub-group will assess incoming change proposals to schemas and technical guidelines. A governance workflow and release plan were presented to show how these change requests will be processed and what the responsibilities of the different stakeholders are (sub-group, INSPIRE CT, MIG-P, MIG-T, INSPIRE Committee ...).

- **The state of play of the work on action 2.3.2 - The simplification of data-service linking.**

The current approach to link data to services and vice versa is considered ambiguous and complicated with negative impacts on the overall usability of the INSPIRE infrastructure and monitoring indicators. Within the scope of this subgroup, a good practice for simplified linkages between data and services was to be developed. The sub-group consists of sixteen experts from thirteen Member States and had three meetings so far. The group is currently working on a proposal for a consolidated approach starting from four different approaches that have been proposed and discussed.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

The MIG experts were kindly reminded that they can still delegate experts for this subgroup (mail to Marco.Minghini@ec.europa.eu, ENV-INSPIRE@ec.europa.eu in CC).

3.4.5 e) Action 2.4 - Central INSPIRE infrastructure components

Introduction

The Joint Research Centre (JRC) presented the work on the central INSPIRE infrastructure components.

The **INSPIRE Geoportal** backend is being redeveloped based on the open source GeoNetwork catalogue application. The aim is to have a first prototype ready by the end of summer 2021. The Geoportal frontend is also being redesigned to align it to the visual identity of the European Commission and to extend the functionality with new filters that will allow to search and sort data sets based on the High Value Data sets categorisation. The new frontend will be published as soon as the Implementing Act on High Value Data sets under the Open Data Directive has been adopted.

A new version of the **Reference Validator** was released on 15 June 2021. The next version (version 2021.3) will be released on 15 September 2021. The September version of the Reference Validator will be used for Monitoring and Reporting 2021. One of the main new features is a new user interface that is aligned to the visual identity of the European Commission and also provides a more user-friendly way to execute and manage tests. The MIG was kindly requested to test the new release and share any feedback. Upcoming tests are being developed for Annex II/III requirements and development of additional tests for OGC API-Features, OGC SensorThings API and discoverability of IACS datasets are planned for Q3/Q4 2021.

A new version (bugfix release v2.2.0) of the **Re3gistry open software** was released in May 2021. The Re3gistry open software has been included in the OSGeoLive (<https://live.osgeo.org>) distribution, a product of the Open Source Geospatial Foundation. On the INSPIRE Registry the code list for IACS data sets has been included in support of the publication of agricultural parcel data sets in the INSPIRE infrastructure by the Common Agricultural Policy (CAP) paying agencies in the Member States.

All Helpdesks for the 3 central components presented above have been centralised and moved to GitHub (<https://github.com/INSPIRE-MIF/>).

Conclusions and Actions

The MIG took note of the information shared by the Commission.

The MIG was kindly requested to test the new release of the Reference Validator and share any feedback.

3.5 Workshop - Harmonised and non-harmonised datasets in INSPIRE (DOC4)

See Annex 1 for a detailed description of the workshop proceedings.

The discussion has shown that countries are already using/preferring different technical solutions for documenting harmonised and non-harmonised versions of data sets. Support for a mix of proposed technical solutions is recommended.

The appreciation of non-harmonized data is strong. Some data cannot be harmonized and is needed for national use cases. INSPIRE harmonized data have limited national/regional/local use. It would be appropriate to limit the harmonisation burden to selected data sets.

It was proposed to make the calculation of the indicators more flexible to avoid the need for choosing between the identified technical solution options.

This flexibility could come from revising the current definition of the data conformity indicator in the Commission Implementing Decision on monitoring and reporting 2019/1372 and from applying a proportional harmonisation for prioritised data sets by further exploring the “where practicable” condition.

3.6 Spatial data governance at EU level

Colleagues from DG AGRI and DG Eurostat shared information on the status of the IACS data sharing initiative and the development of pan-European reference data sets.

3.6.1 DG AGRI Process for IACS data sharing under INSPIRE (State of Play)

Introduction

The Commission (DG AGRI) presented the background and the progress on the implementation of the IACS data sharing process. The action has to be seen under the Green Deal “Farm to Fork” strategy and has the ambition to break the silos between different thematic communities, notably agriculture-climate-environment. The initiative is executed in collaboration with different European Commission services (AGRI, JRC, ENV) and the Paying Agencies in the Member States and aims at:

- Making IACS data discoverable and accessible;
- Develop interoperable data sets and services in pilot projects;
- Explore and demonstrate added-value and data potential through practical examples.

A new IACS metadata code list was already added to the INSPIRE Registry to support the identification of IACS data made available in the INSPIRE Geoportal. A metadata workshop was organised early June 2021 for the paying agencies to build metadata management capacity and competence in support of the ambition to reach full implementation of the metadata technical guidelines by November 2021. Furthermore, first result on use of IACS data for LULUCF (Land Use, Land Use Change and Forestry), crop classification and soil health were promising. Based on the outcomes, JRC is developing a prototype for IACS data exploration and integration. To further promote the work on IACS data sharing and improve knowledge exchange the IACS data sharing network should be enlarged with INSPIRE National Contact Points and public bodies dealing with specific data (protected areas, organic farms, animals...).

The Chair thanked DG AGRI for presenting the progress made on the IACS data sharing process.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

3.6.2 Development of pan-European reference data sets

Introduction

The Commission (DG Eurostat) reported on the development of pan-European data sets as a follow up to the EU-level requirements documented in the paper “Priority Geospatial Datasets for the European Commission” presented to the MIG in 2016 and addressed in the current Work Programme under action 2.1. The Commission currently develops pan-European data sets based on what is available in INSPIRE or in as-is format to aggregate spatial data from the Member States to a pan-European data set. Recently, work has been done in the health and education domain. The Commission has published a data set on hospitals and average travel times to the nearest hospitals and is working on a similar use case for travel time to primary schools. To complete the work the MIG experts were kindly invited to reach out to DG Eurostat for any data blind spots for their Member States and discuss possible approaches forward.

The Commission is trying to address several data themes (addresses, administrative units, transport networks, building units ...) one after another and discuss issues discovered with the data providers in the Member States. Frequently encountered bottlenecks are: outdated or missing (not documented) data, unclear data ownership, data is too generalised to be useful, data sets are not aligned (e.g. roads and buildings), richness of data differs extremely across Europe In general feedback loops to discuss or bring these issues to the attention of the data providers are missing.

The Chair thanked DG Eurostat for the presentation and opened the floor for questions.

Discussion

The MIG asked if these pan-European data sets prepared by the Commission are available on the INSPIRE geoportal and under which license these data sets are made available.

The Commission clarified that these pan-European data sets are not available on the INSPIRE geoportal because that is still reserved for data from Member States and EFTA/EEA countries. The data is available on the Eurostat portal³, in general under a CC-BY license for more recent data sets. Older data sets (e.g. NUTS) might still be bound by third party (e.g. EuroGeographics) contract specifications that might limit the extent of the reuse.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

³ <https://ec.europa.eu/Eurostat/web/gisco/geodata/reference-data/>

The MIG experts were kindly invited to reach out to DG Eurostat (mail to Hannes.Reuter@ec.europa.eu) to discuss any data blind spots for their Member States.

3.7 Workshop - The future of INSPIRE (revisited): EU common data spaces, high-value data sets, data-driven policy development (DOC5)

See Annex 2 for a detailed description of the workshop proceedings.

The outcome of the discussion has shown that the MIG experts strongly support a revision of the INSPIRE Directive and its implementing acts. The revision of the INSPIRE Directive is considered an important opportunity for strengthening the legal and technical interoperability of data across the *Common European Data Spaces*, including the European Green Deal data space. A large majority of MIG experts support the evolution of the INSPIRE Directive into an enabling instrument for bringing data in the Common European data spaces with the overall objective to unlock the full benefits of data sharing for data-driven innovation and evidence-based decisions by the citizens and the public and private sectors.

The MIG identified the following key drivers for developing policy options to revise the INSPIRE Directive:

- Close remaining implementation gaps.
- Align the legal framework with more recent and emerging data legislation under the European strategy for data.
- Renew the technical scope of the Directive using the principle of technology-neutrality for a future-proof architecture. Maximize implementation flexibility while maintaining minimal interoperability mechanisms.
- Strengthen demand-driven data scoping responding to information needs on all administrative levels.
- Include data quality provisions.
- Take into account cost-recovery/financing of the infrastructure to ensure long-term continuity.

3.8 Exchange of experiences and good practices by Member States.

3.8.1 GAIA-X & INSPIRE workshop

Introduction

To further explore the possible role of GAIA-X for public sector data sharing, an internal workshop was organised together with the GAIA-X community. GAIA-X is intended to be a secure, federated data infrastructure for Europe that meets the highest standards of digital sovereignty while promoting innovation and representing European values. At present, the GAIA-X association has more than 270 members. The workshop was attended by 20 participants from the European Commission, the German Federal Agency for Cartography and Geodesy BKG and the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB). In the workshop the INSPIRE needs (e.g. scalable infrastructure, generic enablers like authentication ...) were identified and crosschecked with what GAIA-X could

offer. The next steps will be a pilot activity for onboarding INSPIRE data and services in the GAIA-X infrastructure. This exercise will initially be largely of a conceptual nature as most of the GAIA-X components are still under development. Once they are more mature we will also look into implementation testing.

The Commission kindly invited the MIG experts to join this initiative. Interested experts can contact the JRC colleagues.

Discussion

A MIG expert inquired about how GAIA-X links to European Digital Innovation Hubs⁴ (EDIH).

The Commission answered that GAIA-X is more an industry-driven initiative and is not directly linked to the EDIHs. Nevertheless, there is an opportunity to investigate this together with the recently established Digital Innovation Hub on location. The Commission proposed to get in touch and check whether there would be interest for testing the opportunities for onboarding of the data within the GAIA-X infrastructure in the context of the Digital Innovation Hub on location.

