

# **Committee of Experts on Global Geospatial Information Management Europe Region Report**

## **Executive Summary**

The Preparatory Committee of United Nations Global Geospatial Information for Europe and three working groups established by them has continued its work and submits a solid proposal as the basis for the future work of UN-GGIM: Europe.

The proposal includes Articles and Rules of Procedure which have been extensively discussed and agreed with the National Mapping and Cadastral Authorities, in the European UN Member States, and with representatives of the National Statistical Institutes, European Commission and European Environmental Agency.

The situation in Europe, regarding geospatial information management and the integration of statistics and other information with it, is unique mainly because a relevant legal framework exists covering the 28 countries of the European Union (EU) and 4 countries forming the European Free Trade Association (EFTA), where the INSPIRE<sup>1</sup> directive (Infrastructure for Spatial Information in the European Community) lays down legal requirements for geospatial information and the European Statistical System (ESS) for the collection, analysis and reporting of national statistics.

For this reason UN-GGIM: Europe aims at building on existing efforts to maximise the benefits and investments in geospatial information and statistics.

Whilst a number of projects and initiatives already exist in Europe dealing with data definition and access conditions; it is considered desirable to intensify the coordination between countries and the European institutions and global bodies to identify, define, produce and distribute pan-European harmonised geospatial core data. UN-GGIM is seen as an ideal framework in which to do this,

In pursuing this it is proposed to proceed in two stages respectively reflecting the European users demand level and the global users demand level. The first stage would focus on reinforcing synergies in Europe, which are currently insufficient; the second stage would strive to better respond to global requirements.

The ESS provides a vast amount of geo-referenced statistics, in many cases broken down to subnational administrative output areas of varying size and at different administrative levels. There is however a growing demand from users for more detailed information which can only be met by incorporating more geospatial information into statistical products and production processes.

Despite some interaction at a working level in the annual Geographical Information System of the European Commission working group meetings, between NMCAs and NSIs, a structure at senior or even political level has never been established. The existence of UN-GGIM: Europe will provide a strategic opportunity to create a permanent structure that brings geospatial information management, statistics and other thematic communities together to develop a comprehensive information framework supporting sustainable development, whereby statistics describes the 'Who', 'What' and 'When' and geospatial information describes the 'Where'. This integration of statistics and geospatial information and its exploitation in spatial analysis will support understanding of the 'Why' enabling decision makers to take appropriate policy decisions.

A number of actions have been proposed which will be considered by the members of UN-GGIM: Europe, when they meet on 1<sup>st</sup> October to elect their Executive Committee and determine a relevant work plan for the coming period.

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<sup>1</sup> <http://inspire.ec.europa.eu>

## Introduction

Representatives of the European UN Member States and the Preparatory Committee of United Nations Global Geospatial Information for Europe have pleasure in submitting this report in response to Minute 3/14 d) of the 3<sup>rd</sup> meeting of the Committee of Experts in GGIM; in which the Committee: *‘Noted with satisfaction the progress being made towards establishing UN-GGIM Europe, and invited European representatives to report back to the Committee at its next session.’*

The Preparatory Committee of United Nations Global Geospatial Information for Europe continued its work in the intent of submitting to the 4<sup>th</sup> meeting of the Committee of Experts in GGIM a solid proposal that can serve as a basis for a constructive work of the UN-GGIM: Europe in the future. It convened a meeting with representatives of the European UN Member States in Warsaw on 2<sup>nd</sup> October 2013. On that occasion three Working Groups<sup>2</sup> with specific tasks were established.

WG3 led work on creating the institutional arrangements for Europe to support the goals of UN-GGIM. Furthermore, the UN-GGIM inventory of issues was used as a basis for WG1 to develop a European perspective on data definition and access conditions and for WG2 to define a European approach for interoperability and data infrastructures for geospatial information.

