A questionnaire poll to promote data integration for policy outreach

Work plan for UN-GGIM: Europe Work Group on Data Integration – Sub-group policy outreach

UN-GGIM: Europe | Work Group on Data Integration | subgroup 1

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DOCUMENT HISTORY

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0.1	30.10.2018	First draft report	all	Franka Ginter (BKG)
0.2	15.11.2018	Amendments, layout and structure	all	Sabine Afflerbach-Thom, Jeanette Kretz, Pier-Giorgio Zaccheddu, Franka Ginter (BKG)
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2.0	06.02.2019	Figure and numbers updated	10	Franka Kunz (BKG)

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1 PURPOSE AND BACKGROUND OF THE DOCUMENT

In a modern world, providing credible, reliable and independent geospatial and statistical data is one of the main functions of national statistical and geospatial agencies for policy and strategic decision making processes. Thereby, the need to join this information together and to get new insights in relations are important aspects of the future work related to the achievement of the Sustainable Development Goals (SDGs).

In 2017 the Plenary of UN-GGIM: Europe approved a comprehensive work plan for the years 2017-2020. This plan comprises the task to produce a policy outreach paper on key benefits and challenges associated with data integration.

- Promote the benefits of integration of statistical and geospatial data
- Guide and recommend on how to improve data integration
- Address the challenges and obstacles for full integration of data
- Provide facts for evidence based policy making
- Achieve the UN Sustainable Development Goals

In order to gain a comprehensive overview of the current situation and the main issues related to data integration in the Member States of UN-GGIM: Europe the Work Group Data Integration has designed a questionnaire. The answers to the questions shall provide the information needed to identify and understand the most important issues and to propose measures that would help to get an overview and improve the current situation. This information will be used to better shape the policy outreach paper which is one of the main outputs of this Working Group. This includes recommendations on user needs, interoperability frameworks, cooperation and methods for data integration.

To have a consistent picture per country the Working Group has envisaged to receive one completed questionnaire by member state. Therefore the National Statistical Office and the National Geospatial Agencies have been asked to coordinate the completion of the questionnaire. This questionnaire has also been circulated to the wider area of the United Nations Economic Commission for Europe (UNECE) to ensure the broadest possible picture. A completed questionnaire was seen as a good opportunity to involve all national stakeholders in the national public data domain and to launch an awareness raising campaign for the strengths and weaknesses of data integration in each country.

The Questionnaire was sent to 180 Addressees of UN-GGIM: Europe and UNECE contacts in 55 countries with a deadline of completion by August 31st, 2018.

1.1 Content of the questionnaire

The questionnaire has been designed to get a comprehensive overview on topics dealing with data integration. It should carry out important aspects as difficulties, overall results, information from specific questions and new arising topics. In particular, the following five aspects have been addressed (see Fig. 1):

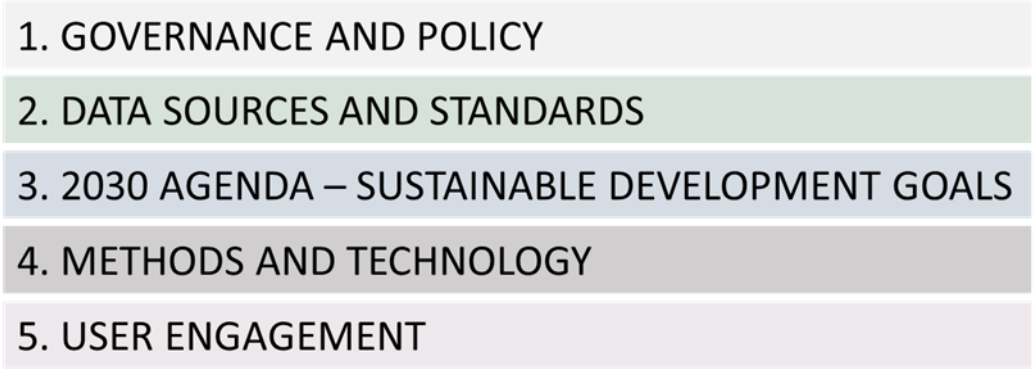


FIG. 1: TOPICS INCLUDED IN THE QUESTIONNAIRE

- The first part "Governance and Policy" includes questions on cooperation and agreements within the countries and policy and licensing topics like Open Data Policies for data exchange. Also, questions on knowledge exchange are included.
- The second part "Data sources and Standards" comprises questions on what kind of data is used and which standards such as ISO, OGC or INSPIRE for example are used for producing datasets.
- The third part "2030 Agenda – SDGs" includes questions on monitoring and calculation of SDGs.
- Moreover, the fourth part "Methods and Technology" with questions on geocoding and Linked Open Data gives an overview of the techniques used to produce integrated data.
- The last part on "User Engagement" is meant to give answers on communication and feedback users can provide to the organizations.

The questionnaire has been designed to easy answer all the 53 questions. Therefore, the largest part includes pre-built answers with five possible answers only in a drop-down field:

- ☐ Yes
- ☐ No
- ☐ No, but planning to do so
- ☐ No, not planning to do so
- ☐ Not applicable

The rest could be answered by just clicking on the right answers as a Multiple-Choice design. Only a few questions include using a free text field.

1.2 Difficulties

The questionnaire has been developed and was tested by 4-5 European colleagues affiliated to National Mapping Cadastre and Mapping Agencies (NMCAs) and National Statistic Institutes (NSIs). In addition, it has been considered to use an online platform for easy answering, but the Working Group decided to use a simple Excel file, as everyone was considered to be familiar with the software.

Furthermore, to get a good overview over the situation in each country, the Working Group decided to ask for a coordinated Member State's answer rather than several single answers from each institution. Nonetheless, some issues have occurred after the questionnaire was sent. The following table shows the most prominent issues:

TAB. 1: ISSUES OCCURRED AND SOLUTION PROVIDED

Issues	Solution
• Email has not been received directly by the person in charge of, as the email was sent to UN-GGIM: Europe contact persons (director general)	• Email was sent to colleagues directly
• Some questions were unclear or were misunderstood	• Whenever questions occurred answering was the highest priority and replies were sent out as soon as possible
• NMCA and NSI could not coordinate one answer	• Evaluation of these questionnaires was done separately. More differentiated evaluation was possible, better overview of issues within an organization
• Coordinated answer, but does not reflect the situation in either of the organizations individually. Where each organization might have responded individually in a different way, the most positive answer was selected	• Aware of the situation → still, some answer is better than no answer. Would be done differently next time
• Cells locked: difficult to coordinate the answer between NMCA and NSI, not possible to add notes or highlight some of the questions	• Questionnaire was sent out with unlocked cells
• Actual use of geospatial information for the SDG indicators is tricky to answer, some of the data will be produced by other agencies but is really crucial for several indicators → underestimation of the use of datasets	• Aware of the situation, better communication and cooperation on a national level is needed

After the evaluation of the replies one of the most important outcome has been, that a single answer per institution would have been a better solution.

1.3 Evaluation

The evaluation of the questionnaire was done on the total 34 answers received. The differentiation by country was not done, since a non-coordinated answer was too diverse in several cases.

For all of the 53 questions diagrams were generated. For the majority of the questions the evaluation was done using percentages, some of the questions required total answers instead.

Furthermore, all free text answers were analysed and integrated to a summarized answer to get a better overview on the situation.

2 RESULTS

After the deadline 34 answers have been received from 28 countries in total. Fig. 2 shows the countries completing the questionnaire. Overall, 51% of the contacted countries answered the questions.

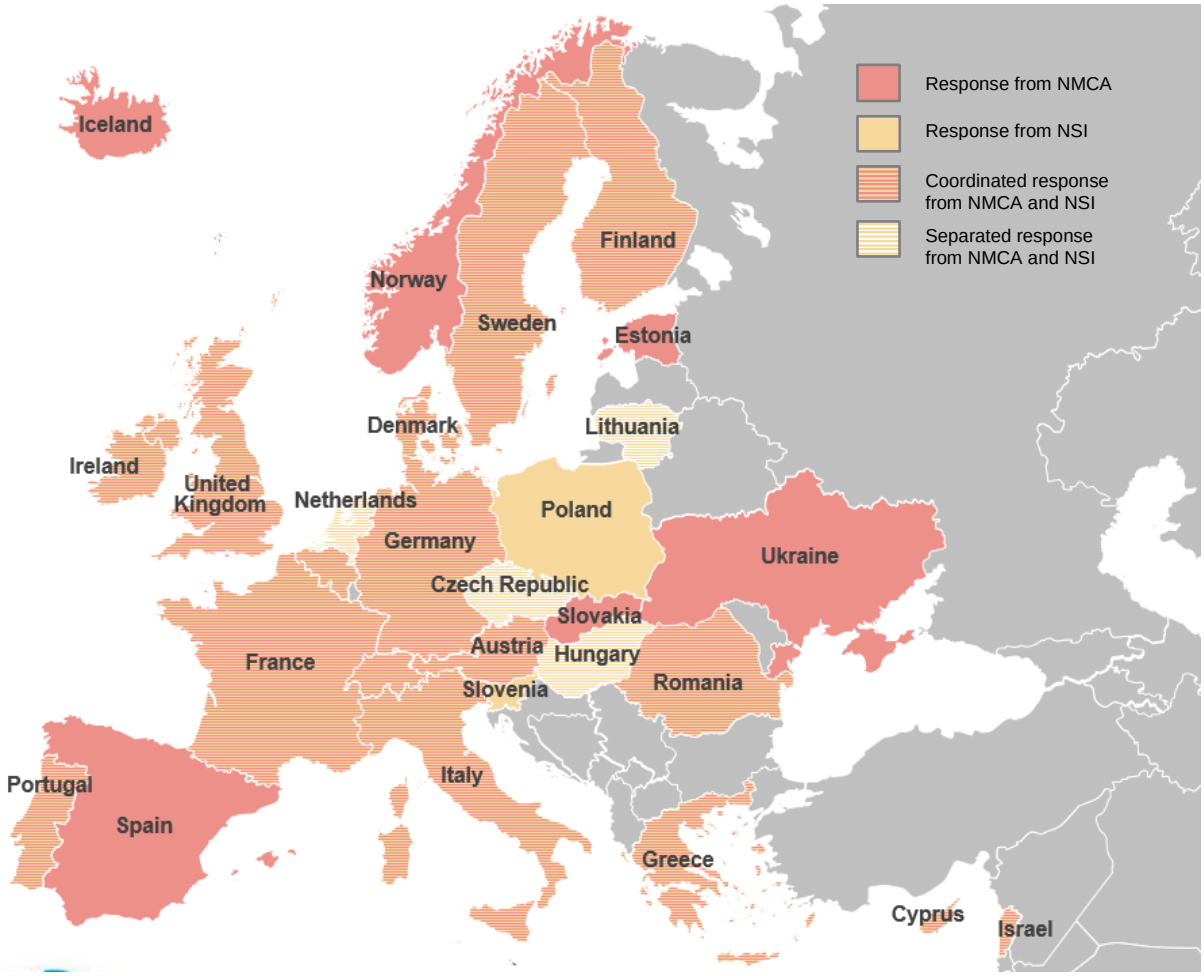


FIG. 2: COUNTRIES COMPLETING THE QUESTIONNAIRE

As Fig. 3 shows, 47 % of the answers have been sent coordinated between the National Statistic Institutes and National Mapping Agencies. 24% were sending separated responses. Another 18% was only filled out by NMCAs and 12% was answered by NSIs.

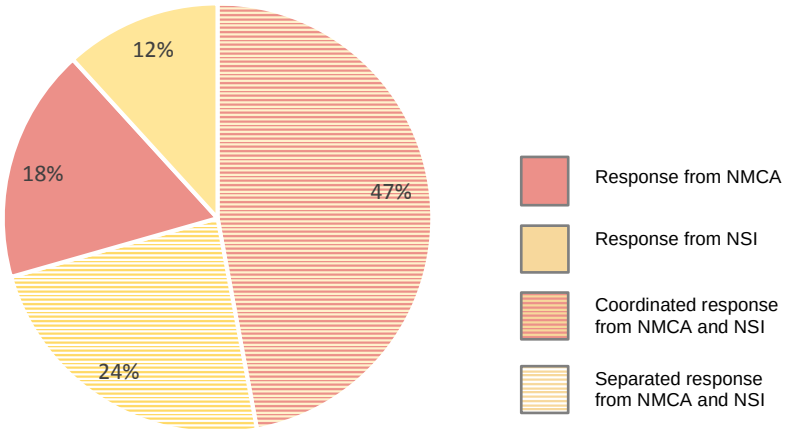


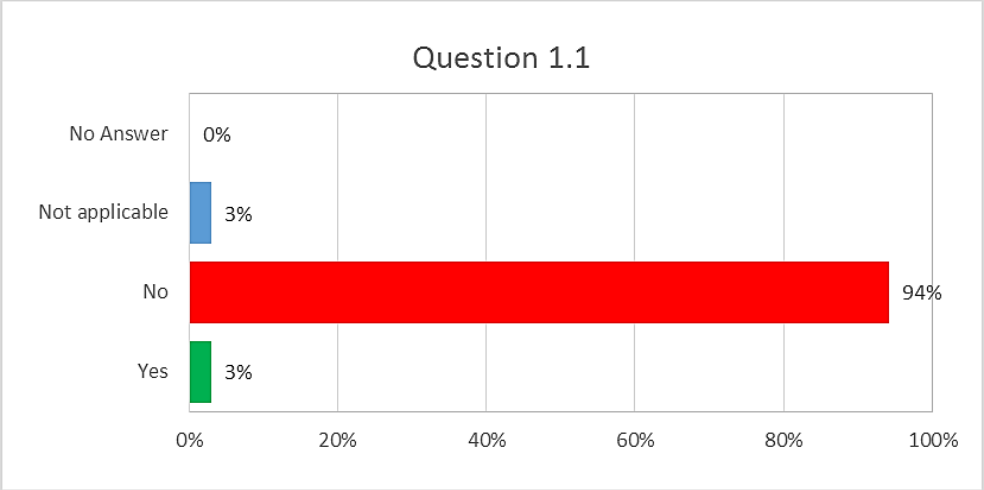
FIG. 3: ANSWER SENT BACK BY THE CONTACTED ORGANIZATIONS

2.1 Governance and Policy

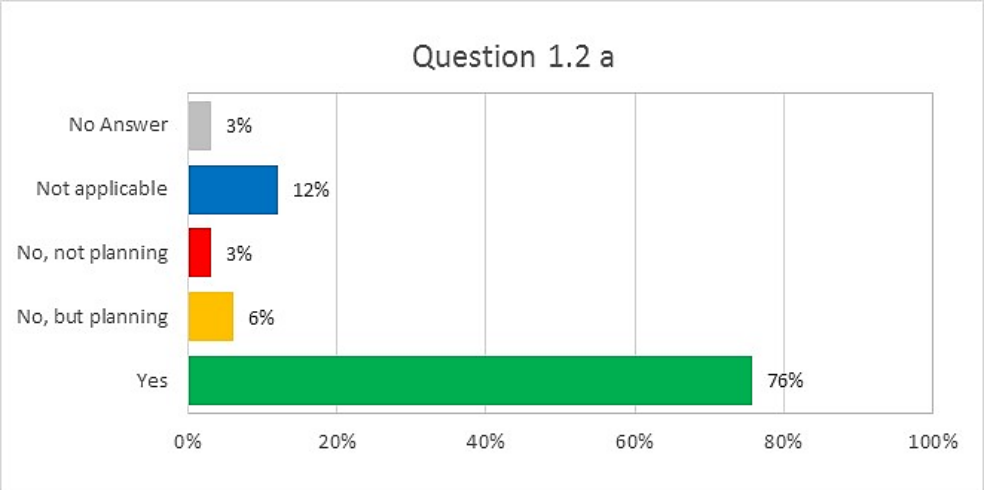
The chapter of "Governance and Policy" provides answers to general questions on political and institutional topics, such as legal frameworks, institutional communication and work ethics.