Conclusions and Actions

The MIG took note of the information shared by the Commission.

The Commission will explore the possibilities for collaboration with the Digital Innovation Hub on location.

Interested MIG experts were kindly invited to participate (mail to Alexander.Kotsev@ec.europa.eu).

3.8.2 The benefits and value of the Central SDI-node of Spain – Findings of a recent study on the economic value of data and data services

Introduction

A Spanish expert presented the findings of a recent study on the economic value of data and data services published in the central Spanish SDI node. The study tried to answer two main questions: “What would happen if the Spanish SDI disappeared?”; “What would happen if we had another data policy?”. There is a lack of insight into the monetary value of SDI’s in Europe. In the past, studies were done on the costs of metadata and services (offered by the Spanish IGN open and free) but not on their economic value. To get a better understanding a study was executed on the topic by the University of Leuven (BE) with support and input from several Member States (Netherlands, Sweden, Switzerland, Slovenia, Croatia, Finland and France).

Two approaches were defined to get an indication of the economic value: comparing with Google Maps costs and comparing with other countries charging for the use of their data and

⁴ <https://digital-strategy.ec.europa.eu/en/activities/edihs>

services. An excel file was developed that can help to calculate an indication of the economic value of your data and services for these two scenarios. The Google comparison is based on the assumption that a Google map load, which is the base for the Google fee system, equals to a user session in an SDI web mapping application. The comparison with other European countries is based on use and download statistics and the applied fee methodology taking into account the price level index for the different countries.

To further develop this methodology for estimating the economic value and make the estimation more accurate: the analysis will be extended to other Spanish SDI nodes, a deeper understanding of the different fee systems will be developed and the calculation parameters further refined.

The Spanish expert indicated this is only the first step and invited other countries to join the exercise and participate in further developing the methodology.

The Chair thanked the Spanish expert for presenting and sharing the outcomes of this very valuable study.

Discussion

A MIG expert asked if, based on the outcome of the study, it is more interesting for Spain to drop further development of the national SDI and use Google instead.

The Spanish expert replied that it is important to know the economic value of the Spanish services and infrastructure and that there is no intention to replace their spatial data products with Google Maps.

Conclusions and Actions

The MIG took note of the information shared by the Spanish expert.

MIG experts were invited to participate in further developing the methodology.

3.9 News from the standardisation bodies (Information)

Introduction

The Commission shared an information document (*DOC6*) and presented new developments and activities relevant to INSPIRE maintenance and implementation from the following standardisation bodies: “ISO/TC 211”, “Open Geospatial Consortium (OGC)” and “World Wide Web Consortium (W3C)”. The MIG members were invited to distribute this information among their networks and share any feedback or questions on the presented topics with the EC INSPIRE team.

Discussion

The MIG had no questions or comments on the presented information.

Conclusions and Actions

The MIG took note of the information shared by the Commission on new developments and

activities by relevant standardisation bodies.

MIG experts were invited to share this information in their networks and discuss possible coordinated actions related to the presented standardisation activities.

4 Conclusions/recommendations/opinions

These are the highlights of the 13th meeting of the INSPIRE Maintenance and Implementation Group (MIG) that took place on 17 and 18 June 2021.

The MIG adopted the meeting agenda and the draft meeting minutes of the 12th meeting of the MIG.

The Commission informed the experts on relevant initiatives and more specifically:

- the “Green Data 4 All” initiative encompassing the evaluation and possible revision of the INSPIRE Directive,
- the roadmap for the amending act to the Interoperability regulation,
- planned reporting data flows to be supported in EEA’s Reportnet 3,
- and the INSPIRE online conference that will take place end October 2021.

Besides a very insightful presentation on the results of the 2020 monitoring and reporting cycle, the colleagues from EEA and JRC provided a full update on the ongoing actions under the new MIWP 2021-2024 (Maintenance and Implementation Work Programme). The Commission is setting up action repositories on GitHub where progress on all MIWP actions can be followed. GitHub will provide richer functionality and flexibility to support interaction with the community. Several experts suggested to further extend the functionality of the monitoring and reporting dashboard with functionality to filter metadata records on organisation level. The Commission recognized the value of the proposal but does not have the capacity to include this in the implementation roadmap. It was suggested to look into possible collaboration between interested countries to raise the necessary capacity and budget for such extensions.

Subject to a detailed assessment of its compliance with the INSPIRE legal framework, the MIG has endorsed the good practices on a “OGC compliant INSPIRE coverage data and service implementation” building on the Web Coverage Service Standard and the OGC Coverage Implementation Schema (CIS). Conditional to the adoption of the good practice, the MIG raised attention to the need to further promote the good practice to guarantee a better proliferation amongst and support from different software products. For the moment only one software product has been tested and validated.

Special thanks to the Spanish expert for presenting the outcome of a study on the economic value of the national Spatial Data Infrastructure, spatial data and spatial data services. Many thanks also to DG AGRI and DG ESTAT for the information shared on IACS data sharing and the

development of pan-EU data sets, and the Commission/Member State tandem (DG JRC/DE) for organising and debriefing on a workshop with the GAIA-X community.

MIG experts that want to contribute to the development of pan-EU data sets or want to participate in the GAIA-X discussions were invited to express their interest to the Commission.

The way of interacting in the two MIG mini-workshops was appreciated by the MIG experts. Being the MIG's virgin try-out of the break-out rooms functionality of WebEx, it went rather smoothly. The Commission will further explore and use the concept of mini-MIG workshops in upcoming MIG meetings. On the outcome of the workshops and the next steps, it was agreed that the Commission will document the discussions and conclusions of the break-out sessions and that a small workshop report will be compiled, building on the already distributed workshop background documents. These reports will be drafted and shared with the MIG by mid-July 2021 for review and feedback. The report on "Harmonised vs non-Harmonised" will be used as guiding document for the activities under MIWP action 2.2 on priority-driven implementation and the report on the Future of INSPIRE as input for developing policy options for a possible impact assessment subject to the political validation of revision of the INSPIRE Directive. The Commission will keep the workshop surveys open until end of June 2021 to give MIG experts some extra time to provide input.

All documents and presentations are available on the MIG collaboration platform⁵.

5 Next steps / actions

The MIG :

- Was invited to promote the open public consultation for the evaluation of the INSPIRE Directive with relevant colleagues and communities.
- Was invited to report any remaining Monitoring and Reporting issues on the INSPIRE helpdesk.
- Should explore possible collaboration between interested countries to raise the necessary capacity and budget for further extending the monitoring and reporting dashboard functionality.
- Was reminded that they can still delegate experts for the workgroups on action 2.2 "Roadmap for priority-driven implementation" (mail to Joeri.Robbrecht@ec.europa.eu, ENV-INSPIRE@ec.europa.eu in CC) and sub-action 2.3.1 "The governance of INSPIRE artefacts action" (mail to Marco.Minghini@ec.europa.eu, ENV-INSPIRE@ec.europa.eu in CC).
- Was kindly requested to test the new release of the Reference Validator and share any feedback.

⁵ <https://wikis.ec.europa.eu/display/InspireMIG/MIG+meetings>

- Was invited to reach out to DG Eurostat (mail to Hannes.Reuter@ec.europa.eu) to discuss any data blind spots in pan-European data sets for their Member States.
- Was welcomed to join the discussions with the GAIA-X community (mail to *Alexander.Kotsev@ec.europa.eu*).
- Was invited to join Spain in further developing the methodology to estimate the economic value of data and data services (mail to Emilio.Lopez@cnig.es).
- Was invited to share the information on standardisation activities in their networks and discuss possible coordinated actions.

The Commission will:

- Keep the MIG informed on any progress made on the presented Commission initiatives.
- Explore the possibilities for collaboration with the Digital Innovation Hub on location on investigating the GAIA-X.

6 Next meeting

The Commission thanked all MIG experts for their active participation in this online meeting and the colleagues from Spain, JRC, EEA, ESTAT and AGRI for the presentations and helping to organise this meeting.

The 14th Meeting of the INSPIRE Maintenance and Implementation expert Group is tentatively scheduled for Thursday 25 & Friday 26 November 2021. Taking into account the COVID-19 situation in Europe, this meeting will again be organised as an online meeting.

Annex 1 : Workshop - Harmonised and non-harmonised datasets in INSPIRE

Harmonised and non-harmonised data sets in INSPIRE

MIG mini-Workshop

Type	Workshop report
Creator	DG ENV
Date/status/version	26-07-2021 / DRAFT / version 0.3
Addressee	MIG
Identifier	[DOC4/REPORT]
Description	Context-setter and report for the MIG mini-workshop on harmonised and non-harmonised data sets in INSPIRE.

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

- Take note of the document and share any feedback by 3 September 2021 close of day

Note: This document does not necessarily represent the official, formal position of any of the partners. To the extent that the European Commission's services provided input to this technical document, such input does not necessarily reflect the views of the European Commission and its services or the European Environment Agency. This document is, in parts, intended to facilitate the implementation of Directive 2007/2/EC and is not legally binding. Any authoritative reading of the law should only be derived from Directive 2007/2/EC itself and other applicable legal texts or principles such as the related Implementing Rules. Only the Court of Justice of the European Union is competent to authoritatively interpret Union legislation.

1 Context

This MIG mini-workshop will follow up on discussions that already took place in the MIG-T meetings on the topic of “Harmonised and non-harmonised datasets in INSPIRE”⁶ and will feed into the work of *MIWP Action 2.2 “Roadmap for priority-driven implementation”* where this issue will be further picked up from a policy and legal perspective. Under MIWP Action 2.2 we will work together towards a

⁶ See e.g. <https://webgate.ec.europa.eu/fpfis/wikis/pages/viewpage.action?pageId=712606761>

proportionate harmonisation effort in line with the data prioritisation effort that has been kicked off under *MIWP Action 2.1* “Need-driven data prioritisation”. All this aims to create a clear and common understanding of minimal harmonisation efforts and interoperability requirements within the boundaries of the current legislative framework.