By presenting this report to the Committee of Experts on Global Geospatial Information Management European UN Member States sets out their plans to establish a Regional Committee of UN-GGIM for Europe.

## 1. Institutional arrangements for Europe to support UN-GGIM goals

The situation in Europe is quite unique compared with the rest of the world mainly because a relevant legal framework exists covering the 28 countries of the European Union (EU) and 4 countries forming the European Free Trade Association (EFTA), where the INSPIRE<sup>3</sup> directive (Infrastructure for Spatial Information in the European Community) lays down legal requirements for geospatial information and the European Statistical System (ESS) for the collection, analysis and reporting of national statistics.

For this reason UN-GGIM: Europe aims at building on existing efforts to maximise the benefits and investments in INSPIRE, ESS and related initiatives. A major challenge will be in how to help and facilitate convergence of non EU/EFTA countries to avoid duplication of efforts and resources.

The fact that an EU legal framework exists, and some European Institutions have responsibilities towards geospatial and related information, is reflected in the proposed Articles and Rules of Procedures.

Additionally, to be able to effectively target one of the main topics of UN GGIM ‘to integrate geographic information and statistics’, the need for a stronger collaboration between National Mapping and Cadastral Authorities (NMCAs) and National Statistical Institutes (NSIs) has been recognised in the preparatory work for UN-GGIM: Europe.

The Articles and Rules of procedure which have been developed were widely discussed with representatives of 20 UN Member States, European Commission officials, the European Environment Agency (EEA<sup>4</sup>) and EuroGeographics<sup>5</sup>, the membership association of European NMCAs.

A draft of the Articles and Rules of procedure was discussed with the UN-GGIM Secretariat to ensure that they were not in conflict with any UN procedures and protocols, and in order to make the European proposal more uniform with the caucuses already established, the draft was also shared with UN-GGIM: ASIA-Pacific and UN-GGIM: Americas.

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<sup>2</sup> WG1 lead by France; WG2 lead by Sweden and WG3 lead by Italy

<sup>3</sup> <http://inspire.ec.europa.eu>

<sup>4</sup> [www.eea.europa.eu/](http://www.eea.europa.eu/)

<sup>5</sup> [www.eurogeographics.org/](http://www.eurogeographics.org/)

In parallel with this work, due to its importance, contact has been made briefly with UNECE. No cooperation has yet commenced and although this could be developed once UN-GGIM: Europe is established.

As decided at the third session of the Committee of Experts, the Preparatory Committee provides this report to the Committee at its fourth session and presents the outcomes of the three working groups and a proposal for the formal establishment of UN-GGIM: Europe. Tentatively its inaugural meeting will occur in October 2014 in Moldova back-to-back to the EuroGeographics General Assembly.

The Articles and Rules of procedure adopted by the European UN Member State Representatives are included in Annex A.

In addition the first version of an inventory of the European NMCA and NSI responsibilities and policies has been compiled. This will be hosted in due course on the web site of UN-GGIM: Europe.

The European Union Member States and other bodies active in the preparation of the institutional arrangements for Europe have been clear throughout the process that they wish to proceed taking care to avoid duplication of efforts with existing and planned European initiatives and projects in the field of geospatial information and statistics. Particular attention will be devoted to the work being undertaken in the European Location Framework project (ELF<sup>6</sup>) and in the European Union Location Framework project (EULF<sup>7</sup>), which together address most of the UN-GGIM issues from two different but complementary perspectives. ELF is focusing on reference data harmonisation and services, and EULF on policy streamlining and best practices across sectors for integrating geospatial information in e-government. Both projects will improve the conditions for building cross-border applications and the integration of statistics consistent with the work of the ESS and groups of experts on geospatial and statistical information such as the European Forum for Geostatistics (EFGS)<sup>8</sup>.

INSPIRE is currently considered in non EU Member States. Relevant references are the outcomes of the, recently finished, INSPIRATION project<sup>9</sup> that covered the western Balkan countries, and EC reports on: i) NSDI status in Ukraine, ii) NSDI status in Moldova and iii) Report on the status of INSPIRE in the Balkan countries.