Overall, after evaluation the result of each question, the topic of data integration between statistics and geo-data is an important topic in the institutions already. For example, although 94% of the countries answered that statistics and geospatial information is not under the same ministry, 76 % countries said that an active agreement between these institutions is signed (DIGRM. I & DIGRM. II).

DIGRM. I: 1.1 ARE STATISTICS AND GEOSPATIAL INFORMATION UNDER THE SAME MINISTRY?

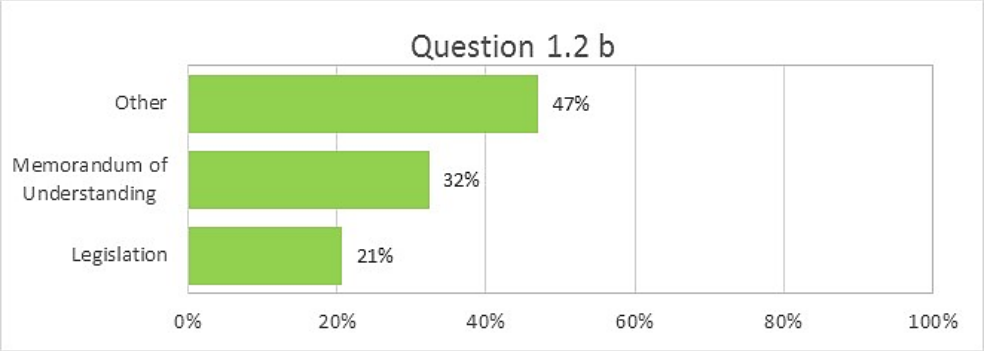


DIGRM. II: 1.2A DO YOU HAVE AN AGREEMENT ON COOPERATION BETWEEN THE NSI AND NMCA IN YOUR COUNTRY?

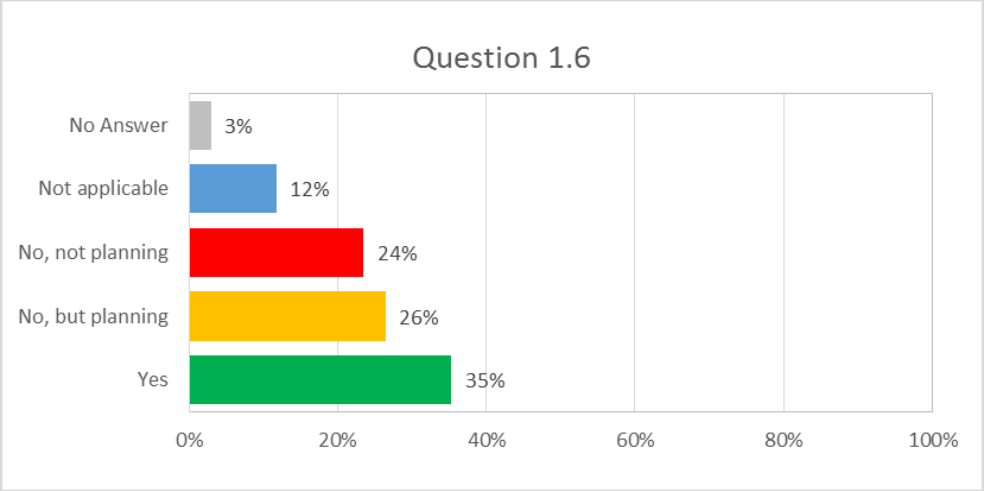


These agreements can be separated in 32% countries having a Memorandum of Understanding, 21% having a legislation and 47% having several other written agreements (DIGRM. III). The most important topics included in these agreements comprise formal and technical arrangements such as common actions, common projects and exchange of knowledge on the one hand as well as data exchange and provision of data on the other hand. In addition to these agreements, 35% of the institutions have a national action plan for their cooperation (DIGRM. IV).

DIGRM. III: 1.2B WHICH ONE?

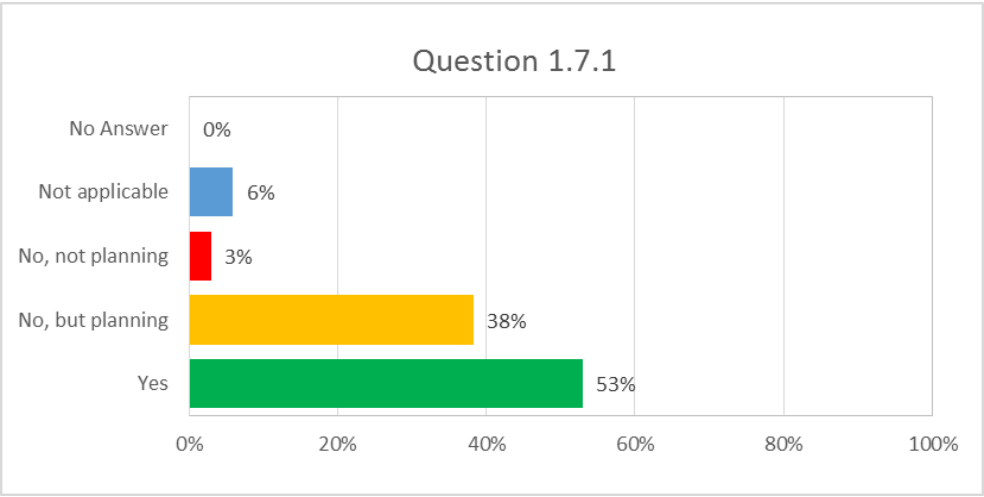


DIGRM. IV: DO YOU HAVE A NATIONAL ACTION PLAN FOR YOUR COOPERATION?

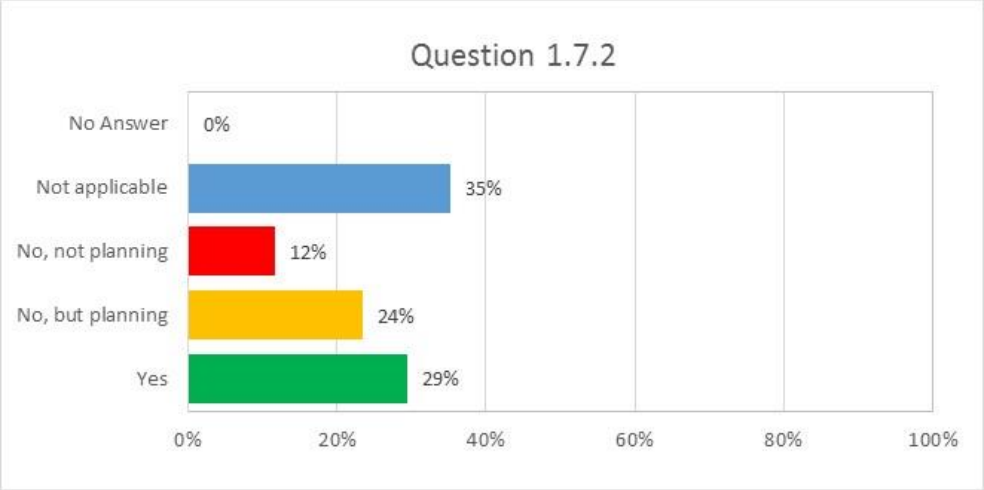


Although 53 % have a National Geospatial Information Management Policy, only 29% of them also covering aspects such as data integration with statistics (DIGRM. V & DIGRM. VI). In 21% this policy was endorsed by the government (DIGRM. VII).

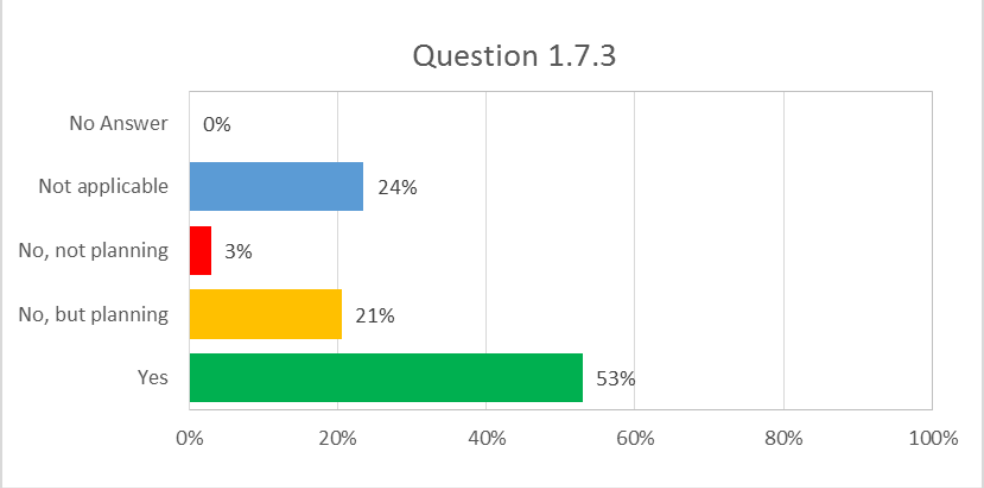
DIGRM. V: 1.7.1 DOES A NATIONAL GEOSPATIAL INFORMATION MANAGEMENT POLICY (OR STRATEGY) EXIST?



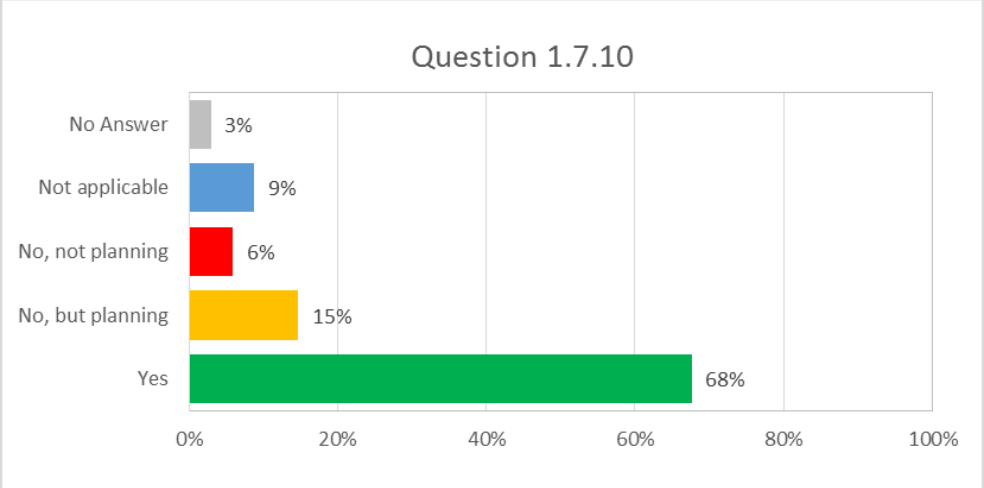
DIGRM. VI: 1.7.2 Does this Policy cover aspects such as data integration with statistics and other thematic information?



DIGRM. VII: 1.7.3 Has this Policy been endorsed by the government?



DIGRM. VIII: 1.7.10 Do you have an open data policy for geospatial data?

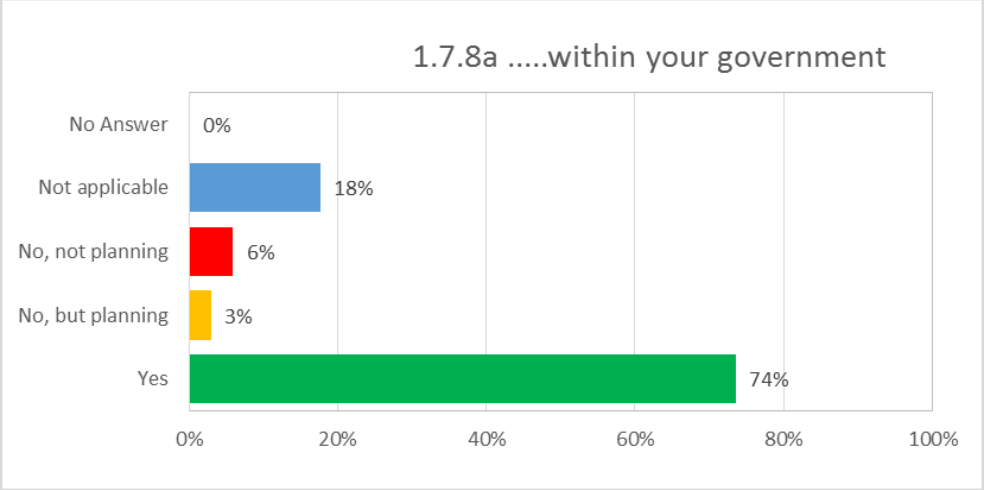


Moreover, we have also asked if open data is a current topic within the institution. A good amount of 68% of institutions have an open data policy and another 15% are planning to have one in the future (DIGRM. VIII).

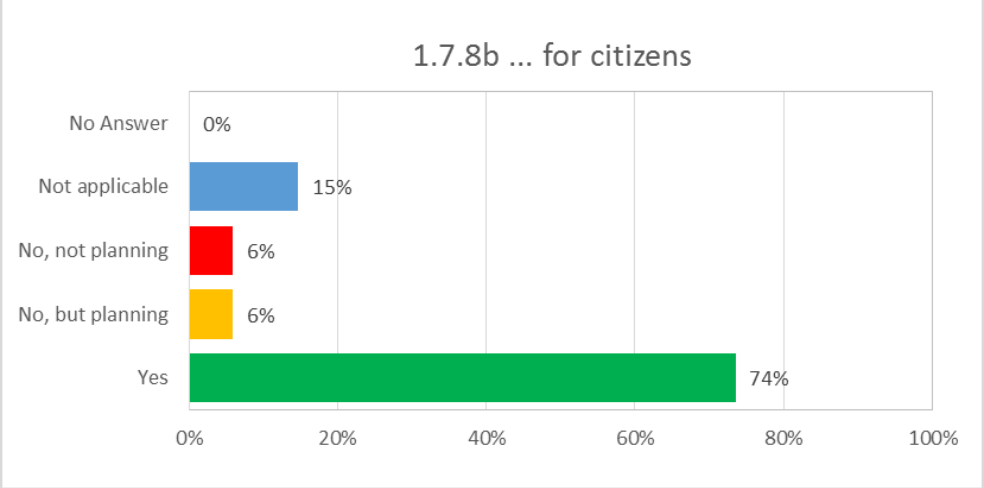
In relation to this policy also licence agreements are an important topic. Concerning a license agreement for the use of data within the government, for citizens and for businesses 74% of them have answered "Yes" (DIGRM. IX, DIGRM. X &

DIGRM. XI). Unfortunately, it does not necessary include that data is provided as open data. A question to a license agreement of the specific areas has not been asked within the questionnaire.

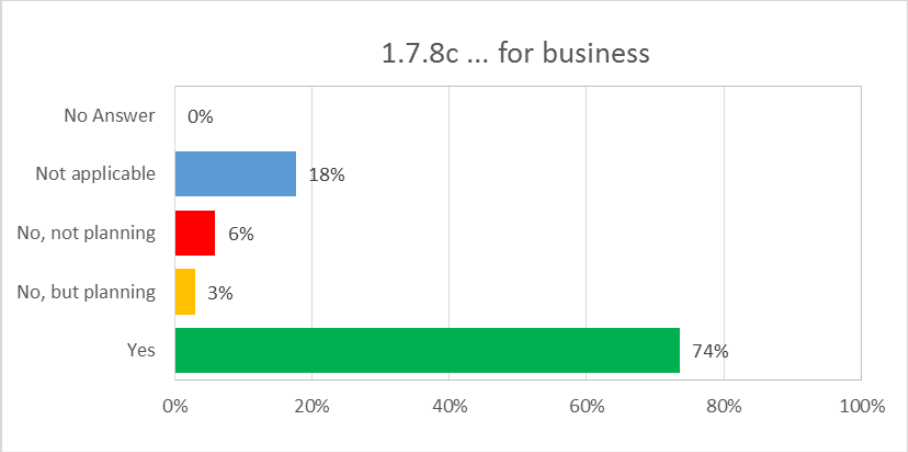
DIGRM. IX: 1.7.8A DO YOU HAVE LICENSE AGREEMENTS FOR THE USE OF YOUR DATA… WITHIN YOUR GOVERNMENT?