2 Problem statement

Recently, several countries have had the reflex to limit the data and data services they bring into the INSPIRE infrastructure to minimize the possible negative impact of as-is data, especially on the monitoring indicator on data conformity (DSi2.x), and maximize their measured performance through the monitoring indicators. This is an unfortunate development and a trend that the Commission would like to turn around. The INSPIRE Directive was not specifically established to provide the Commission with environmental data, but to promote as much as possible the sharing of environmental data to support the development and implementation of environmental and related legislation at all levels of administration. This principle is more relevant than ever in view of the common European ambition for a transition to a more sustainable society and in the providing data only once. From a usage perspective, the question on how data should be made available (harmonised or as-is) depends largely on the quality and the richness of the data made available. E.g. if a harmonised INSPIRE address data set is three years old and the as-is address data set is richer and updated daily, then preference would go to the higher quality as-is data. In addition, today we have at our disposal a rich portfolio of easy to use software tools that can be used to combine harmonized, but also as-is data.

Standing considerations and conclusions from previous discussions in the MIG-T are:

- Considerations:
 - No transformation services are used, so the harmonized data is a separate data set.
 - In most cases the INSPIRE models are not extended so both the “as is” and the harmonized data set are provided through discovery services
 - This negatively affects the monitoring indicator on conformity of datasets (DSi2.x family), we never reach 100%, at best approximately 60%
 - The latest M&R 2020 clearly illustrates the negative side-effects of exposing both datasets
- Conclusions:
 - It should be avoided that as-is data is removed just to improve the conformity indicator as this goes against the core principles of INSPIRE as an infrastructure that facilitates the access to environmental information. This is a wider discussion on the level of ambition of the INSPIRE infrastructure and its relationship with national infrastructures that should be held in the MIG.
 - Three viable technical options have been suggested to tackle the negative impact on measured performance:
 - 1. One metadata record in the national CSW describing both "as-is" and INSPIRE harmonize data sets. Available spatial data services would reference this single metadata record.
 - 2. Two metadata records in the national CSW, one for "as-is" and one for INSPIRE harmonized. Available spatial data services would reference the relevant metadata record.
 - 3. Two metadata records in the national CSW, only one is collected with a specific OGC filter during the harvest by the INSPIRE Geoportal.

By law, the data scope of the INSPIRE Directive is not limited by neither the Annexes to the Directive nor by the commonly agreed data priorities. Article 4 of the Directive clearly defines the scope of the data that has to be brought into the INSPIRE infrastructure. This scope does not differentiate between harmonised or as-is data sets. Both have to be provided. Only in case of identical data sets, the reference version needs to be kept and the other versions can be omitted. The data prioritisation exercise we embarked on three years ago and that was initially based on existing regulatory reporting obligation (priority data sets) by no means limits the legal data scope of the Directive. It is an instrument to support countries in developing a common and interoperable minimal data offering across Member States, driven by existing environmental use cases (i.e. the environmental acquis). This instrument will now be gradually extended, in light of the new developments of the European Green Deal data space, and the Open Data Directive to also include core reference data and high-value data sets under MIWP Action 2.1.

Following the spirit and the provisions of the INSPIRE Directive, any available digital data in support of environmental policy development (on all levels of administration e.g. environmental impact assessments, environmental permitting, policy impact assessment), or related application domains (smart mobility, human health, climate adaptation, energy...) that contribute to a transition to a more sustainable society and economy should be documented and made accessible to maximize its reuse. At the same time, common understanding is that full, by default harmonisation of all this data to common models would be disproportional in the absence of clear use cases and seen the varying information needs of the different application domains. This principle is also embraced by the new MIWP 2021-2024, hence the use-driven data prioritization and prioritisation-driven implementation actions.

3 Objectives of the workshop

Together with the Member State experts in the MIG, the European Commission is committed to exploring feasible pathways towards a proportionate, user-driven implementation within the current legal framework. The main question to be addressed and answered to improve a consistent INSPIRE implementation and provide the necessary guidance to the implementers is:

- How to mitigate the negative impact of as-is data on measured implementation performance through DSi2.X indicators (data conformity)?

The outcomes of the workshop will be used to define an agreed approach for the calculation of the DSi2.x indicators while ensuring that all available data (harmonized and as-is) are made available within the INSPIRE infrastructure.

4 Workshop survey

1. What is your country of origin?
2. Does the presence of both as-is and harmonized data negatively impact the INSPIRE indicator for data conformance (DSi2.x family of indicators) in your country?
Yes / No
3. Are you planning on limiting your INSPIRE offering to prioritised data sets only?
Yes/No
4. Are you planning on limiting your INSPIRE offering to harmonized data sets only?

- Yes/No
5. Is a low value for the DSI2.x indicators (conformity of spatial data sets) an important driver for limiting your offering?
Yes/No
 6. Would you make more as-is data available if this data would not be included in a data conformity assessment?
Yes/No
 7. Would you support limiting data harmonisation efforts to clearly identified and prioritised as-is data sets (to be further developed under MIWP Actions 2.1 and 2.2)?
Yes/No
 8. Would you support using the priority data set metadata keyword to select data sets for future calculation of DSI2.x indicators?
Yes/No
 9. Would you support describing as-is and harmonized versions of a spatial data set through a single metadata record?
Yes /No
 10. Are there any other monitoring conformity indicators that clearly have a repercussion on the data sets made available and accessible in the INSPIRE infrastructure?
Yes/No (in case "Yes", which ones).
 11. INSPIRE metadata already allows to declare conformity to different specifications. Would you support the possibility of optionally declaring conformity to all applicable specifications in metadata e.g. conformity with: national specifications / INSPIRE theme / EU reporting data flow?
Yes/No

This survey is accessible on EUSurvey:

https://ec.europa.eu/eusurvey/runner/13MIG_Workshop_Harmonised_vs_Asls

You are kindly requested to take the survey in preparation of this MIG mini-workshop. To give the Commission the opportunity to process the survey results as input for the workshop, we would ask you to complete the survey by Wednesday 16 June 12:00.

5 Workshop organisation (75')

(15') Introduction and presentation of survey results

(30') Split into 3 breakout groups to discuss the survey results and proposals for possible solutions

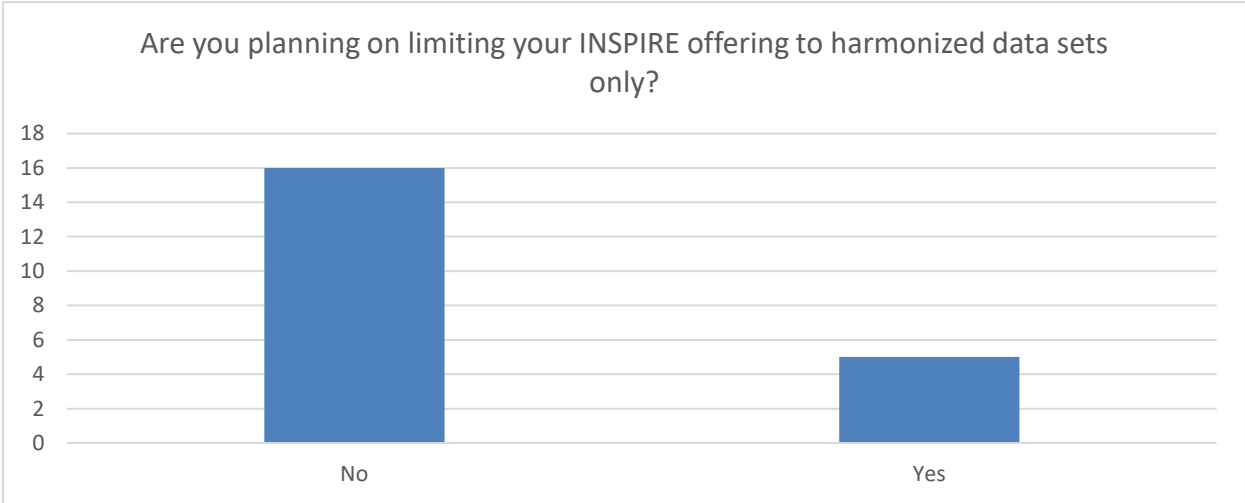
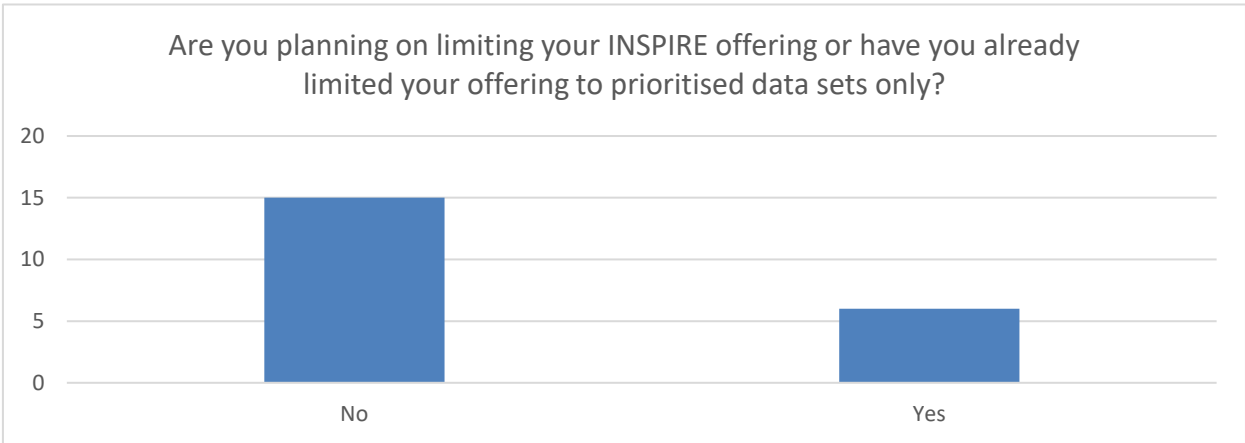
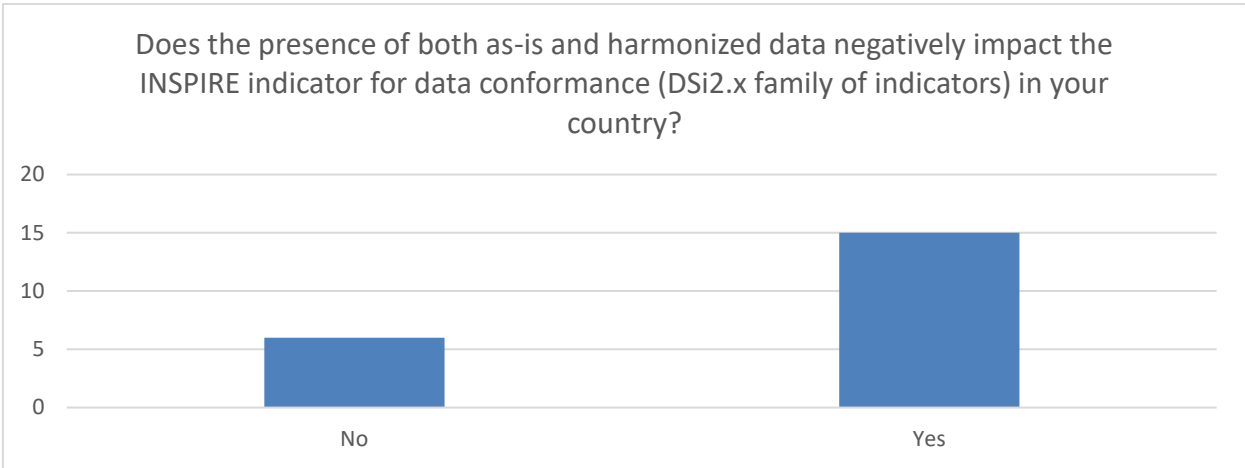
(20') Report back from break-out groups + discussion