Finally it should be said that representation of NMCA and NSI on an equal footing in all UN-GGIM groups is considered essential. The UN Statistical Geospatial Expert Group is welcomed as a first positive step which can benefit from regional UN-GGIM Committees. This will speed up the handling of strategic, organisational, legal, and operational/technical issues at the appropriate level.

## **2. European Perspectives on Data definition and access conditions**

### **2.1 Background of harmonised pan-European data**

Authoritative geospatial data are used to support both the implementation of public policies and the development of downstream services. Moreover, geospatial data are required to be homogenous to enable the implementation of public policies in a coherent and coordinated way among countries and at regional or global level. Likewise, significant opportunities exist if services developed by industry can be exploited without requiring country specific adaptation.

Unfortunately, these requirements are not currently met in Europe as the available geospatial data remain heterogeneous between countries. Although some pan-European harmonised data is compiled from national data, other datasets are commissioned centrally at European level which may duplicate and be inconsistent with the existing data in use at a national level.

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<sup>6</sup> <http://www.elfproject.eu>

<sup>7</sup> [http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action\\_en.htm](http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action_en.htm)

<sup>8</sup> [www.efgs.info](http://www.efgs.info)

<sup>9</sup> <http://www.inspiration-westernbalkans.eu/>

Therefore it is desirable to intensify the coordination between countries and the European institutions and global bodies to identify, define, produce and distribute pan-European harmonised geospatial core data.

## **2.2 How to identify and define core data?**

### ***2.2.1 State of the art of existing initiatives***

The contribution of the INSPIRE Directive is to provide the EU with a legal and technical framework requiring sharing of existing data on different thematic domains (including statistical data referenced with geospatial data) and make them interoperable through common data models and web services. However, INSPIRE does not require harmonised quality of existing data and only has legal force in the EU and in the EFTA countries. Therefore gaps in the needed pan-European datasets are not completely fulfilled by the INSPIRE Directive alone.

Achieving a minimum core datasets is in the scope of the ELF project, which commenced in March 2013 and is co-funded by the European Commission and by the participating countries. ELF improves the harmonisation and edge-matching between EU Member States data in the INSPIRE framework as well as addressing licensing issues.

Successful and coordinated initiatives for core data, especially Corine Land Cover from the European Environmental Agency (EEA) already exist as well as various products from EuroGeographics, however they are not sufficient to meet the requirements, e.g. in terms of resolution and coverage.

### ***2.2.2 Definition of core data to meet the requirements***

At a general level, it is proposed to define core data as the authoritative data from UN Member States that satisfy minimal needs at cross-border, European and global level. The rationale of this definition:

- It is essential from a user perspective that national data and European data are coherent;
- It is essential to meet the requirements from the 2020-2021 round of census for geospatial core data;
- Core data would facilitate the production and would guarantee the quality and geometrical consistency of other richer, more detailed, more thematic geospatial data, which would rely on core data.

To meet the requirements, a dialogue is needed between the stakeholders and both the National Mapping and Cadastral Agencies (NMCAs) providing the data and balancing the needs with the costs. There is currently no place for this dialogue and decision making at European level, the gaps may be procedural or organisational. The European UN Member States therefore welcome the introduction of UN-GGIM: Europe as a useful Forum in which to proceed and recommend a process leading to the establishment of core data at European level by identifying “what” is needed and by “whom” interfacing and capturing results from existing requirement definition processes.