DIGRM. X: 1.7.8B DO YOU HAVE LICENSE AGREEMENTS FOR THE USE OF YOUR DATA… FOR CITIZENS?

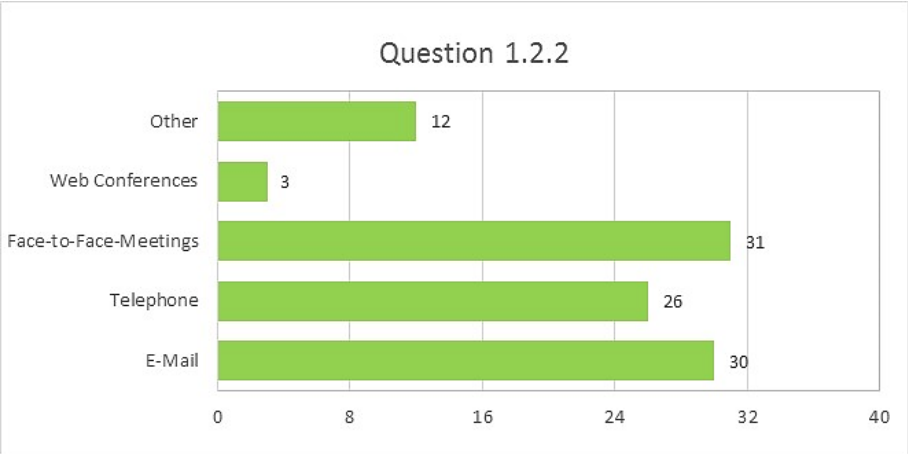


DIGRM. XI: 1.7.8c Do you have license agreements for the use of your data... for business?

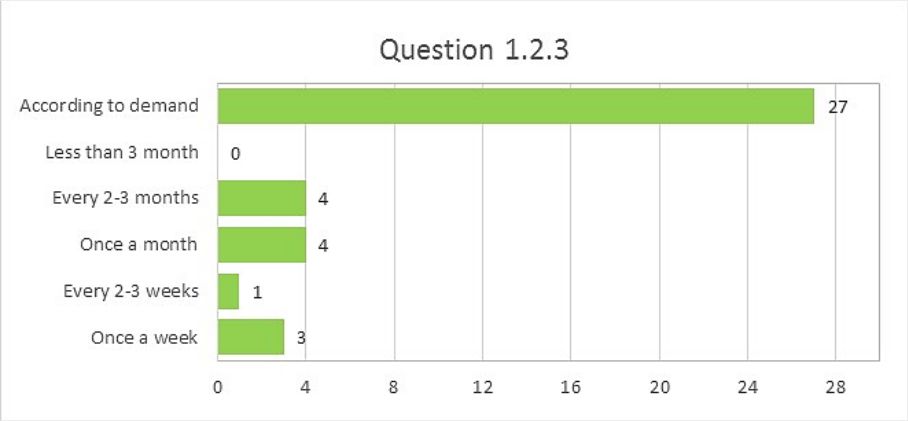


In addition to the formal arrangement the actual work on data integration includes knowledge exchange on information and ideas. This exchange is mostly done by emails (30 answers) and face-to-face meeting (31 answers) (DIGRM. XII). But also other interesting exchanges are done by seminars, e-learning support or hackathons. Most of the answers (27 answers) explain, that exchange is done according to demand, only some have a fixed period (DIGRM. XIII).

DIGRM. XII: 1.2.2 How is knowledge exchange organized between the two agencies?

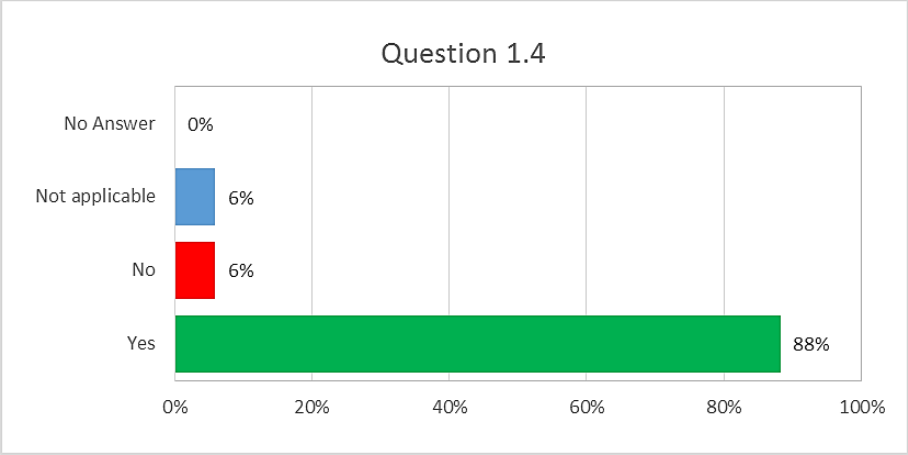


DIGRM. XIII: 1.2.3 How often do you exchange ideas with colleagues from the NSI/NMCA on data integration topics?

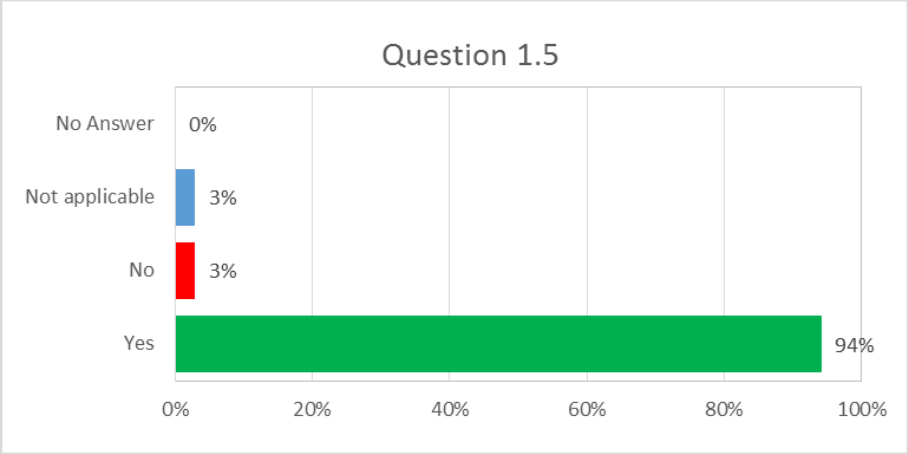


All the more, 98% of the participating institutions answered that data integration is making their cooperation more effective and efficient (DIGRM. XIV). 94% are positive that data integration will improve the data quality (DIGRM. XV).

DIGRM. XIV: 1.4 DO YOU THINK DATA INTEGRATION IS MAKING YOUR COOPERATION MORE EFFECTIVE AND EFFICIENT?



DIGRM. XV: 1.5 DO YOU THINK YOUR DATA QUALITY WILL IMPROVE USING DATA INTEGRATION?



Please find the detailed results of all the evaluated questions in the Annex I.I

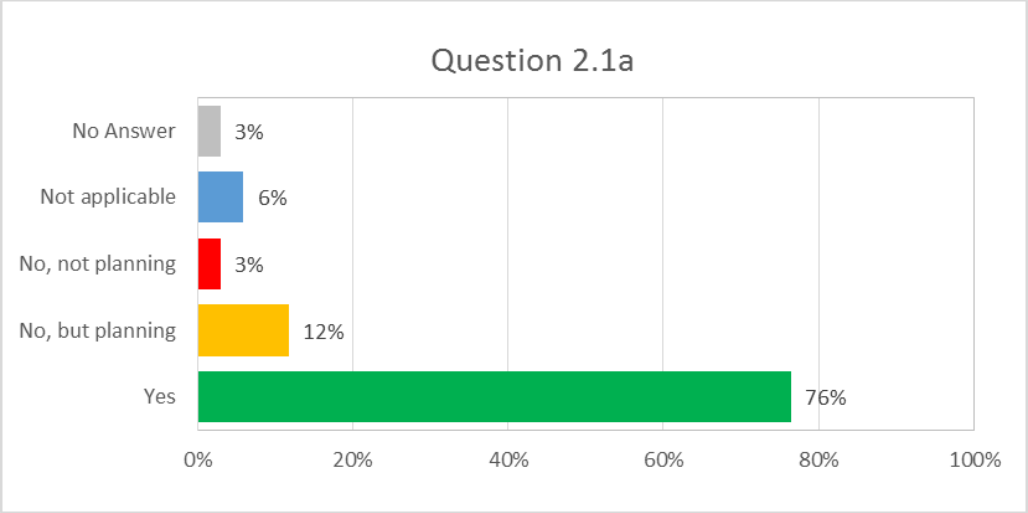
Diagrams “Governance and Policy” on page 27.

2.2 Data Sources and Standards

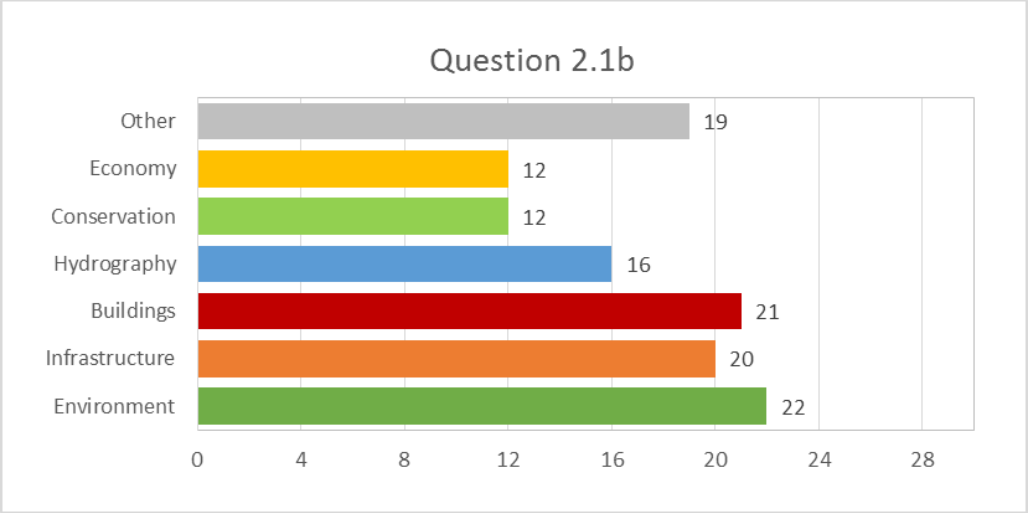
The chapter "Data Sources and Standards" includes questions on technical issues, but also INSPIRE topics.

Besides data from NMCAs and NSIs, data integration is important for all types of data and data from several institution. The question asked was "Do you use geo-enabled data from other agencies?" 76% answered positive (DIGRM. XVI). The highest answers were 22 on Environment, 20 on Infrastructure and 21 on buildings (DIGRM. XVII).

DIGRM. XVI: 2.1A DO YOU USE GEO-ENABLED DATA FROM OTHER AGENCIES BESIDE THE NMCAS?

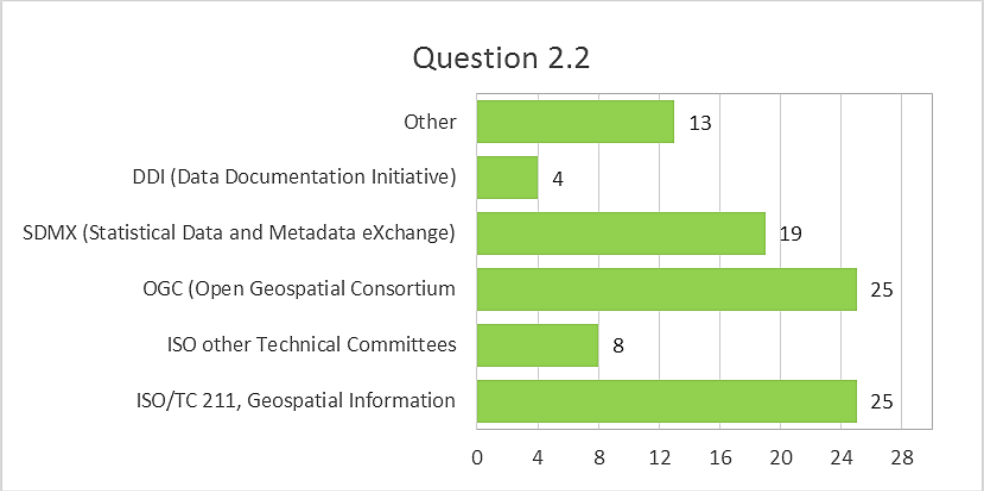


DIGRM. XVII: 2.1B WHICH ONES?



Another important question is about which standards are used for production of this data. With 25 total answers ISO/TC11 and IGC were the most called answers, followed by 19 using the SDMX to produce data sets. 13 answers referred to others, these included national standards, INSPIRE and GSBPM (DIGRM. XVIII).

DIGRM. XVIII: 2.2 WHICH STANDARDS DO YOU USE PRODUCING YOUR DATA?

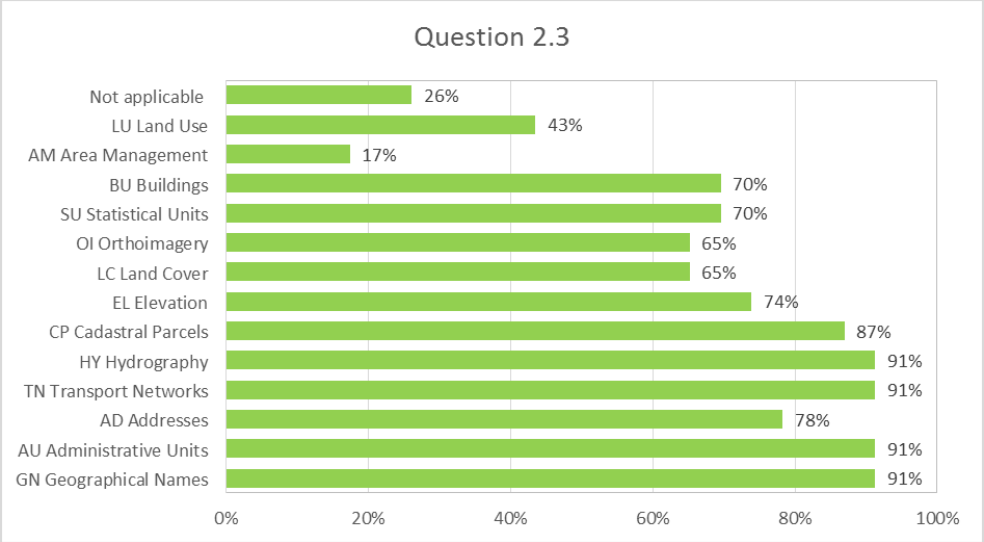


TAB. 2: 2.2 OTHER STANDARDS USED PRODUCING DATA

Which ones? (Other)
National standards
INSPIRE
GSIM
GSBPM
W3C semantic web standards
ESRI formats
JSON (JavaScript Object Notation)

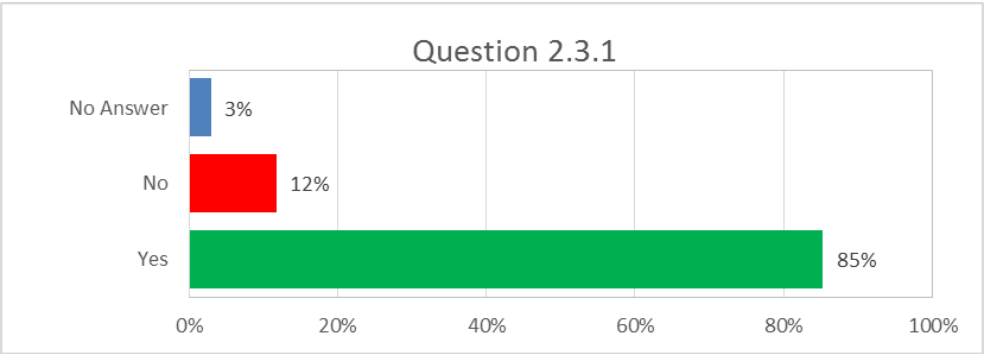
INSPIRE is an important topic for European countries today, as this directive aims to create a common infrastructure for several national institutions. Therefore, a question on INSPIRE themes was included. As INSPIRE is not relevant for non-European countries, these replies have not been included in the evaluation. Fortunately, 91% of the European Countries implemented Annex 1 themes already which includes Transport Networks, Hydrography, Administrative Units and Geographical Names. Also, Cadastral Parcel was implemented by 87% already (DIGRM. XIX). It should be mentioned that unfortunately the INSPIRE theme “Protected sites” has not been listed in the multiple choice table.