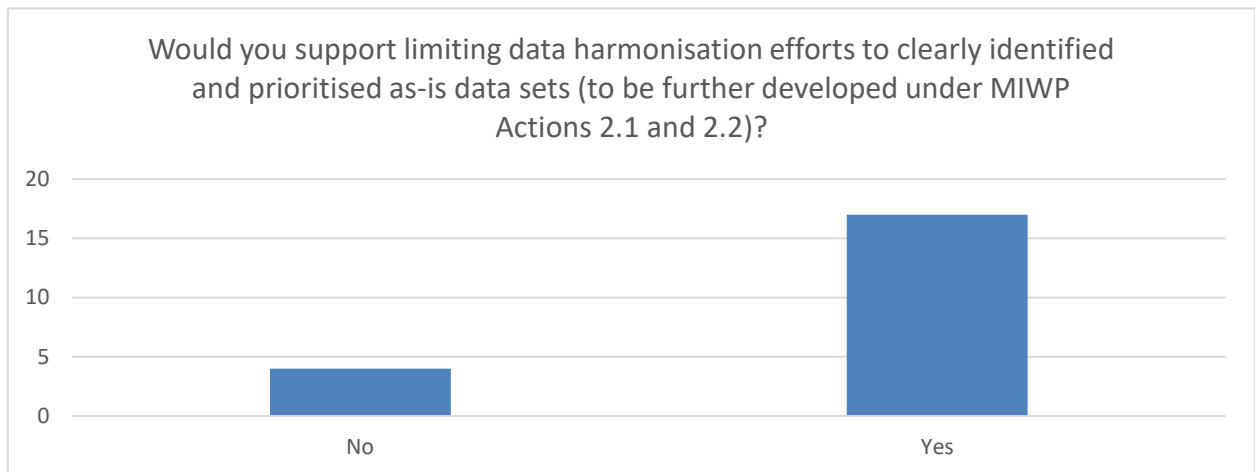
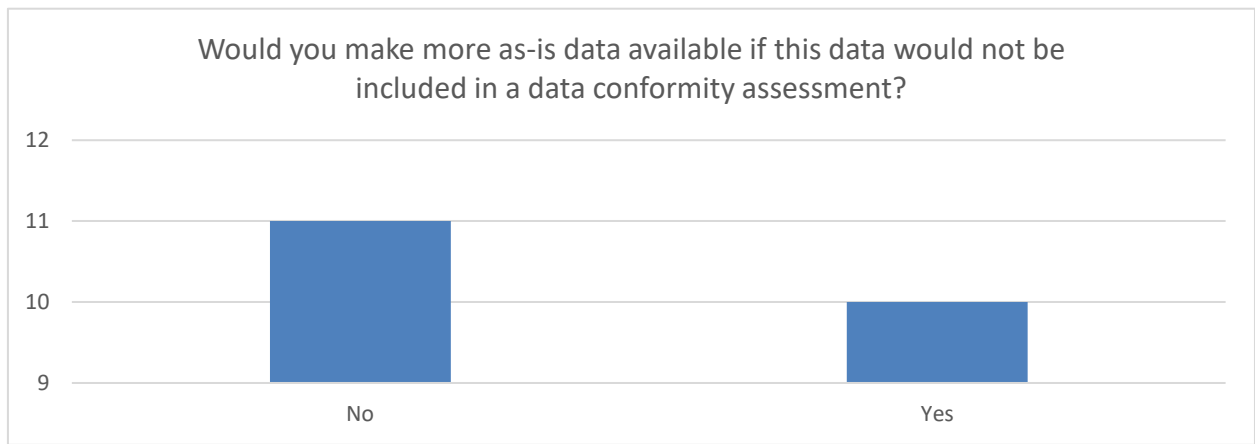
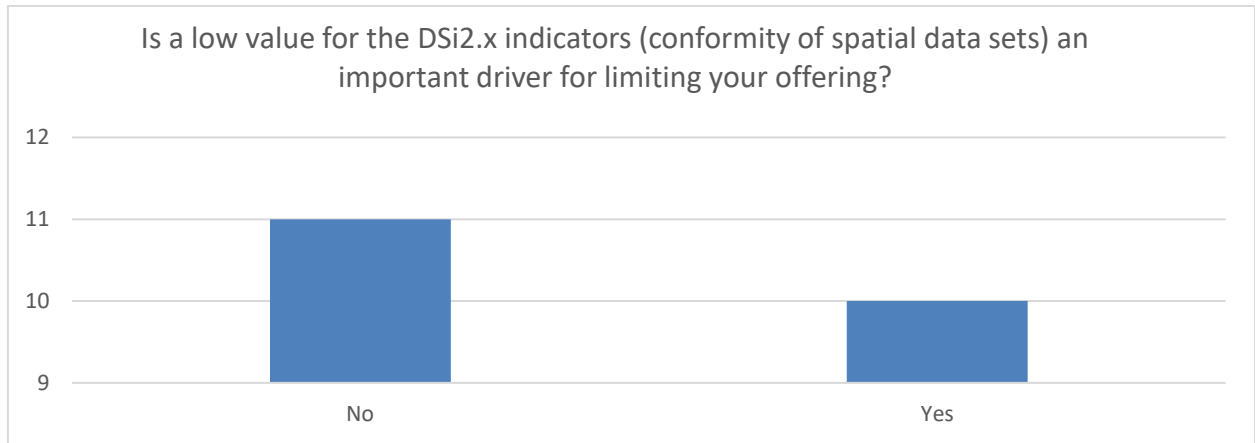
(10') Conclusions