It is proposed to proceed in two stages respectively reflecting the European users demand level and the global users demand level. The first stage would focus on reinforcing synergies in Europe, which are currently insufficient. The second stage would strive to better respond to the global level requirements. The existing requirement processes pertaining to the two levels are the following:

- European level: UN-GGIM: Europe process; INSPIRE process and ELF process (both should be used as technical specification framework for defining core data in detail); ESS process (to address requirements from statistics); Copernicus process (including In-situ Coordination); Process on the re-use of public sector information; Thematic areas representation processes;
- Global level: UN-GGIM process; Global Map for Sustainable Development (GM4SD); Process to develop a set of Sustainable Development Goals (SDG); Group on Earth Observation (GEO); International Hydrographic Organisation (IHO).

## **2.3 How to produce core data?**

### ***2.3.1 Strategic and organisational framework***

The concept of a European agency for geospatial information was raised to the attention of the European Commission in 2009. The Commission reaction was that there is no mandate in the European Treaties and no political will to extend the number of European agencies.

Actually, coordination was already ensured through EuroGeographics which is an operational entity relying on the goodwill of its members that has no authority to require anything from European countries. So at European Union level, political ownership of geospatial data is currently lacking.

UN-GGIM could be a unique opportunity to address the issue of 'core data and to persuade UN Member States to do things according to minimum requirements.

### ***2.3.2 Technical framework***

In order to obtain consistent core data at European level, the coordination and the distribution of core data production has to be considered. Technical solutions will have to be found to deal with core data production sources and processes and their possible mutualisation. In this respect ELF is currently defining and developing an infrastructure that will facilitate the efficient creation of core data.

## **2.4 How to fund core data production, what charging principles to adopt for core data?**

Funding is a key issue to be addressed, in any case funding must be available to produce and maintain the data; otherwise it will be very difficult to achieve core datasets. It was noted that for many NMCAs public finance does not cover 100% of their production and distribution costs, this is not often fully recognised at European level. Therefore the approach should clarify the economic model applied to core data: Which core data can be free and open and therefore up-stream funded and by whom? Which core data are required to generate revenues therefore down-stream funded by the users?

It should be noted that statistical offices work in a context that is very different, whereby all official statistics, the equivalent to core geospatial data, are fully funded by government budget appropriations and distributed as open data. This opening up of statistics has been a huge success which has boosted the uptake of official statistics. Working together in UN-GGIM: Europe provides a good opportunity for the NMCAs to learn how this was achieved and make use of this in achieving their aspiration to make their data more widely used. In the immediate future these different approaches to funding will have to be satisfied within NMCA and statistical offices' collaborative work, taking into account the need to meet the expectations of users of official statistics, who are used to open data, the public funding available for this work and the added value obtained by the integration of statistics with geospatial information.

The production of core data only on a voluntary basis, with no financial incentive, is unlikely to work; nothing will happen. Therefore using an incentive financial mechanism is probably the only way to ensure that core data are produced in all countries. Some European incentive mechanisms already exist in Europe, but those most relevant for achieving sustainable comprehensive data access arrangements for core data will have to be identified and put in place

Within the EU it is suggested that core data funding, as serves a common EU and national interest and benefit, should come at least from both the EU Member States and the European Commission. The Copernicus program could be seen as an opportunity to support the creation and harmonisation of core data. More cooperation between the Copernicus programme and the MS needs to be set up.

If a first momentum is created for core data in the EU it could be extended to the European UN countries that are not EU members. In other words, if core data becomes a reality within the EU, their usefulness will be demonstrated to non-EU European countries and this may motivate them to produce core data.

## 2.5 How to develop harmonised licences for core data?

There is disparity around the types of licensing models and an inevitable diversity in details of terms and conditions, reflecting national traditions, legal frameworks and a lack of common legal terminologies.

It is proposed that UN-GGIM: Europe, once formally established, supports work to agree common definitions and terminology around open geospatial data licensing and to establish some principles for simplification around the licensing of paid-for data, building on existing work and carrying out an alignment exercise with other bodies looking at these issues e.g. INSPIRE, ELF, EULF and GEO.