DIGRM. XIX: 2.3 WHICH OF THESE THEMES HAVE BEEN MADE AVAILABLE ACCORDING TO THE INSPIRE REGULATION IN YOUR COUNTRY?

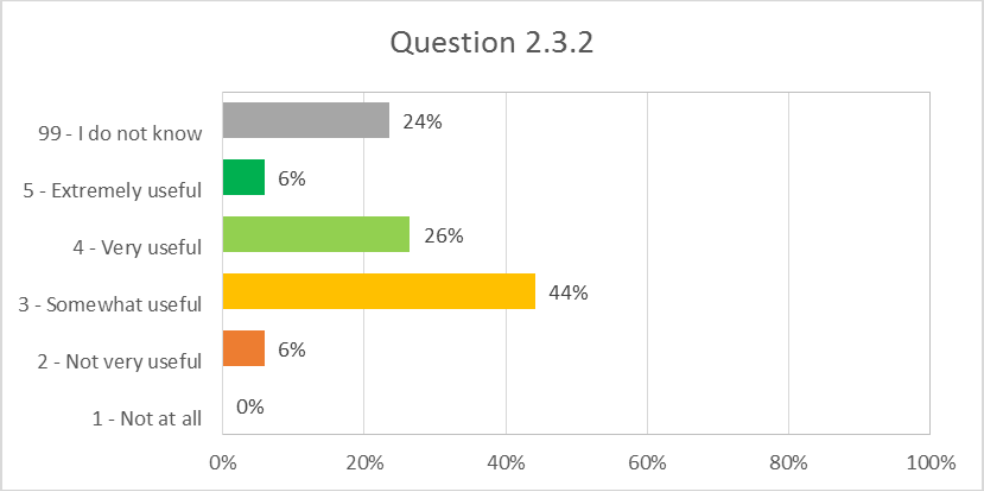


As this questionnaire has been designed to gain knowledge for a policy paper on data integration by the Working Group on Data Integration, we were also interested in questions concerning the other UN-GGIM: Europe Working Group on Core Data. The question “Are you aware of the additional recommendation provided by UN-GGIM: Europe on Core Data?” has been answered by 85% with a positive response (DIGRM. XX). 15 of 34 participants said these recommendations are “somewhat helpful” and another 41% are planning to implement them fully and 29% partly (DIGRM. XXI & DIGRM. XXII).

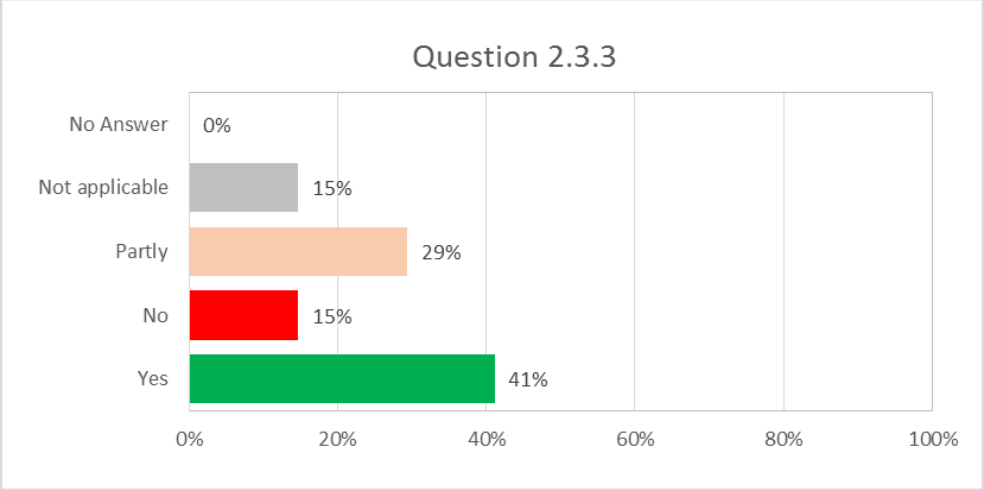
DIGRM. XX: 2.3.1 ARE YOU AWARE OF THE ADDITIONAL RECOMMENDATION PROVIDED BY UN-GGIM: EUROPE ON CORE DATA?



DIGRM. XXI: 2.3.2 DO YOU THINK THESE RECOMMENDATIONS ARE HELPFUL?



DIGRM. XXII: 2.3.3 ARE YOU ENVISAGING TO IMPLEMENT THESE ADDITIONAL UN-GGIM: EUROPE CORE DATA RECOMMENDATIONS FOR THE THEMES YOUR ORGANIZATION IS RESPONSIBLE OF?



Please find the detailed results of all the evaluated questions in the Annex I.II Diagrams “Sources and Standards” on page 34.

2.3 2030 Agenda – Sustainable Development Goals

For this section, the initial idea was to get an impression in how the NMCAs are involved in the provision of data for and calculation of the SDGs. However, after we agreed that the questionnaire should be answered coordinated between NSIs and NMCAs, the original intention was not clear enough described since all NSIs should be responsible for the SDG monitoring. As a result, except of question 3.1, the answers give no indication if and how the NMCAs are involved in the monitoring and calculation of the indicators.

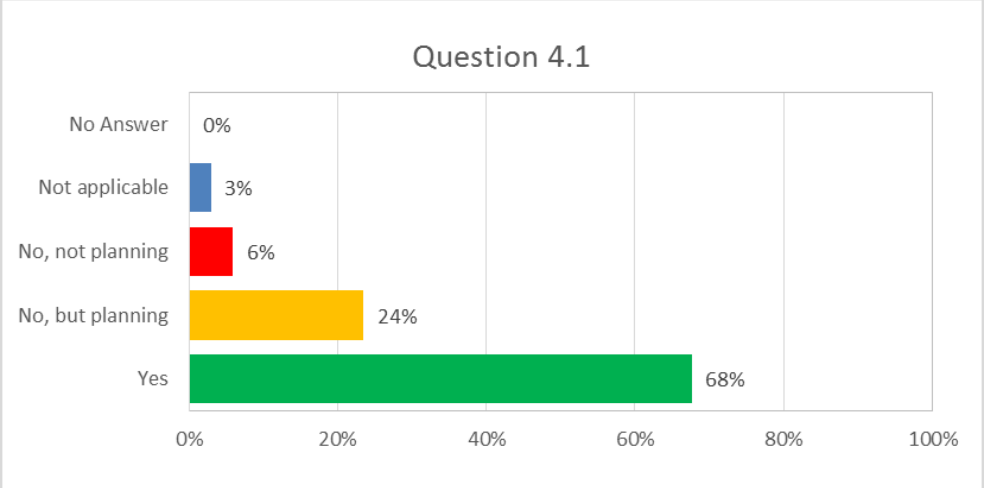
Please find the detailed results of all the evaluated questions in the Annex I.III Diagrams "2030 Agenda –SDGs"on page 37.

2.4 Methods and Technology

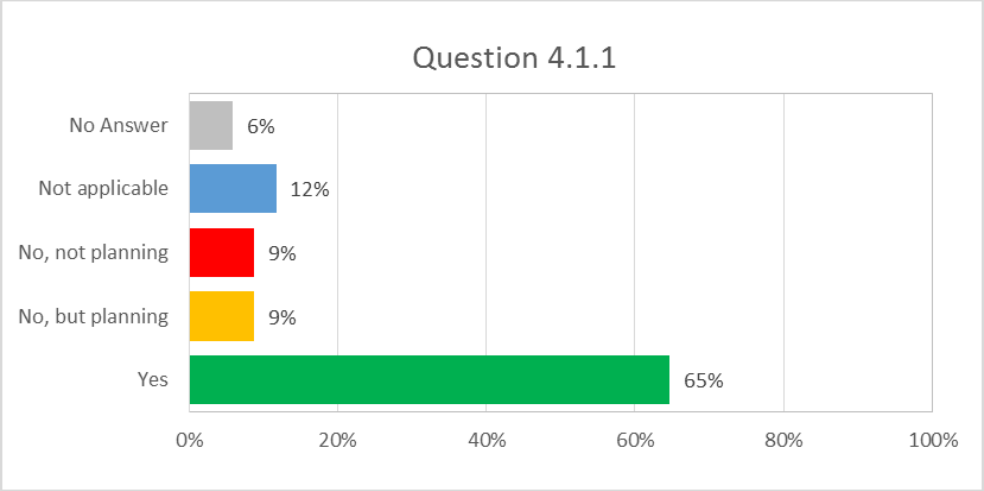
The chapter of "Methods and Technology" includes technical questions on data integration.

Some of the methods like geocoding are an essential fundamental for data integration, but only 68% have an agreed method for geocoding and is documented (65%) (DIGRM. XXIII & DIGRM. XXIV). For this reason, some work needs to be done for some countries and institution in the near future. Fortunately, another 24% are planning to have an agreed method in the future. If help is needed to coordinate such an agreed method 47% of the institution have their document publicly available and therefore it can be used (DIGRM. XXV).

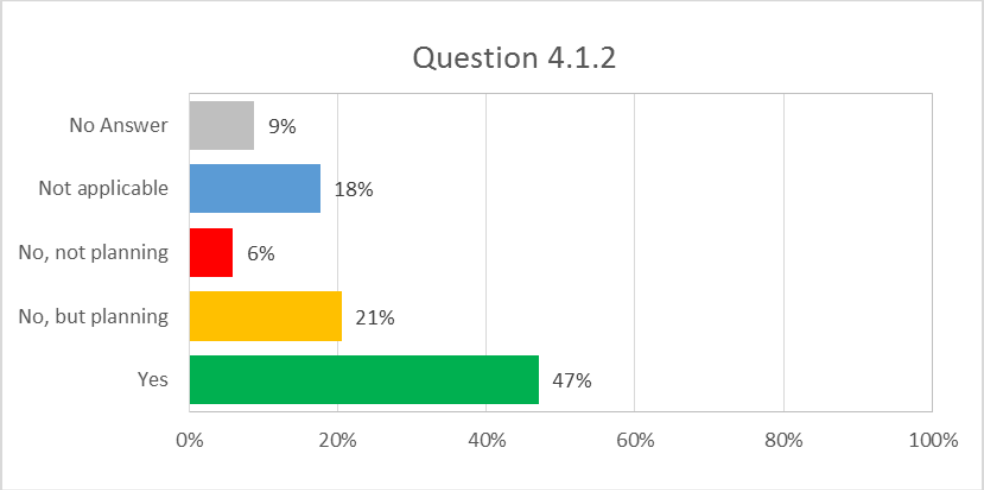
DIGRM. XXIII: 4.1 DO YOU HAVE AN AGREED METHOD FOR GEOCODING?



DIGRM. XXIV: 4.1.1 HAS THE METHOD FOR GEOCODING BEEN DOCUMENTED?

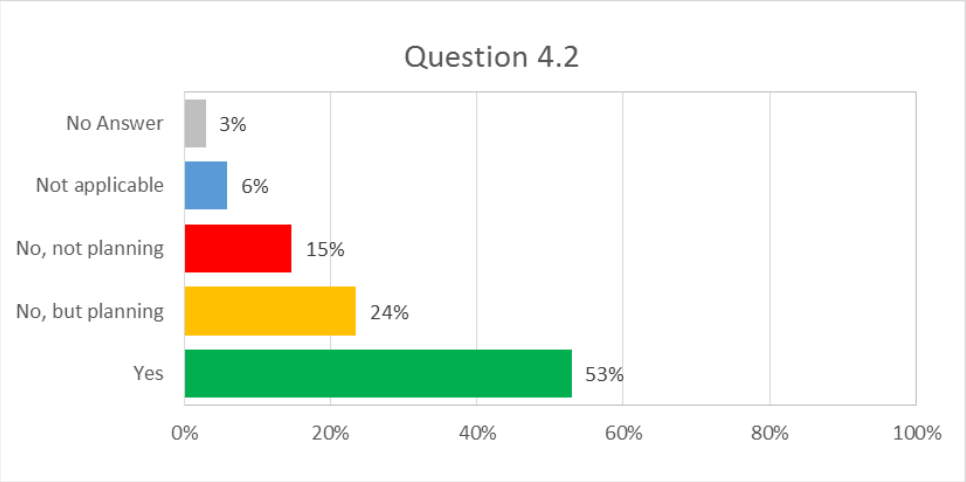


DIGRM. XXV: 4.1.2 IS THIS DOCUMENTATION PUBLICLY AVAILABLE?

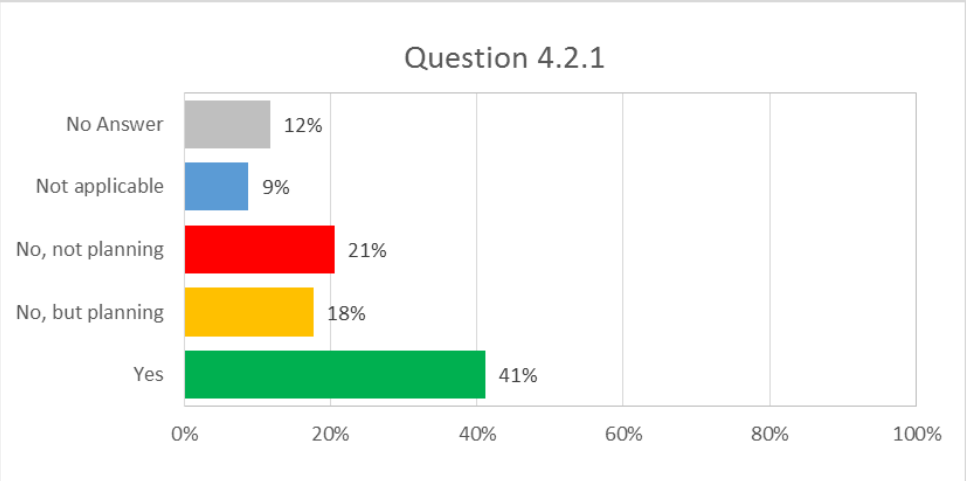


Another up to date topic is linked open data (LOD). Since this method can be a good chance to make data openly available, UN-GGIM: Europe is interested if this topic is a current one within the institutions. Surprisingly, 55% of the answers were positive and another 24% are planning to work on this topic in the future (DIGRM. XXVI). Furthermore, 41% have implemented some data as linked open data already, 18% are planning to do so (DIGRM. XXVII). This data included administrative and/or statistical units, but also some work was done on buildings and addresses. Please find the full list in question 4.2.3 “If yes, who are your partners and on what kind of data do you focus in these projects” on page 42. The expected benefits of LOD are a wider use of data with increased numbers of user and the expectation that data can be shared easier and has a better visibility in general. Unfortunately, no measurement on benefit was done yet and the expected benefits cannot be supported right now. Many countries have done several projects to gain knowledge on linked open data in general within their organizations. No results have been published yet. Unfortunately, none of the organization has measurements of benefits done yet.