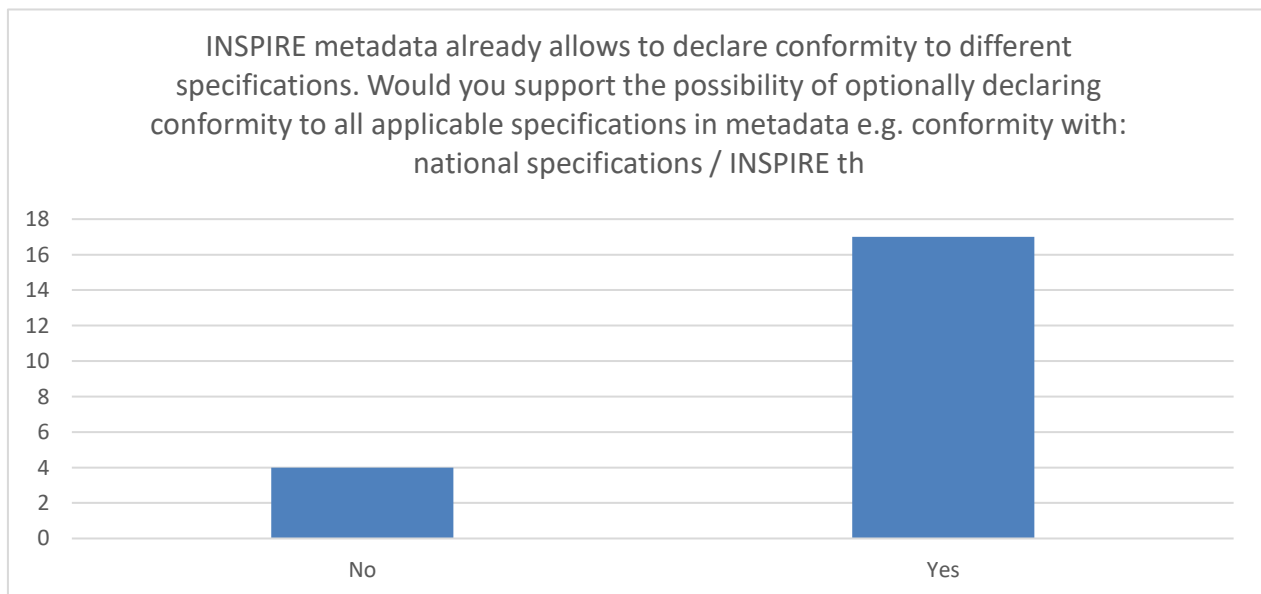
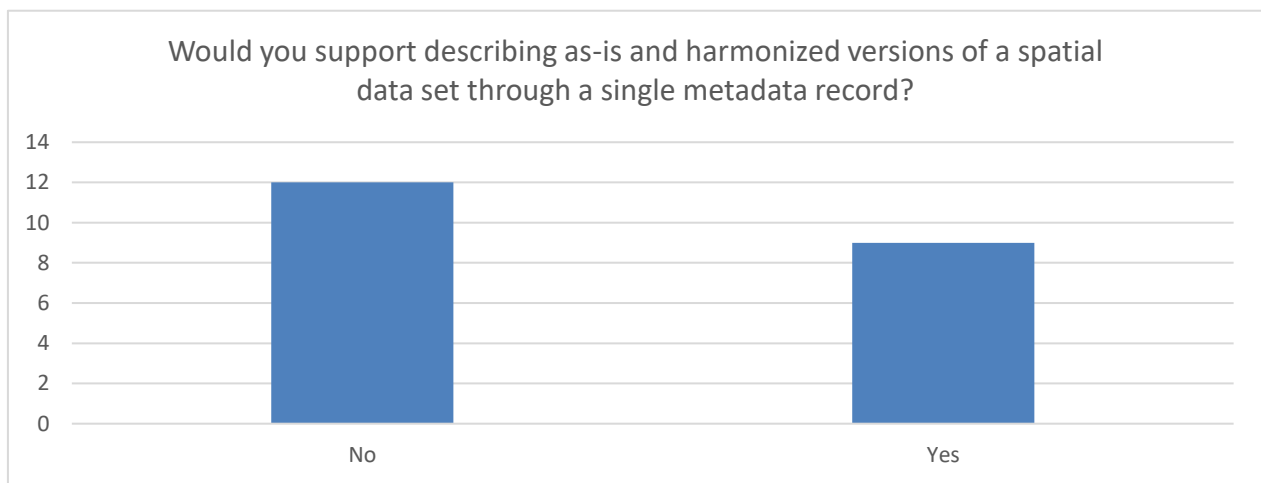
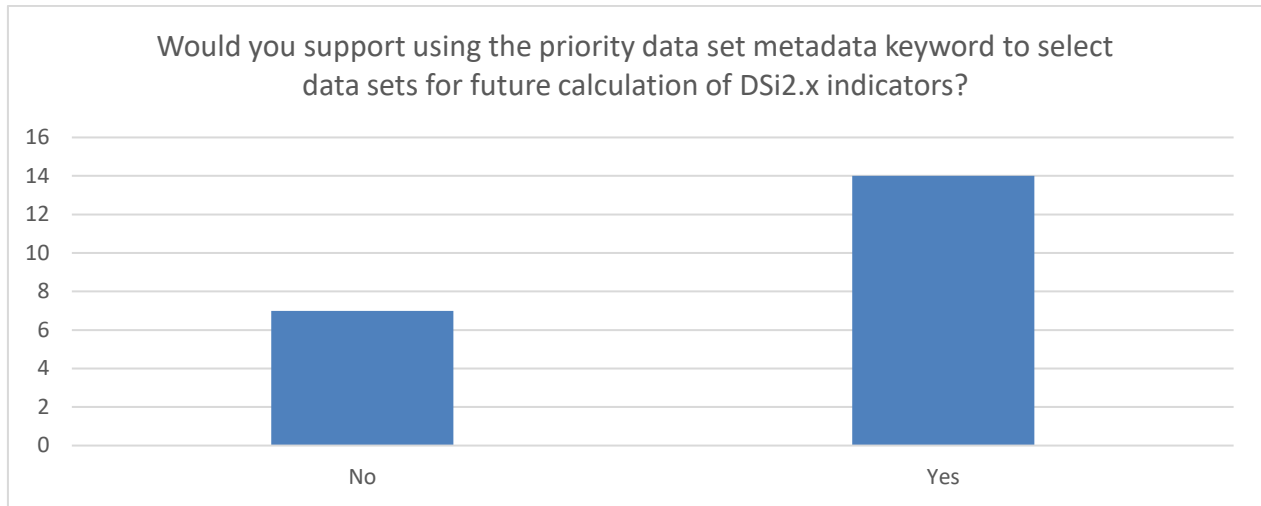
6 Workshop proceedings

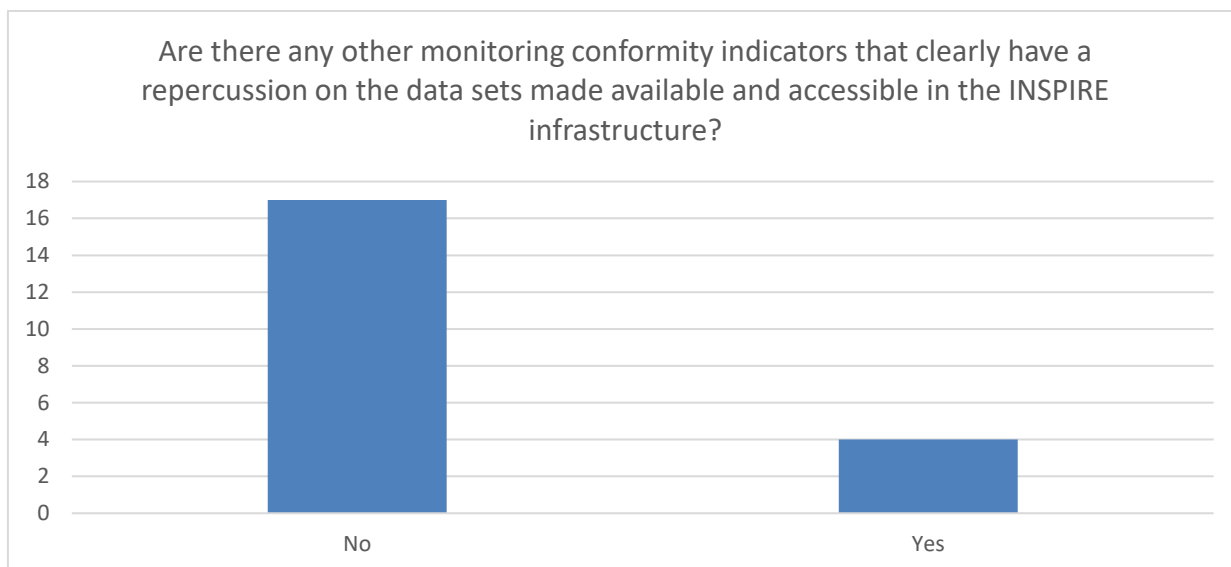
6.1 Survey Results

On 5 July 2021, 21 countries had participated in the online survey: Austria, Belgium, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden.









Conformity indicators affecting the data sets made available in my country

- **2 countries** mentioned that “Conformity of services (NSi4, NSi4.1, NS14.2, NSi4.3, NSi4.4)” have an impact on the amount of data sets published
- **2 country** mentioned that both “Conformity of metadata (MDi1.1, MDi1.2)” and “Conformity of services (NSi4, NSi4.1, NS14.2, NSi4.3, NSi4.4)” have an impact on the data sets published.

6.2 Survey conclusions

- Presence of both non-harmonised and harmonised data does impact the data conformity indicator negatively in most countries.
- 25% of the respondents has adapted or is planning to adapt their offering to harmonised/prioritised data sets.
- 50% of the respondents would make more non-harmonised data available if this would not impact the data compliance indicator.
- 81% of the respondents indicated their support for only harmonising priority data sets.
- 19% indicated that network service conformity also impacts data availability.
- 9,5% indicated that metadata conformity also impacts data availability.
- 66% of the respondents were in favour of using a metadata keyword to identify data sets for compliance testing.
- 57% of the respondents expressed the need for a mixed approach to the documentation of harmonised and non-harmonised data sets in metadata.
- 81% would support the possibility of declaring conformity to other specifications than INSPIRE.

6.3 Break-out groups

The MIG experts were automatically assigned to one of the three break-out sessions. In the break-out session, participants were asked to share any reflections on the background document, the survey and the way forward to a possible solution that would remediate the negative impact of non-harmonised data on the data compliance indicator.

The following input was gathered in the roundtable discussion in the break-out groups:

- Experts acknowledged that there is a problem with the monitoring indicators and the negative impact of non-harmonised data.
- Some countries are already limiting their offering to harmonised⁷ data only. Non-harmonised data is still made available to the national stakeholders through a separate infrastructure.
- At the same time the experts see the monitoring as an important tool to communicate on the national level and stimulate data providers to share more data. In general there was no appetite to hide data in order to improve indicators.
- The appreciation of non-harmonized data came through strongly. This data is the richest and is important for national use cases.
- A majority of experts agreed that both harmonised and non-harmonised data should be made available under the INSPIRE Directive.
- Regarding the technical options, the discussion confirmed the findings of the MIG-T that converging around one single approach is problematic. Some countries already use filters, while others are inclined towards the use of individual metadata records for as-is and harmonised data. Besides different approaches at national level, several countries are also coping with different approaches at regional level.
- Another argument for using different metadata records was that in some cases, different organisations are responsible for the harmonised and non-harmonised datasets, which in turn requires different metadata records.
- A more flexible calculation of the data conformity indicators (DSi2.x) could facilitate different technical solutions, limiting the possible impact on existing implementations. Moreover, fine-tuning of the indicator could also be used to introduce a more meaningful assessment of the conformity of spatial data sets (e.g. priority data) and take in consideration that conformity might never reach 100% (e.g. by introducing a star-based appreciation system).

7 Main takeaways and next steps

The discussion has shown that countries are already using/preferring different technical solutions for documenting harmonised and non-harmonised versions of data sets. Support for a mix of proposed technical solutions is recommended.