## 3. European Approach to Interoperability and data infrastructures for geospatial information and statistics

### 3.1 The European Context

ESS provides a vast amount of geo-referenced statistics, mainly on subnational administrative output areas of varying size and at different administrative levels. There is however a growing demand from users for more detailed information<sup>10</sup> as well as information on shifting functional areas and the ESS will only be able to meet this demand by incorporating more geospatial information into their products and production processes.

INSPIRE, as series of European and national legal acts and agreements, when fully implemented in 2020, will lead to a European-wide Spatial Data Infrastructure. It is a far-reaching policy related to geospatial interoperability as it covers coordination, data sharing as well as technical arrangements to achieve interoperability and harmonisation of spatial data and services.

Conceived for environmental policies and policies that affect the environment, INSPIRE is truly a multi-purpose infrastructure. It is linked to policies for the creation and sharing of spatial information such as Galileo, GMES/Copernicus, and the Directive on the Re-Use of Public Sector Information (PSI). In particular the revised PSI Directive and the recent G8 charter on open government data (that considers geographic information and environmental data as core data) are expected to influence the way geospatial information is being shared and used.

The Shared Environmental Information System for Europe (SEIS)<sup>11</sup> initiative, which in Europe complements activities like INSPIRE and Copernicus and supports better data availability under the European environmental legislation, enables cooperation with EU member states aiming at closing knowledge and data gaps. In an international context, SEIS supports joint activities with countries under the Aarhus convention, acts as priority activity of the European Neighbourhood Policy jointly with UNECE, supports UNEP-Live and contributes to GEO/GEOSS processes.

Already in the 1990s the ESS created a permanent technical committee for a better coordination of statistics and geographical information for statistical purposes, the Geographical Information System of the Commission (GISCO)<sup>12</sup> working group, with varying levels of participation by NMCAs. In a similar time frame the fore-runners of EuroGeographics (CERCO and MEGRIN) were established as the membership association of the NMCAs.

Despite some interaction at a working level in the annual GISCO working group meetings, between NMCAs and NSIs, a structure at senior or even political level has never been established. Furthermore both the geospatial and the statistical community too often work within their traditional remits.

UN-GGIM: Europe provides a strategic opportunity to create a permanent structure that brings geospatial information management, statistics and other thematic communities together to develop a

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<sup>10</sup> e.g. European Commission publishes Cohesion reports with a wealth of detailed regional comparison studies.

<sup>11</sup> [http://europa.eu/rapid/press-release\\_MEMO-12-159\\_en.htm](http://europa.eu/rapid/press-release_MEMO-12-159_en.htm)

<sup>12</sup> [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Geographical\\_information\\_system\\_of\\_the\\_Commission\\_%28GISCO%29](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Geographical_information_system_of_the_Commission_%28GISCO%29)

comprehensive information framework supporting sustainable development, whereby statistics describes the human societies and the ‘Who’, ‘What’ and ‘When’ of its activities and geospatial information describes the physical environment and the ‘Where’. This integration of statistics and geospatial information and its exploitation in spatial analysis would then allow understanding the ‘Why’ enabling decision makers to take direct action.

### **3.2 Policy alignment in an evolving data sharing landscape**

The alignment of policies and strategies is important in order to fully reap the benefits of synergies, both at European and national levels. EU and national studies are being conducted to assess the adaptability of INSPIRE to other policy areas. For instance, following an impact assessment of the cost and benefits, the Danish government has launched a basic-data initiative as part of the Danish eGovernment strategy (2011-2015), which is anchored on INSPIRE. Similar actions have been developed by other European countries.

There are two ways to align INSPIRE with other policies: the INSPIRE Maintenance and Implementation Framework (MIF), and the 2014 INSPIRE policy evaluation and its follow-up, both of which should be informative for the international community. The MIF, which continues INSPIRE’s open and transparent approach of stakeholder’s engagement, addresses the support to the further implementation of INSPIRE in the Member States, lessons learned from the implementation, and takes into account emerging requirements.