DIGRM. XXVI: IS LINKED DATA A CURRENT TOPIC IN YOUR AGENCY?



DIGRM. XXVII: 4.2.1 HAVE YOU IMPLEMENTED DATA AS LINKED DATA?



TAB. 3: 4.2.3 DATA FOCUSED ON USING LINKED OPEN DATA

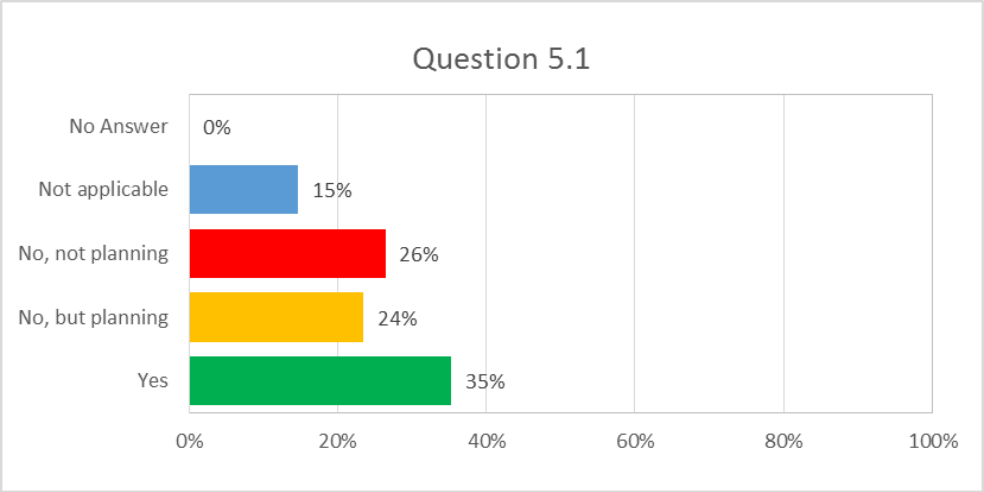
Question 4.2.3 If yes, who are your partners and on what kind of data do you focus in these projects?
Demography and other datasets in open format
INSPIRE data
Administrative units and statistical data
National topography database
Buildings
Topography
Cadastral parcels
Neighbourhood statistics
Addresses Place names
Nature datasets

Please find the detailed results of all the evaluated questions in the Annex I.IV Diagrams “Methods and Technologies” on page 41.

2.5 User Engagement

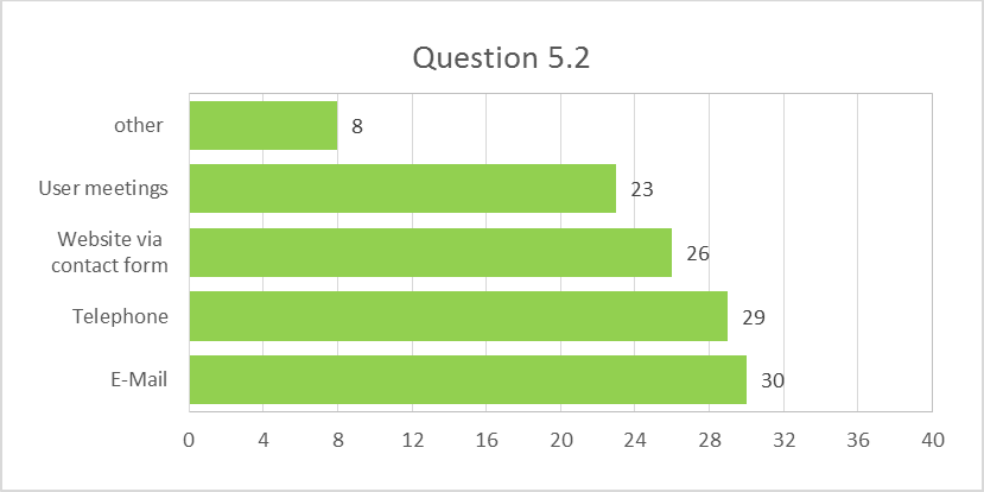
User engagement becomes more and more important in the modern technology life. One big topic is crowdsourcing as a possibility for users to provide feedback. That can be a modern way to use citizens to improve data quantity on the one and data quality on the other hand. Although the option crowdsourcing was not mentioned in one of the answer options, the interesting outcome is, that only 35% of the replies said that there is an engagement strategy with users. Another 24% are planning to do so, but about 26% are not planning to include citizens in their data production (DIGRM. XXVIII).

DIGRM. XXVIII: 5.1 IS THERE AN ENGAGEMENT STRATEGY WITH USERS OR A COMMUNICATION PLAN ON DATA INTEGRATION ISSUES?



As today, most of the institutions providing e-Mail addresses (30 answers) and telephone numbers (29 answers) for users to get in contact on specific needs (DIGRM. XXIX). In Question 5.1 it was explicitly asked for a publicly available link for engagement strategy. A complete list with all answers can be found on page 45.

DIGRM. XXIX: 5.2 HOW CAN USER PROVIDE FEEDBACK ON THEIR SPECIFIC NEEDS?



Please find the detailed results of all the evaluated questions in the Annex I.V Diagrams “User Engagement” on page 43.

3 CONCLUSION

While a lot of work and effort has been made already to support the combination of statistical and geospatial data still some obstacles remain, e.g. on data availability, access conditions, use/reuse conditions or privacy. Progress in technology and innovation was not considered as an obstacle, neither for the statistical nor for the geospatial community. It is a challenge to be faced as it comprises general issues related to a common understanding of opportunities and to the support of capacity building.

This section summarizes the most prominent findings of the questionnaire poll focusing on key messages to be used for the envisaged policy outreach paper. Therefore, this section is far away from comprehensiveness and should not be understood as exclusion of important organisational or technical issues or any other findings. These issues and findings have been tackled by the statistical and the geospatial community already by different initiatives, e.g. within UN-GGIM on a global level and within UN-GGIM: Europe on a regional level. The main Working Groups established by UN-GGIM: Europe, one on Core Data and the other one on Data Integration, have started to address organizational, methodical and technical issues since the beginning and will continue to do so. The challenge here still relies in the cooperation and knowledge exchange with other initiatives like UNECE, OECD, ESS, INSPIRE, Copernicus, etc.

The significance of geospatial data becoming “mainstream data” has been recognised and its comparability is vital in many political, economic and development activities and statistics. The need to share and create geospatial data and its combination with other thematic data (like statistics) shall be easily accessible to all the stakeholders. This has been emphasized, amongst others, within the Agenda 2030 of the United Nations in order to achieve the Sustainable Development Goals (SDGs) and within the Census.

As an initial observation it is worth noticing, that in chapter 2 “Results” the response to the questionnaire mainly originates from Western European countries as well as some Eastern European countries. From the 26 countries responding, the response has only been coordinated between the National Statistic Institutes and National Mapping Agencies in 44% of the cases.

This could indicate a relatively low level of interaction between the NSI’s and the NMCA’s, and has to be considered when analysing the response to question 1.2a related to “Governance and Policy” regarding the cooperation agreement between the NSI and NMCA’s. One thing being official agreements, but daily or frequent cooperation on real matters is as important. Even though the reply to question 1.2.3 on frequency of idea exchange between the institutions can be slightly difficult to decipher, it is quite evident that there is limited daily/weekly contact according to the respondees.

The answers related to the questions related to “Data Sources and Standards” revealed that the importance of INSPIRE is evident and the implementation is an ongoing task and has partly been completed (at least for INSPIRE Annex I) in all European Member States. Although those Member States have identified a lack of harmonisation for border-crossing applications only 41 % seem to be convinced to invest data harmonisation efforts and implement valuable recommendations for content proposed by the UN-GGIM: Europe Working Group on Core Data. With regard to the questions supporting the “2030 Agenda” the responses give the impression that more cooperation and work is needed to better involve the NMCAs into the SDG monitoring. Furthermore some NSIs have answered not yet to be involved in the national SDG monitoring yet, which cannot be the case as the NSIs should

coordinate this process on a national level[1]. This could be a task to be further analysed and evaluated by UN-GGIM: Europe.

An agreed and commonly used geocoding method is crucial for successful data integration. According to the "Methods and technology" questions about 70% have already implemented such a method. Means that 30% (one third) have not yet an agreed method established for geocoding. It is strongly recommended to invest time and resources to achieve this fundamental base for data integration. UN-GGIM: Europe together with UNECE should continue to support and promote activities on this matter.

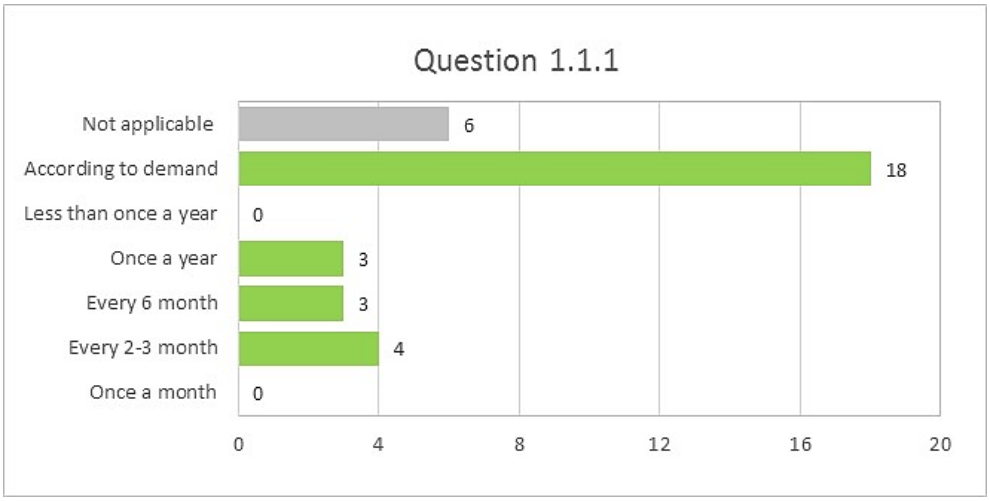
The questions addressing "User engagement" revealed that user engagement is missing in about 70% of the received answers. But, from our opinion, it is also a very important aspect – like geocoding – for a successful data integration and the exploitation of new and valid data sources is not feasible without a strong user engagement. Furthermore, the data quality could be improved. UN-GGIM and UNECE can elaborate a user engagement strategy for the institutions.

[1] Resolution adopted by the General Assembly on Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development, http://undocs.org/A/RES/71/313

I ANNEX

I.I Diagrams "Governance and Policy"

DIGRM. XXX: 1.1.1 HOW OFTEN DO YOU HAVE CONSULTATIONS WITH YOUR MINISTRY ON DATA INTEGRATION ISSUES AT THE HIGHEST LEVEL?



QUESTIONS 1.2B INCLUDED THE FREE TEXT OPTION "OTHER". THE FOLLOWING "OTHER" OPTIONS WERE MENTIONED:
Agreement ▪ Signed formal agreement ▪ Alliance agreement ▪ Bilateral agreement ▪ Interagency agreement ▪ Verbal gentlemen`s agreement (no formal written text)
Mutual understanding
Protocol
Contract of provision of selected data
No need for agreement since data is free and open accessible

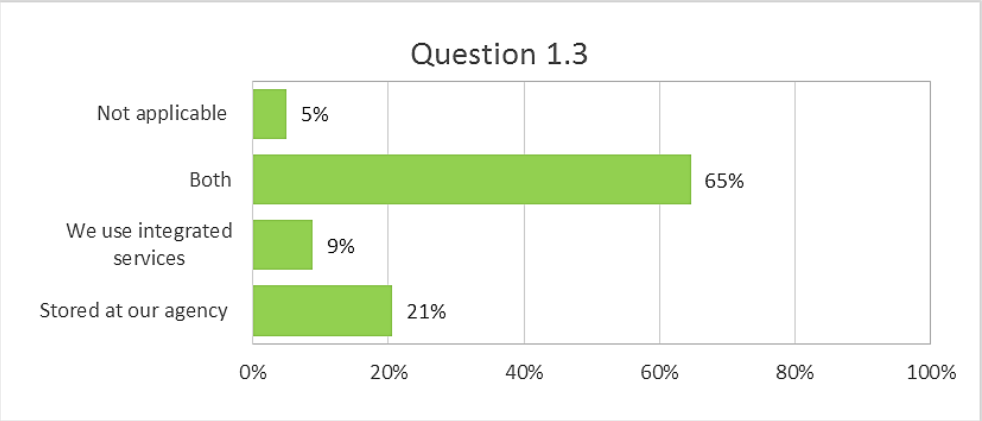
QUESTION "1.2.1 WHAT IS INCLUDED IN THE AGREEMENT? WHAT ARE THE IMPORTANT TOPICS?"

Formal Topics
• Need for close cooperation between government agencies IIII
• Strategic alliance
• Nature of collaboration
• Common actions (e.g. data co-production)
• Scientific collaboration
• Common projects
  ○ GEOSTAT-3
  ○ UN-GGIM
  ○ other
• Exchange of knowledge
• Common tasks in an international context
• Open data (e.g. no charges)
• Roles of various stakeholders
• Developing of SDG Agenda
• Conditions of data exchange
• Development activities
• Harmonization of concepts
• Right, restrictions and responsibilities, terms of use and fees
• Innovation and outreach

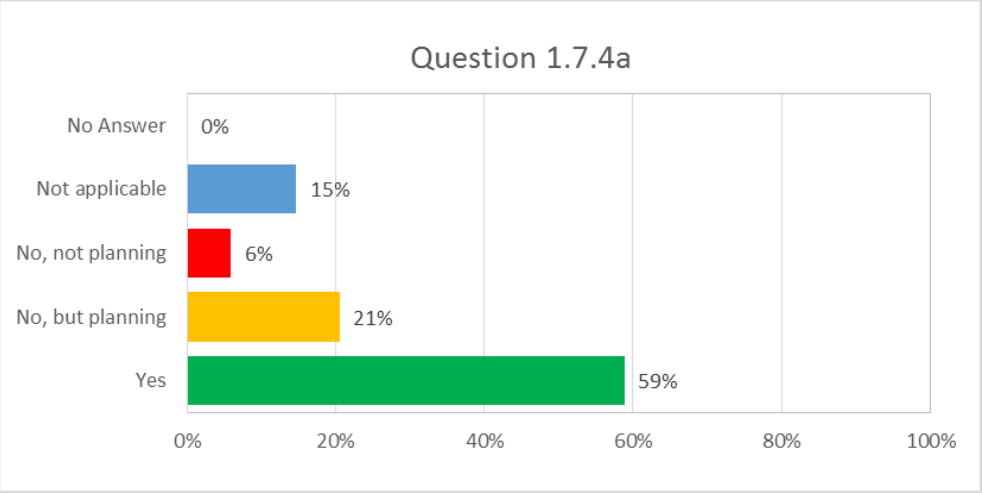
Technical topics
• Exchange of data
  ○ List of available products
• Provision and usage of data
  ○ spatial and geographical information produced by NMCA
  ○ Cadastre
  ○ Addresses
  ○ Geospatial and land registry data
  ○ Census output geography
• Integration of data (e.g. databases)
  ○ Interoperability
  ○ Platforms
• Homogenization of data
  ○ Data architecture
• Build up geo-data infrastructure (e.g. INSPIRE)
• Sharing and access of data
  ○ publication of data
  ○ development of methods and sharing of information
  ○ web feature services
  ○ linked open data initiatives
• Geo-referencing procedures for addresses
• Data-innovation and new technologies

1.2.2 How is knowledge exchange organized between the two agencies? (Other)
Meetings ▪ Coordination meetings ▪ Strategic meetings ▪ Technical meetings ▪ Conferences ▪ Seminars ▪ Discussions
Other ▪ Formal letters ▪ Hot-lines ▪ E-learning support ▪ Cooperative projects ▪ Hackathons

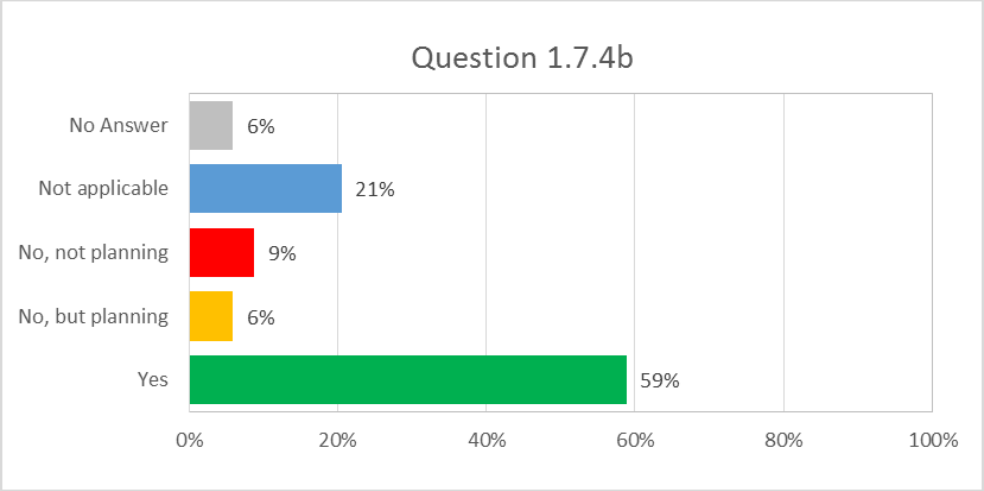
DIGRM. XXXI: 1.3 How is all geodata stored for the output?