⁷ Harmonised data = data that follows INSPIRE data specification guidelines ; non-harmonised data = data in its original structure

The appreciation of non-harmonized data is strong. Some data cannot be harmonized and is needed for national use cases. INSPIRE harmonized data have limited national/regional/local use. It would be appropriate to limit the harmonisation burden to selected data sets.

It was proposed to make the calculation of the indicators more flexible to avoid the need for choosing between the identified technical solution options.

This flexibility could come from revising the current definition of the data conformity indicator in the Commission Implementing Decision on monitoring and reporting 2019/1372 and from applying a proportional harmonisation for prioritised data sets by further exploring the “where practicable” condition.

Next steps:

- The discussion will continue in the MIWP Action 2.2 subgroup and technical options for publishing non-harmonised datasets can be further elaborated in MIWP Action MIWP 2.3.2 on data-service linking simplification after reaching consensus on a remediation.
- Discussion boundaries
 - Rich non-harmonized data for national/regional/local use cases should be published under INSPIRE.
 - Impact on Member States, Tools and infrastructure should be minimal.
 - Need for technical flexibility supporting different approaches.
 - Look for a legally sound solution (compliant with the current legal framework) supporting a proportionate harmonisation effort in line with the data prioritisation under MIWP Action 2.1.
 - Possible options to explore: change calculation of the data compliance indicator in the reporting decision (legal change) / use “where practicable” for more targeted data harmonisation (build common understanding)

Annex 2 : Workshop - The future of INSPIRE (revisited)

The future of INSPIRE (revisited): EU common data spaces, high-value data sets, evidence-based policy development

MIG mini-Workshop

Type	Workshop background document
Creator	DG ENV
Date/status/version	26-07-2021 /DRAFT/ version 0.3
Addressee	MIG
Identifier	[DOC5/REPORT]
Description	Context-setter and report for the MIG mini-workshop on the future of the INSPIRE Directive.

- Requested actions:** The members of the MIG are invited to:
- Take note of the document and share any feedback by 3 September 2021 close of day;
-

Note: This document does not necessarily represent the official, formal position of any of the partners. To the extent that the European Commission's services provided input to this technical document, such input does not necessarily reflect the views of the European Commission and its services or the European Environment Agency. This document is, in parts, intended to facilitate the implementation of Directive 2007/2/EC and is not legally binding. Any authoritative reading of the law should only be derived from Directive 2007/2/EC itself and other applicable legal texts or principles such as the related Implementing Rules. Only the Court of Justice of the European Union is competent to authoritatively interpret Union legislation.

1 Context

The GreenData4All initiative, that was announced in the European Data Strategy in February 2020, involves the evaluation and the possible revision of the INSPIRE Directive and selected provisions of the public access to environmental information Directive. The objective is to bring the legal framework into the 21st century and up to speed with contemporary and cutting-edge technology. GreenData4All will contribute to the development of the Green Deal data space and to populating the data space with

the necessary data to reach the ambitious Green Deal objectives and support better implementation of the existing environmental acquis.

The evaluation of the INSPIRE Directive is ongoing with the objective to publish the evaluation Staff Working Document end of 2021. The process to seek political support for a review of the INSPIRE Directive and the Public Access to Environmental Information Directive has been initiated.

2 Problem statement

The 2016 evaluation of the Directive 2007/02/EC (INSPIRE Directive) confirmed that the 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 is still very relevant in view of the European Green Deal and Digital strategies. The ambition to promote data sharing and put in place easy-to-use, transparent, interoperable spatial data services which are used in the daily work of environmental and other policy makers and policy implementers across the EU at all levels of governance as well as businesses, science and citizens is well aligned with the objectives of the European Strategy for data. The next evaluation of the INSPIRE Directive is expected in Q4 2021 and indications are that similar conclusions will be reached about the relevance of the INSPIRE Directive.

The evaluations also identified some issues that hamper the full implementation of the Directive and that show the need for a revision to make the INSPIRE Directive fully coherent and complementary in support of more recent digital and data legislation:

- Remaining implementation gaps in Member States need to be closed to optimise the reuse of spatial data and facilitate its pan-European use.
- New data sources should be included (3D, linked data, sensor data ...) beyond the current spatial data scope.
- The further implementation (data and services availability, accessibility and interoperability) of the INSPIRE Directive should be driven by a common demand across administrative levels and use cases.
- The legal implementation framework should be technology neutral. Implementers should have the option to deploy off-the-shelf tools.

There is need for more work on data sharing, continued work on increased flexibility of the legal framework and further simplification of the minimal interoperability mechanisms. Implementation in Member States still happens at different speeds and levels of engagements. As a result, this artificially limits the practical benefits of the INSPIRE rules (e.g. for impact assessments or environmental inspections and controls).

The INSPIRE Directive is also an important instrument for bringing data from public administrations into the Green Deal data space, which is the larger objective of the 'GreenData4All' initiative. Furthermore, the INSPIRE Directive is also envisaged to play a key role in the implementation of the legal framework for the definition of High Value Data sets under the Open Data Directive for the data categories "Geospatial", "Earth Observation and environment" and "Mobility". The adoption of the legal act on High Value Data sets under the Open Data Directive is expected Q2/Q3 2021. This alignment will directly impact Article 17 of the INSPIRE Directive. INSPIRE data sharing and reuse provisions will have to be streamlined with the Open Data Directive and its implementing act.

Not addressing the above issues will undermine the effectiveness of the INSPIRE Directive and the Public Access to Environmental Information Directive as enabling instruments for implementing data

sharing in Europe. Moreover, not addressing coherence issues with more recent and emerging European data legislation will show counterproductive and might result in additional implementation burden on the Member States.

3 Objectives of the workshop

This MIG mini-workshop is organized to have an exchange of views on the possible evolution of the INSPIRE Directive building on the conclusions of previous “what-if” and “future of inspire” workshops at INSPIRE conferences and in the INSPIRE MIG. The input gathered from the MIG will contribute to the formulation of policy options for the inception impact assessment when political approval is given.

4 Workshop survey

1. Would you agree that a revision of the INSPIRE Directive and/or its implementing acts is needed?
 - a) Yes, both the Directive and the implementing acts need to be revised.
 - b) Only the implementing acts need to be revised, the Directive is still fit for purpose.
 - c) No revision is needed, the full legal framework is still fit for purpose. (You can skip all other questions)
2. The recommendations below were gathered over the past 4 years in “what if ...” and “future of INSPIRE” workshops. Could you indicate how important it is for you to take these recommendations into account in a possible revision of the INSPIRE Directive. (1 star = no importance – 5 stars = high importance)
 - a. Remaining implementation gaps in Member States need to be closed to optimise the reuse of spatial data and facilitate its pan-European use.
 - b. New data sources should be included (3D, linked data, sensor data ...) beyond the current spatial data scope.
 - c. The further implementation (data and services availability, accessibility and interoperability) of the INSPIRE Directive should be driven by a common demand across administrative levels and use cases.
 - d. The legal implementation framework should be technology neutral. Implementers should have the option to deploy off-the-shelf tools.
3. To what degree would you agree to the following statements: (1 star = I do not agree – 5 stars = I fully agree)
 - a. “The overall objective of the revision of the INSPIRE Directive is to unlock its full potential in the context of the European Strategy for data as an enabler for the European Green Deal. The full benefits of data sharing should support data-driven innovation and evidence-based decisions by the citizens, public and private sector in support of the transition to a more sustainable society”.
 - b. “The revision of the INSPIRE Directive is an important initiative for strengthening the legal and technical interoperability of data across the *Common European Data Spaces*, including the European Green Deal data space.”
 - c. “The legal framework should be aligned with more recent and emerging data legislation under the European strategy for data, such as the data reuse provisions of the Open Data Directive, the related *initiative for an Implementing Act on High Value*

Datasets and the Proposal for a regulation on European data governance (Data Governance Act)."

- d. "A revision of the INSPIRE Directive should modernise the data regime in line with technological and innovation opportunities, making it easier for EU public authorities, businesses and citizens to share, access and use data to develop data-based solutions that support the transition to a greener and carbon-neutral economy, and reducing administrative burden."
- e. "The INSPIRE Directive should be strengthened by extending the current data scope of the INSPIRE Directive to also include non-spatial data and applying a linked data approach to associate spatial and non-spatial data."

This survey is accessible in EUSurvey. You are kindly requested to take the survey in preparation of this MIG mini-workshop. To give the Commission the opportunity to process the survey results as input for the workshop, we would ask you to complete the survey by Wednesday 16 June 12:00.

5 Workshop organisation (60')

(15') Introduction and presentation of survey results

(30') Split into 3 breakout groups to discuss the survey results and share views on the possible evolution of the INSPIRE Directive.