DIGRM. XXXII: 1.7.4a Does a data licensing law or regulation exists?

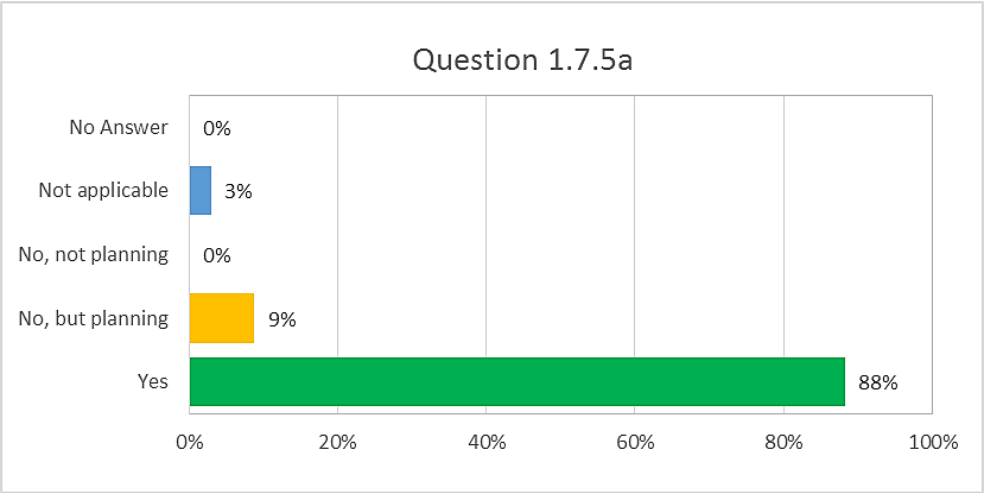


DIGRM. XXXIII: 1.7.4B DOES THIS LAW APPLY TO ALL GOVERNMENTS PRODUCING GEOSPATIAL DATA?

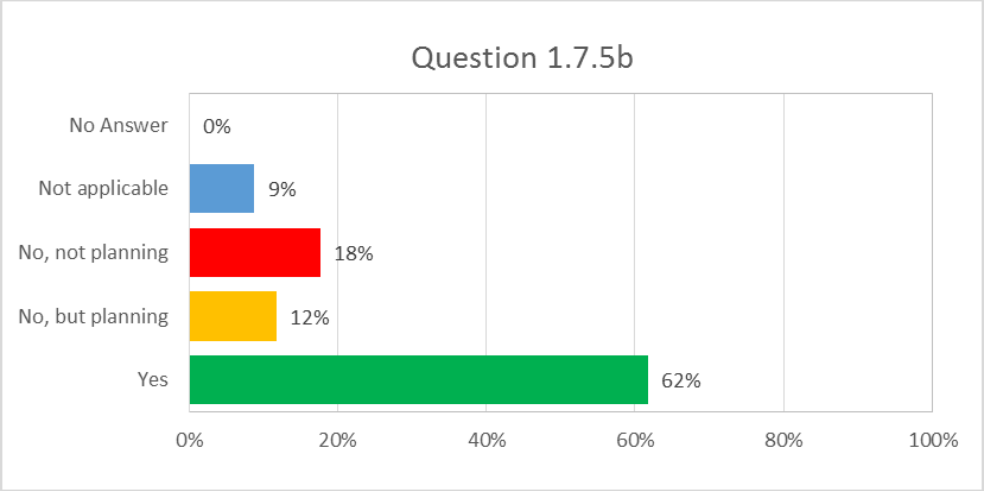


1.7.4C IF NOT, WHAT ARE THE RESTRICTIONS?
Data licensing covered by copyright law
Licenses developed by data producing agencies
No specific laws relating to licensing of geospatial data

DIGRM. XXXIV: 1.7.5A DOES A LAW OR REGULATION EXIST FOR SHARING DATA BETWEEN PUBLIC INSTITUTIONS?

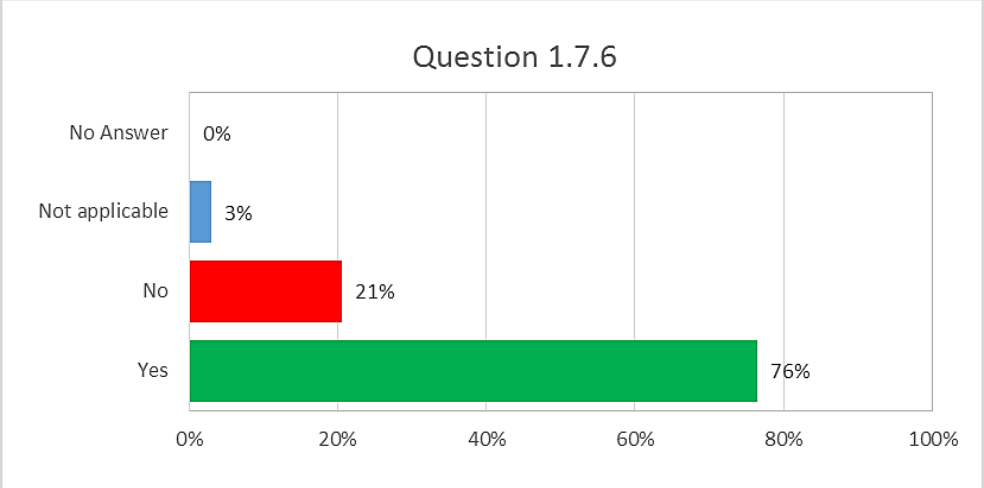


DIGRM. XXXV: 1.7.5B DOES THIS LAW APPLY TO ALL GOVERNMENTS PRODUCING DATASETS?

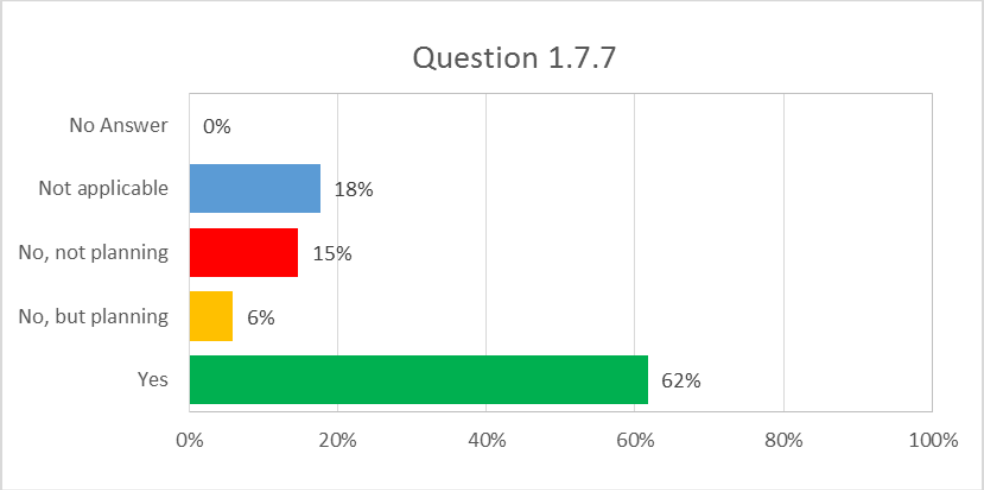


1.7.5C IF NOT, WHAT ARE THE RESTRICTIONS?
Several national federal laws
INSPIRE law
Restricted to geospatial information

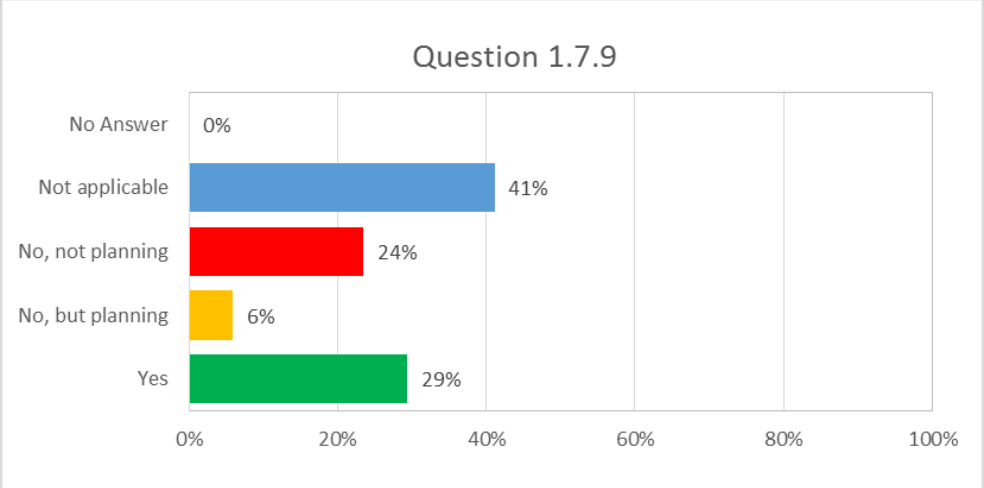
DIGRM. XXXVI: 1.7.6 ARE YOU FAMILIAR WITH THE EUROPEAN INTEROPERABILITY FRAMEWORK?



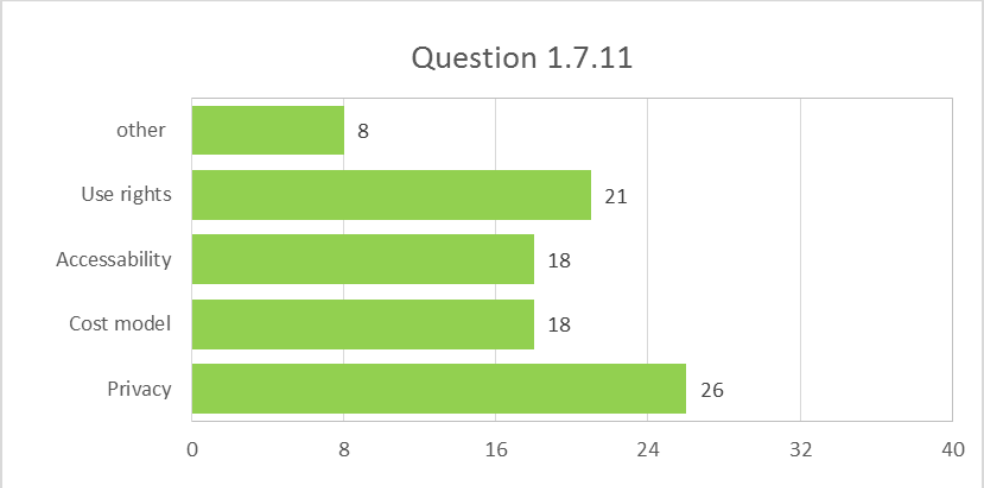
DIGRM. XXXVII: 1.7.7 DO YOU HAVE AN EXISTING FRAMEWORK (BASED ON THE PSI DIRECTIVE) ON ACCESSIBILITY FOR PUBLIC SECTOR DATA?



DIGRM. XXXVIII: 1.7.9 DO YOU HAVE AN OPEN DATA POLICY FOR STATISTICAL DATA NOT RELEASED AS OFFICIAL STATISTICS?



DIGRM. XXXIX: 1.7.11 DO YOU HAVE ANY DATA SHARING ISSUES?



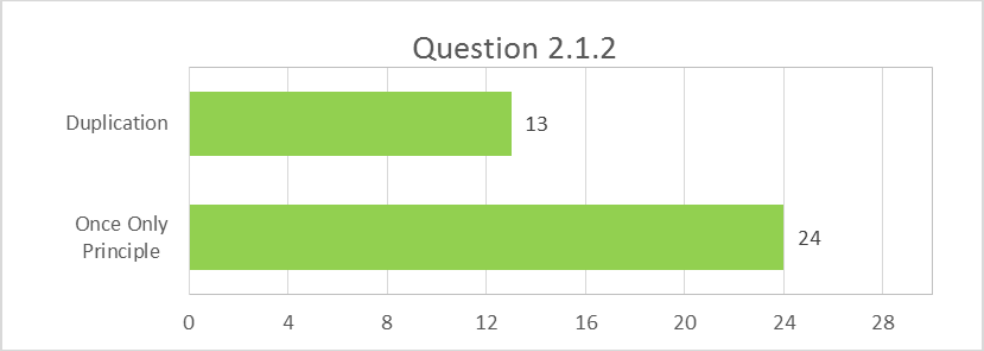
1.7.11 DO YOU HAVE ANY DATA SHARING ISSUES? (OTHER)
Statistical confidentiality
Statistical data can only be used for statistics
Geospatial data is open a free of charge but providing source must be acknowledged

I.II Diagrams "Sources and Standards"

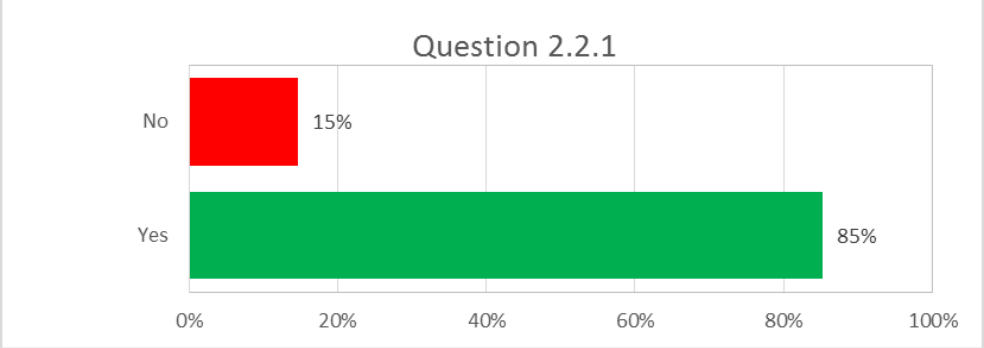
2.1B WHICH ONES? (OTHER)
Infrastructure
Private mapping agencies
Local cartographic agencies
Forest cadastre
Municipalities
Agriculture
Tax authority
Local/regional authorities
National partners (e.g. Post offices)

2.2.1 IF YOU USE DATA FROM OTHER AGENCIES, WHAT KIND OF DATA DO YOU USE?
Transport networks • Roads/road names • Road surface types
Environment • Air pollution data, noise pollution data • Protected areas • Distribution of protected species • Meteorology (weather and climate) • Nature conservation • Outdoor recreations
Hydrography • Water bodies (e.g. rivers) • River basins • Flooding areas • Coastal data • Fisheries • Water quality
Geology • Maps • Mineral deposits
Other • Addresses • Building outlines • DEM, terrain models • Satellite images, areal imagery

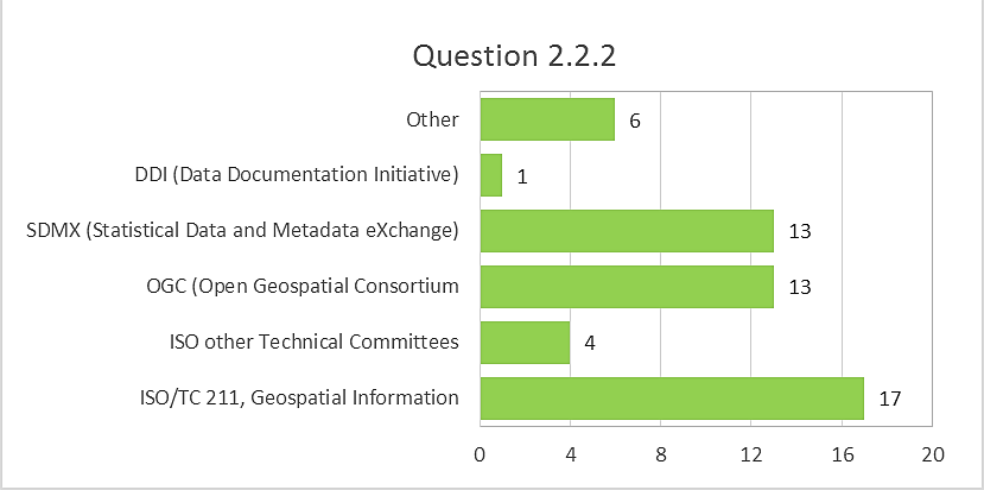
DIGRM. XL: 2.1.2 ARE YOU FOLLOWING THE "ONCE ONLY PRINCIPLE" OR IS THERE DUPLICATION IN DATA PRODUCTION?