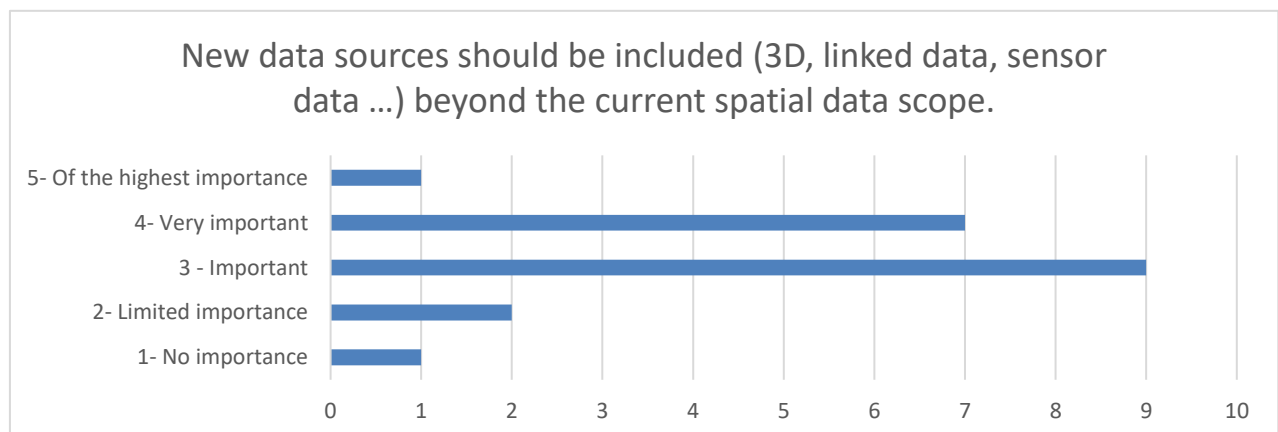
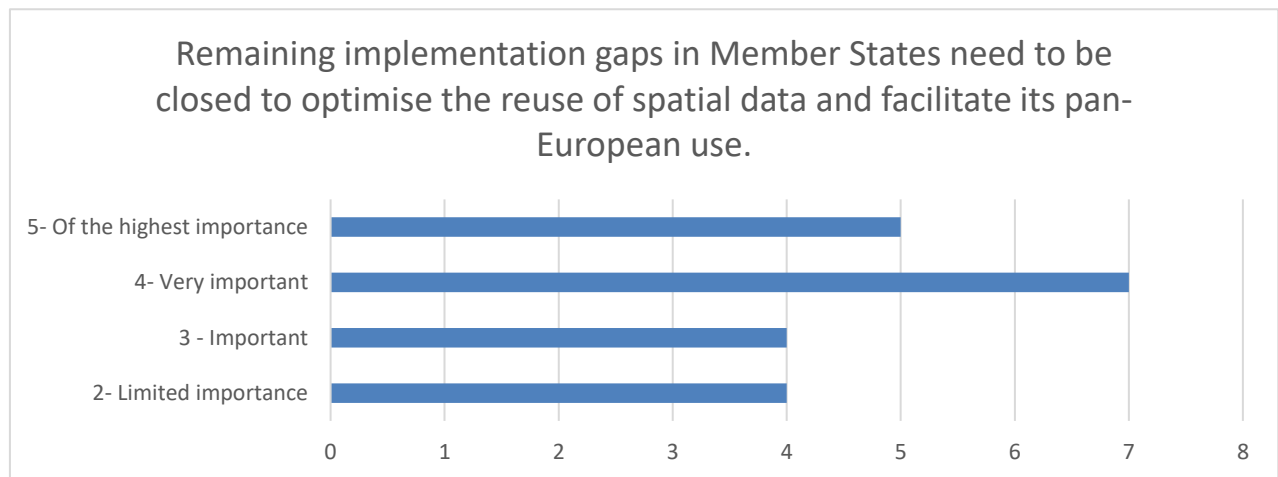
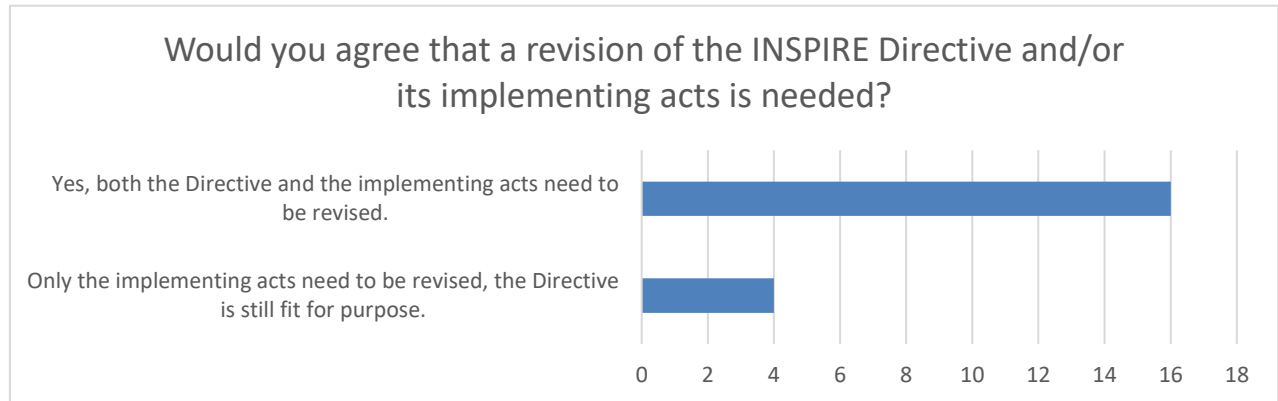
(10') Report back from break-out groups

(5') Conclusions and way ahead

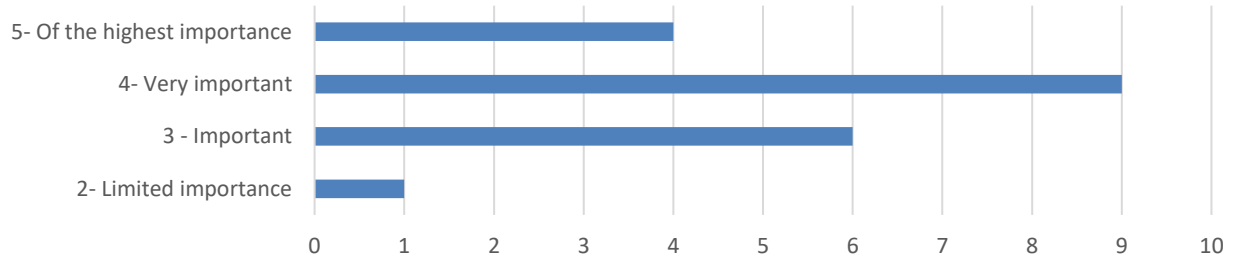
6 Workshop proceedings

6.1 Survey Results

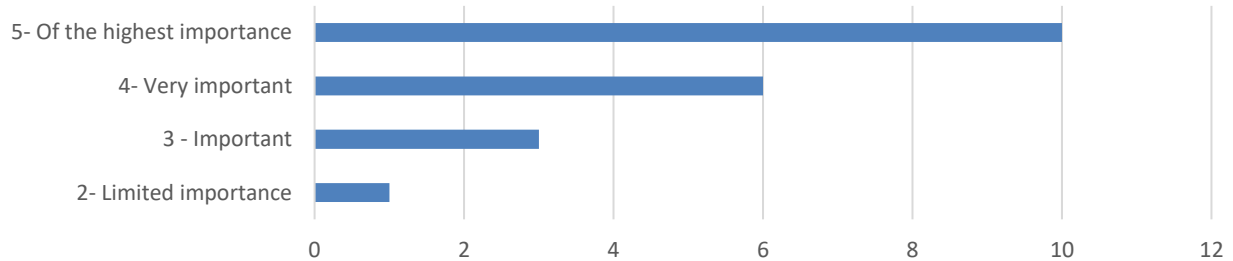
On 5 July 2021, 20 countries had participated in the online survey: Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Lithuania, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, Spain and Sweden.



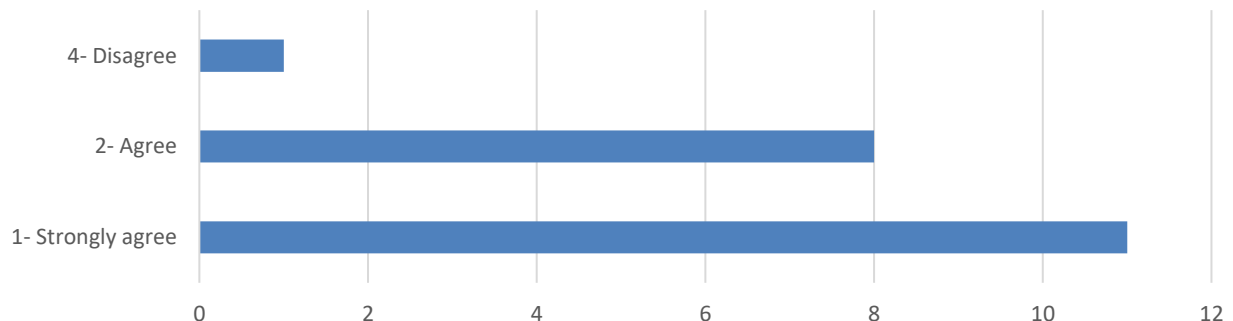
The further implementation (data and services availability, accessibility and interoperability) of the INSPIRE Directive should be driven by a common demand across administrative levels and use cases.



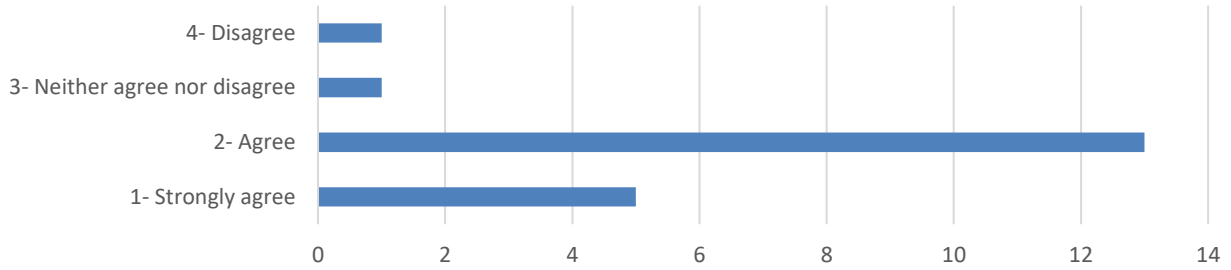
The legal implementation framework should be technology neutral. Implementers should have the option to deploy off-the-shelf tools.