DIGRM. XLI: 2.2.1 IS YOUR ORGANIZATION INVOLVED IN WORK ON INTERNATIONAL STATISTICAL OR GEOSPATIAL STANDARDS?

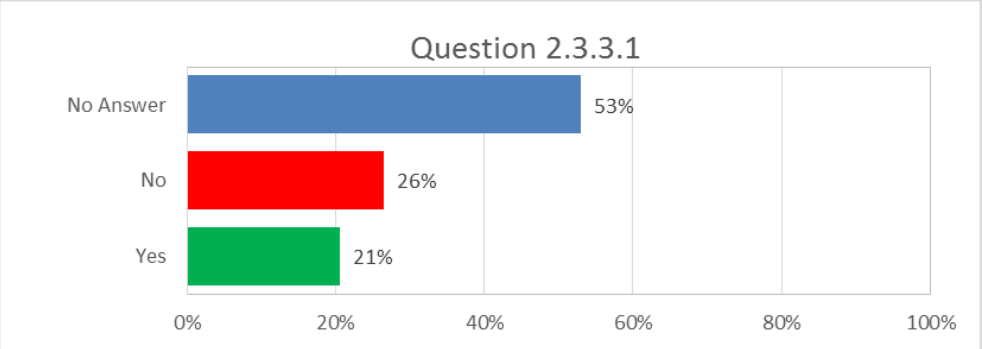


DIGRM. XLII: 2.2.2 WHICH ONES?



2.2.2 WHICH ONES? (OTHER)
INSPIRE
GSIM
GSBPM
IHO
UNECE standards

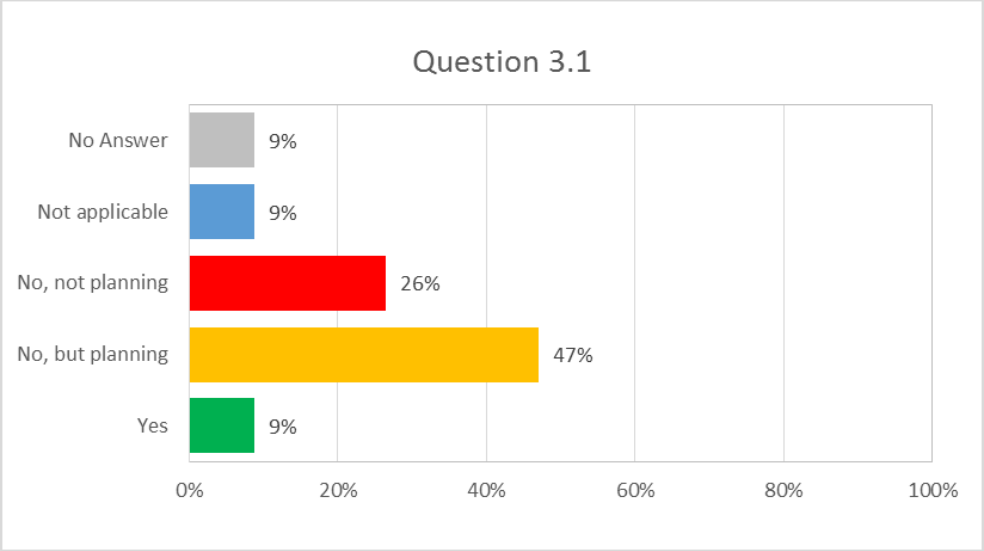
DIGRM. XLIII: 2.3.3.1 ARE YOU ALREADY AWARE OF ANY FORESEEN ISSUES?



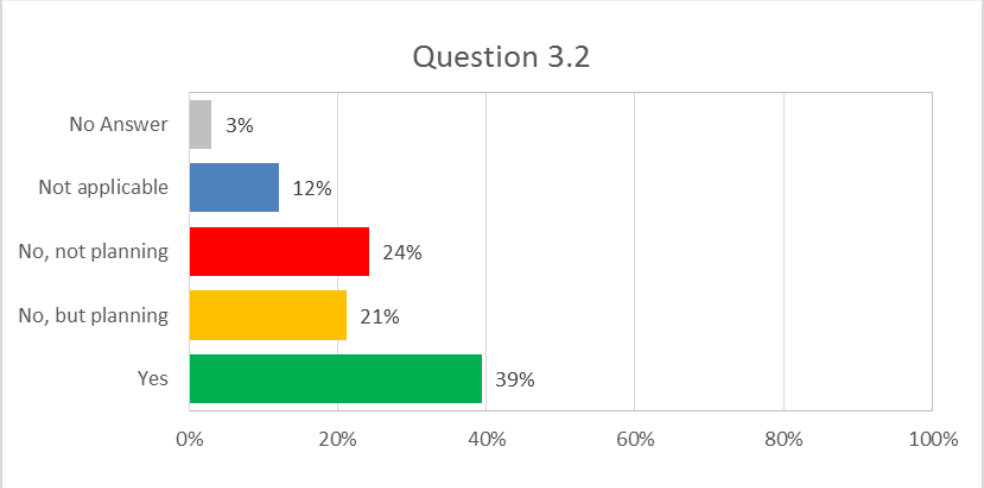
- Discrepancies are observed for the buildings geometry point versus polygon in the actual status.
- Support by EuroGeographics and European Location Services (ELS)
- It is worth to note that the INSPIRE Directive has the obvious legal status while the mentioned has the recommendation status only.
- Lack of economic, funding and political incentives for implementing core data.
- We need to provide some more Statistical Units than we do so far, like Urban Audit area''
- The implementation of WG Core Data recommendations may be perceived as an additional burden for countries already implementing the INSPIRE Directive and an analysis of costs versus the benefits will be an issue. The availability of financial and technical support and the existence of a legal framework compelling countries to implement these recommendations are critical issues.
- In the process of investigation

I.III Diagrams "2030 Agenda –SDGs"

DIGRM. XLIV: IS THERE AN ESTABLISHED LINK BETWEEN SDG MONITORING AND A NATIONAL GEOSPATIAL POLICY?



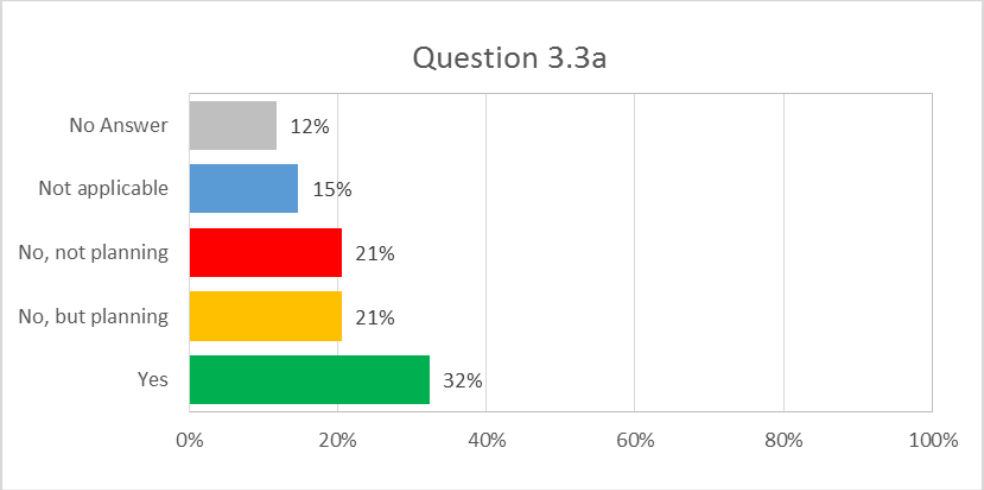
DIGRM. XLV: 3.2 IS YOUR ORGANIZATION INVOLVED IN THE COORDINATION OF THE NATIONAL SDG MONITORING?



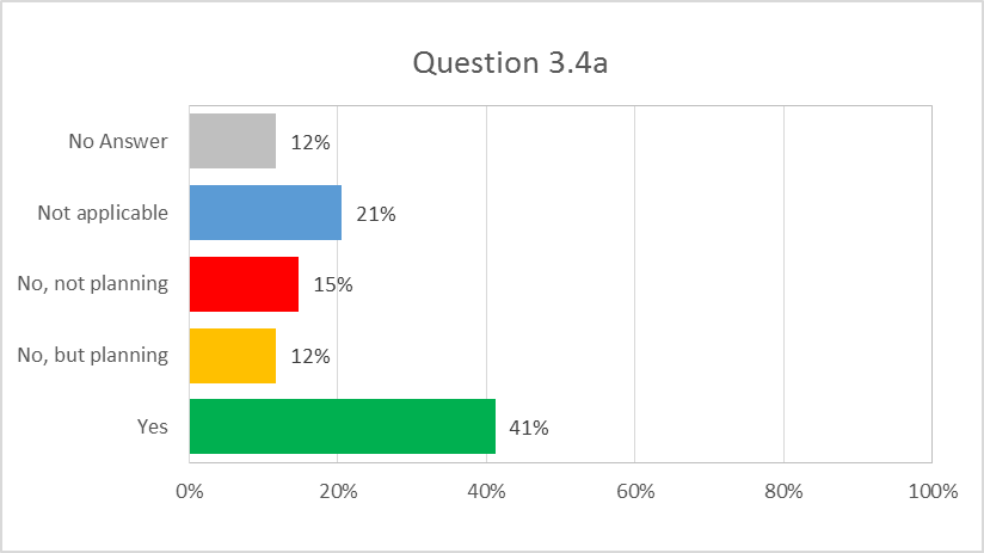
QUESTION 3.2.1 HOW ARE YOU INVOLVED?
Lead organization/coordination by Statistical Office
Provision on knowledge and information, also review on geospatial data by NMCA
Provision of data
Recommendations for SDG monitoring
quality management support
partnership meetings, workshops
UN-GGIM
Implementing SDG indicator

Networks

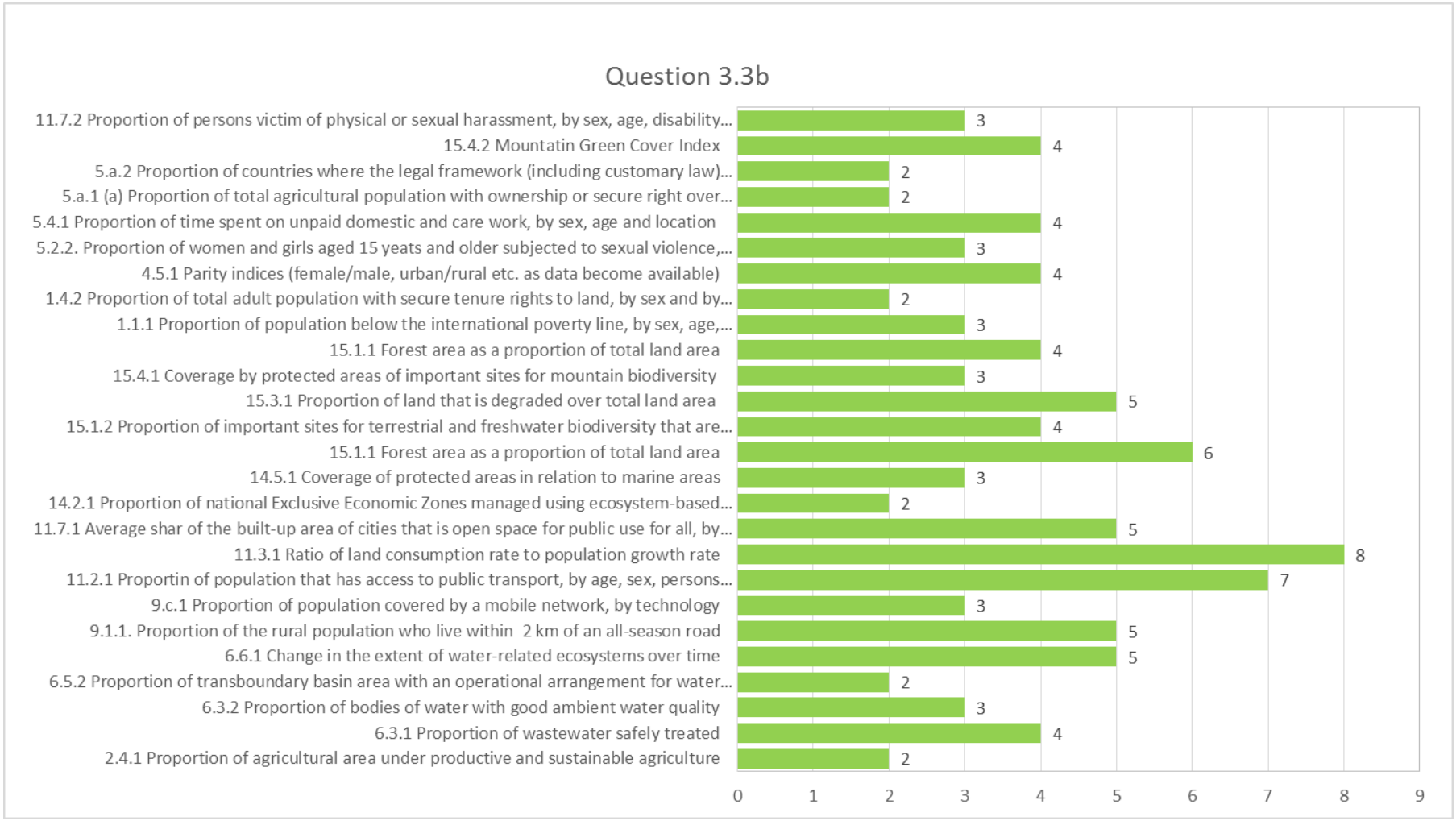
DIGRM. XLVI: 3.3A IS YOUR ORGANIZATION INVOLVED IN THE CALCULATION OF SDG INDICATORS UNDER A GEOSPATIAL LENS (ACCORDING TO THE SHORT LIST PROVIDED BY IAEG SDG WGDI)?