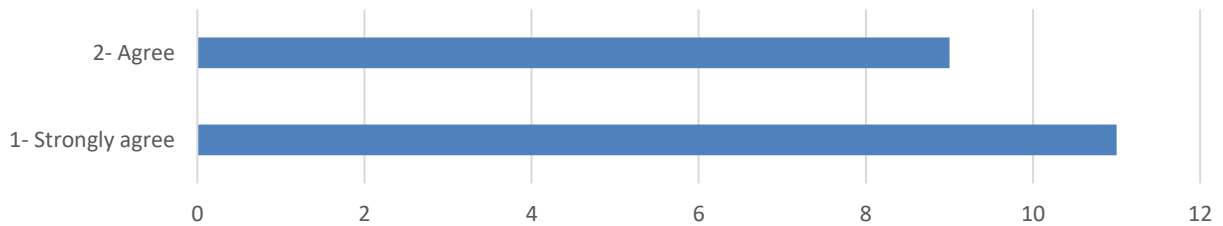
The overall objective of the revision of the INSPIRE Directive is to unlock its full potential in the context of the European Strategy for data as an enabler for the European Green Deal. The full benefits of data sharing should support data-driven innovat



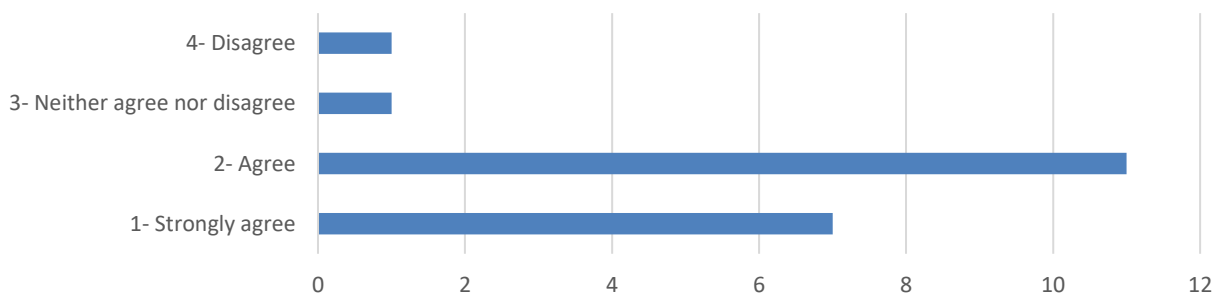
The revision of the INSPIRE Directive is an important initiative for strengthening the legal and technical interoperability of data across the Common European Data Spaces, including the European Green Deal data space.

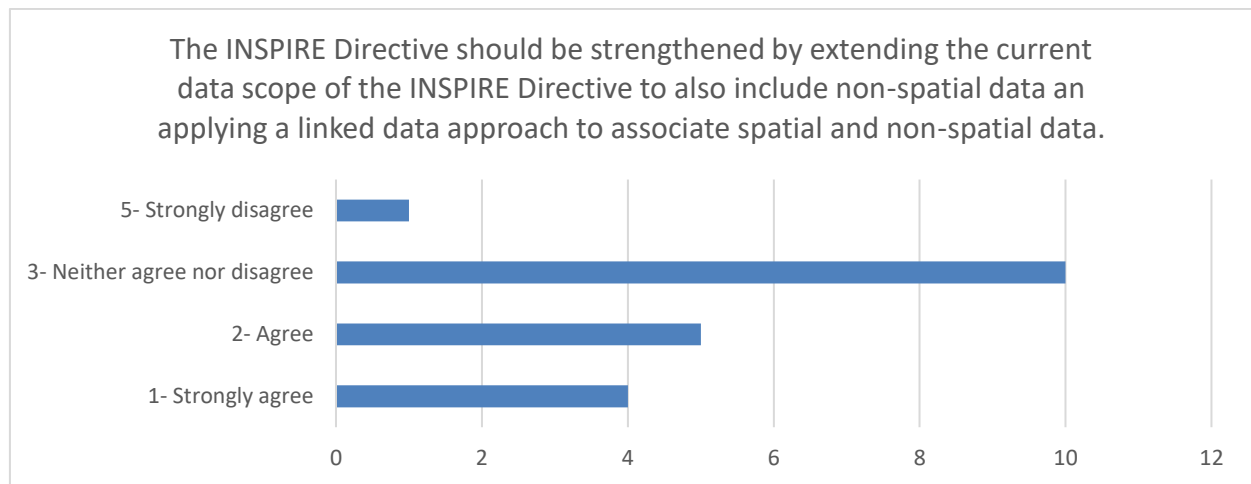


The legal framework should be aligned with more recent and emerging data legislation under the European strategy for data, such as the data reuse provisions of the Open Data Directive, the related initiative for an Implementing Act on High Value Datasets



A revision of the INSPIRE Directive should modernise the data regime in line with technological and innovation opportunities, making it easier for EU public authorities, businesses and citizens to share, access and use data to develop data-based solutions





6.2 Survey conclusions

- All respondents agreed that a revision of the legal framework is needed. 80% indicated the need for a revision of both the INSPIRE Directive and its implementing acts. For 20% of the respondents only the implementing acts need to be revised.
- 80% of the respondents indicated the importance of closing the remaining implementation gaps in Member States.
- 85% of respondents agreed that new data sources should be included (3D, linked data, sensor data ...) beyond the current spatial data scope.
- 95% of the respondents agreed that the further implementation (data and services availability, accessibility and interoperability) of the INSPIRE Directive should be driven by a common demand across administrative levels and use cases.
- 95% of the respondents indicated that the legal framework should be technology neutral. Implementers should have the option to deploy off-the-shelf tools.
- 95% of the respondents strongly agreed (55%) or agreed (40%) that the overall objective of the revision of the INSPIRE Directive is to unlock its full potential in the context of the European Strategy for data as an enabler for the European Green Deal.
- 90% of the respondents agreed (65%) or strongly agreed (25%) that the revision of the INSPIRE Directive is an important initiative for strengthening the legal and technical interoperability of data across the Common European Data Spaces.
- All respondents strongly agreed (55%) or agreed (45%) that the INSPIRE legal framework should be aligned with more recent and emerging data legislation under the European strategy for data.
- 90% of the respondents agreed (55%) or strongly agreed (35%) that a revision of the INSPIRE Directive should modernise the data regime in line with technological and innovation opportunities.
- On extending the current data scope of the INSPIRE Directive to also include non-spatial data and applying a linked data approach to associate spatial and non-spatial data, 50% of the respondents were neutral. 45% supported extending the scope. 5% strongly disagreed to extend the scope.

6.3 Break-out groups

The MIG experts were automatically assigned to one of the three breakout sessions. In the breakout session, participants were asked to share their views on the background document, the survey and possible directions in which the INSPIRE Directive should evolve that have not been touched upon in the survey.

The following input was gathered in the roundtable discussion in the break-out groups:

- Being demand-driven is crucial – the data in the infrastructure should be actively used. This should also consider demand coming from the EU/pan-European level.
- “Common demand” will be difficult to be defined or agreed upon. Typically national SDIs look at a wide range of requirements from different user communities and provide dedicated products meeting these requirements. The issue of providing different solutions (infrastructures or products) to different users (at national or European level) that we have been facing in INSPIRE for many years may also become an issue for the European data spaces to be set up.
- It would be important to “get the job done” of having a good basis of authoritative data available and usable, before adding new data sources to the infrastructure (while not necessarily waiting for every Member State to close all the gaps, before moving on). Once geo-spatial reference data is widely available (through the High-value data sets), INSPIRE could focus more strongly on environmental data and alignment with ReportNet.
- Being able to use off-the-shelf software is crucial for closing implementation gaps, especially for small(er) countries. Being technology-neutral and following well-established, but also emerging standards is important (to renew the technical scope). There should not be any INSPIRE-specific extensions that would require additional implementation work.
- Data quality is an important factor to be considered in the future data spaces.
- Any revision should be closely connected to other legal EU initiatives around data, in particular the High-value Datasets Implementing Act.
- Cost-recovery/financing of the infrastructure should be taken into account to ensure that it remains sustainable in the long term.
- Requirements should be prioritised as follows:
 1. availability of non-harmonised data
 2. data access
 3. interoperability
 4. data harmonisation

Nowadays, data scientists can relatively easily extract information from heterogeneous data sources, as long as they are well described and the licence conditions are clear. Harmonisation will be more relevant for European-level applications.

- The importance of metadata needs to be highlighted, also in future frameworks, as key enabler of data discovery and sharing.
- It will be a challenge to extend the data scope (to 3D data, non-spatial data etc.) while at the same time better managing interoperability.
- Alignment with the Sustainable Development Goals (SDGs) is needed when prioritising data.
- The role of and the need for persistent identifiers (PID) will only increase when extending the data scope to non-spatial data. The infrastructure would benefit from an authoritative PID registry federation and broker.

7 Main takeaways and next steps

The outcome of the survey and the discussion has shown that the MIG experts strongly support a revision of the INSPIRE Directive and its implementing acts. The revision of the INSPIRE Directive is considered an important opportunity for strengthening the legal and technical interoperability of data across the *Common European Data Spaces*, including the European Green Deal data space. A large majority of MIG experts support the evolution of the INSPIRE Directive into an enabling instrument for bringing data in the Common European data spaces with the overall objective to unlock the full benefits of data sharing for data-driven innovation and evidence-based decisions by the citizens and the public and private sectors.

The MIG identified the following key drivers for developing policy options to revise the INSPIRE Directive:

- Close remaining implementation gaps.
- Align the legal framework with more recent and emerging data legislation under the European strategy for data.
- Renew the technical scope of the Directive using the principle of technology-neutrality for a future-proof architecture. Maximize implementation flexibility while maintaining minimal interoperability mechanisms.
- Strengthen demand-driven data scoping responding to information needs on all administrative levels.
- Include data quality provisions.
- Take into account cost-recovery/financing of the infrastructure to ensure long-term continuity.

Next steps:

When a mandate is given to DG ENV for revising the INSPIRE Directive (Q3 2021), the input gathered from the MIG will contribute to the formulation of policy options for the inception impact assessment roadmap. The roadmap will be published for public consultation (Q4 2021), followed by an impact assessment study of the proposed policy options (Q1 2022-Q3 2022) that should provide guidance on selecting the preferred policy option for the evolution of the INSPIRE Directive (Q4 2022).