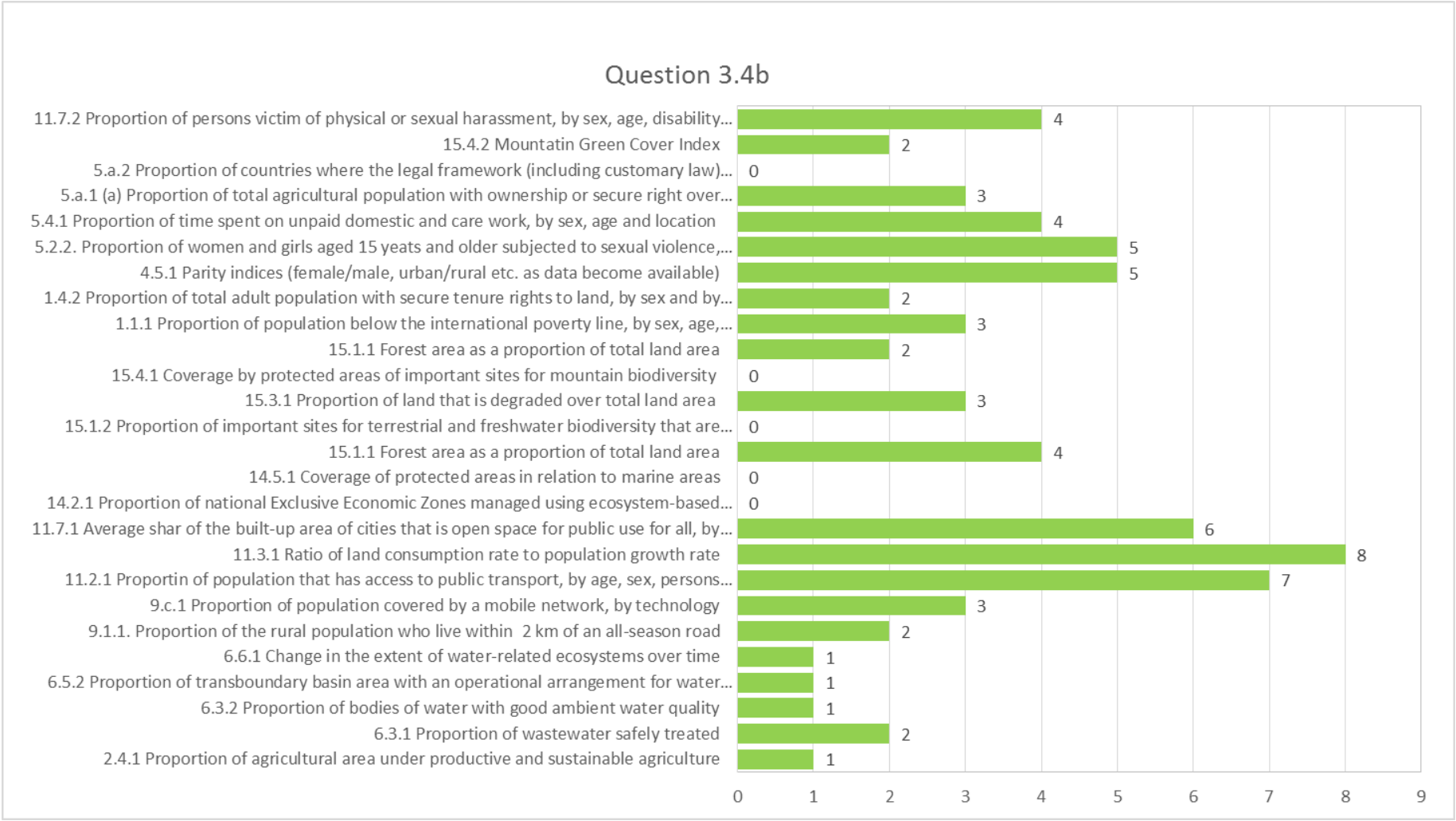
DIGRM. XLVII: 3.4A IS YOUR ORGANIZATION PROVIDING DATA FOR THE CALCULATION OF SDG INDICATORS UNDER A GEOSPATIAL LENS (ACCORDING TO THE SHORT LIST PROVIDED BY IAEG SDG WGDI*6)?



DIGRM. XLVIII: 3.3B WHICH ONES?

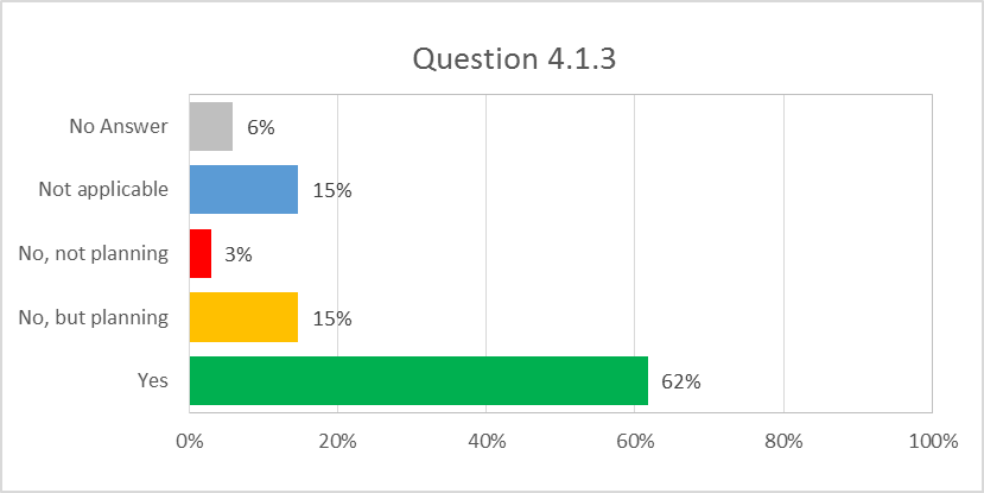


DIGRM. XLIX: 3.4B WHICH ONES?

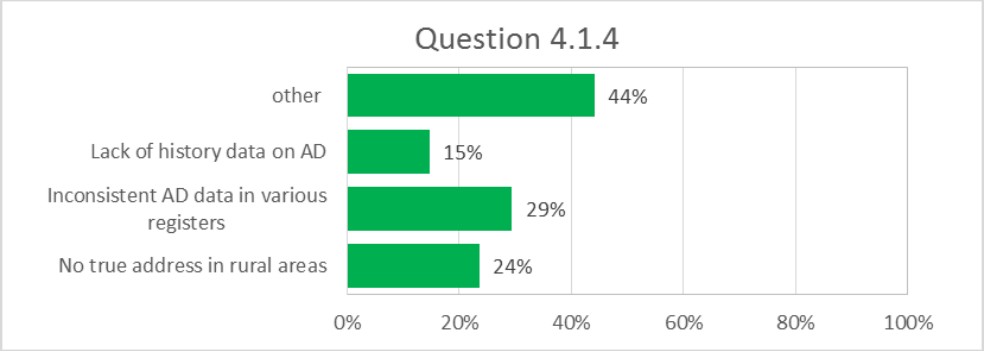


I.IV Diagrams "Methods and Technologies"

DIGRM. L: 4.1.3 HAS A SYSTEMATIC MANAGEMENT OF UNIQUE IDENTIFIERS FOR THE SPATIAL OBJECTS BEEN IMPLEMENTED?

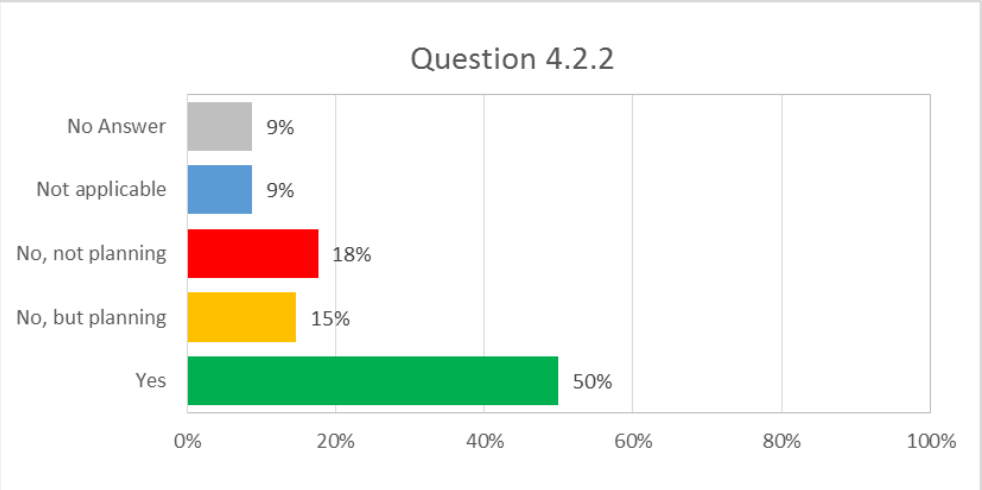


DIGRM. LI: 4.1.4 WHICH ISSUES DOES YOUR ORGANIZATION MEET REGARDING GEOCODING?



4.1.4 "OTHER" HAS BEEN SPECIFIED AS
Disagreement on the modalities of address coding
Update of address data is not consistent
Quality of data: Lack, inconsistent and mismatches of data
Minor spelling errors in street names
Process is slow and not reliable (complexity of database and engine)
Unique, non-unique and complex addresses
Inconsistent software development and hardware issues
Historic data is no taken into account
No geocoding system established

DIGRM. LII: 4.2.2 DO YOU (OR DID YOU) HAVE EXISTING PROJECTS ON LINKED DATA?



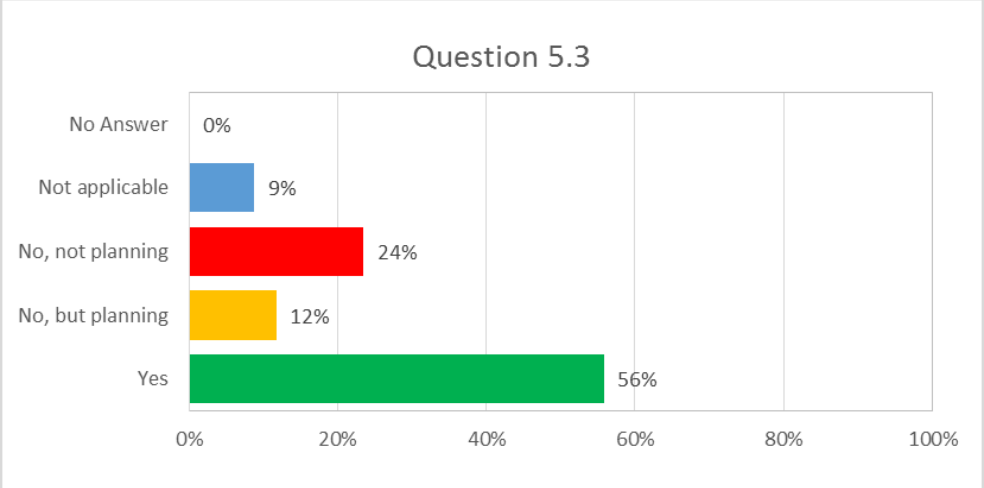
4.2.3 IF YES, WHO ARE YOUR PARTNERS AND ON WHAT KIND OF DATA DO YOU FOCUS IN THESE PROJECTS?
Demography and other datasets in open format
INSPIRE data
Administrative units and statistical data
National topographic database
Buildings
Topography
Cadastral parcels
Neighbourhood statistics
Addresses
Place names
Nature datasets

4.2.4 WHAT ARE YOUR EXPECTED BENEFITS FOR THE LINKED DATA ACTIVITY? HAVE THESE BEEN MEASURED?
wider use of data
More use of data, increased number of users
To share data easier, better visibility
Avoid duplication in data collection and maintenance, reduction in storage redundancy
Make data findable, easier search of data
New applications by connecting data
More user-friendly data
Improved efficiencies in trans-agency operations
Increased economies in operation
Better coherence
Improved quality of data
Provision of new, customized products

I.V Diagrams "User Engagement"

5.2 How can user provide feedback on their specific needs?
User surveys
Formal letters
Open data conferences
Meetings and hackathons
Public consultations
Forum
Hotline

DIGRM. LIII: 5.3 Are there national committees that support data integration issues (similar to the GISCO Working Group in the European Statistical System)?



TAB. 4: WHAT KIND OF FRAMEWORKS EXIST IN YOUR COUNTRY? PLEASE PROVIDE LINK IF PUBLIC[2]:

Belgium	www.flexpub.be
Cyprus	http://www.geoportal.gov.cy/MOI/DLS/geoportal/geoportal.nsf/index_en/index_en?OpenDocument
Czech Republic	http://www.mvcr.cz/clanek/geoinfostrategie.aspx
Germany	http://www.geoportal.de/SharedDocs/Downloads/DE/GDI-DE/Dokumente/NGIS_V1.pdf?__blob=publicationFile
Denmark	https://www.retsinformation.dk/Forms/R0710.aspx?id=188505#idbeb40a42-14f1-4c7d-9a3b-2472234e49d0 https://www.retsinformation.dk/Forms/r0710.aspx?id=191363
Estonia	https://www.riigiteataja.ee/en/eli/ee/529012018005/consolide/current
Spain	http://boe.es/boe/dias/2007/11/30/pdfs/A49215-49229.pdf https://www.boe.es/buscar/doc.php?id=BOE-A-2010-10707
Finland	https://www.maanmittauslaitos.fi/kartat-ja-paikkatieto/paikkatietojen-yhteiskaytto/ohjaava-toiminta/kansallinen-paikkatietostrategia
France	https://www.legifrance.gouv.fr/affichCode.do?idArticle=LEGIARTI000022964012&idSectionTA=LEGISCTA000022964018&cidTexte=LEGITEXT000006074220&dateTexte=20180731
Israel	www.govmap.gov.il http://mapi.gov.il/gisForum/Pages/default.aspx https://data.gov.il/ http://metadata.gov.il/
Italy	http://geodati.gov.it/geoportale/eng/about
Lithuania	https://www.e-tar.lt/portal/lt/legalAct/TAR.EFE69222D6BC/DByEWUvDko https://www.e-tar.lt/portal/lt/legalAct/fe7a84c0658811e8ac27abd8fa093003
The Netherlands	http://geosamen.nl/
Norway	https://www.geonorge.no/globalassets/geonorge2/ny-nasjonal-geodatastrategi/geodatastrategi-utkast_140217.pdf
Sweden	https://geodata.se/styrande/nationell-geodatastrategi
Slovenia	http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO5657

[2] Most information is available in the national languages only.

TAB. 5: 5.1 PLEASE PROVIDE LINK IF PUBLIC:

Austria	http://www.bev.gv.at/pls/portal/docs/PAGE/BEV_PORTAL_CONTENT_ALLGEMEIN/0200_PRODUKTE/PDF/ADRESSREGISTER_LEITFADEN.PDF?wb48617274=3316BE0C
Cyprus	http://www.geoportal.gov.cy/MOI/DLS/geoportal/geoportal.nsf/index_en/index_en?OpenDocument
Denmark	https://eng.sdfe.dk/media/2917126/strategy2020.pdf https://www.dst.dk/en/Statistik/Publikationer/VisPub?cid=27490
France	https://www.ecologique-solidaire.gouv.fr/sites/default/files/Rapport_DonneesGeographiquesSouveraines.pdf
Norway	https://www.geonorge.no/globalassets/geonorge2/avtaler-og-bilag-norge-digitalt/generelle-vilkar--norge-digitalt-2018.pdf (In Norwegian only)
Portugal	https://www.ine.pt/ngt_server/attachfileu.jsp?look_parentBoui=55229723&att_display=n&att_download=y

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