The above-mentioned activities allow UN-GGIM: Europe to follow closely what works well in INSPIRE, and what needs to be improved. Suggested roles of UN-GGIM: Europe are to help in identifying evidence as to how investments in the use of geographic information and services can foster innovation in both the public and private sectors; to assess which additional measures would be needed in order to increase the user-base of INSPIRE and to build capacity in other areas of the world who want to adopt parts of INSPIRE.

### **3.3 Operational considerations**

The international statistical community has adopted the Generic Statistical Business Process Model<sup>13</sup> as a standard to describe the production process of official statistics. Geospatial information can improve the processes at all stages starting with the input, continuing with the throughput and ending with the output. It is expected that a better integration of geographical information into statistics will contribute to the ambition of the ESS to create multi-purpose statistics using harmonised methods and tools.

The spatial reference framework for statistics is, in most cases, based on national address and building registers. To be as flexible as possible, statistical information should be associated to a location at the most individual level of the observation, in most cases a point. It is expected that a better integration of geographical information into statistics will contribute to the ambition of the ESS to create multi-purpose statistics using harmonised methods and tools.

The NSIs in most cases are not responsible for maintaining this spatial reference framework and it is essential that the geospatial information used to geocode statistics meets several conditions. It must have the right resolution, the necessary scope of attributes, and be updated in a regular, defined way. The same spatial reference framework should be used for all public data, and the access to the data must be as easy as possible.

UN-GGIM: Europe could create the necessary foundation and promote the creation of a single, official point based geospatial reference framework per country that takes on board the requirements from statistics and other thematic communities, and has favourable and affordable access conditions for public users.

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<sup>13</sup> <http://www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model>

The upcoming 2020-2021 round of censuses operation would greatly benefit from a point based reference framework; its availability would allow drawing on the combination of geospatial and statistical information, and should be seen as an opportunity to evolve in this direction.

As the INSPIRE directive includes data sharing as one important aspect, access to geospatial data is likely to improve within the EU. The ELF project delivers pan European web services to build on the existing work of the INSPIRE Directive and enable access to harmonised data, including address and building points. Several initiatives to expand INSPIRE and to develop a more comprehensive location framework for Europe including the ESS, ELF and EULF have recently been launched and promise to look beyond purely topographic information and stakeholders.

### **3.4 Interoperability**

Statistical data are exchanged and disseminated in various formats but one established standard is SDMX which is increasingly adopted by the ESS. This standard does not only contain the actual data but also provides a means for metadata and even structural data definitions. INSPIRE on the other hand is the legal framework in EU and EFTA countries for sharing spatial information. It covers aspects such as the structure and scope of data as well as metadata and technical protocols of web services.<sup>14</sup> So far, these standards have been developed independently from each other resulting in a lack of cross-domain interoperability. Both standards are based on XML and web services, and therefore technical interoperability seems possible. First semantic and syntactical mappings have been attempted between INSPIRE and SDMX and research will continue. The Data Documentation Initiative (DDI) is another XML based metadata standard for the description of the data lifecycle of social and economic data, mainly micro-data, and its integration with geospatial standards should be investigated. The OGC standard on Table-Joining-Services is pointing in the same direction of technical integration and interoperability.

The European Commission Communication<sup>15</sup> “Towards interoperability for European public services” introduces the European Interoperability Strategy (EIS) and the European Interoperability Framework (EIF) for European public services, two key elements in the Digital Agenda for Europe. Together, they promote interoperability among public administrations. Within this context, the EULF project is working to test the concept of a EU-wide, cross-sector interoperability framework for the exchange and sharing of location data and services addressing legal, organisational, semantic and technical aspects.

### **3.5 Integrated Quality framework for statistics and geospatial information**

The UN Fundamental Principles of Official Statistics together with the European Code of Practice<sup>16</sup> (CoP) sets the standard for developing, producing and disseminating official statistics. These frameworks have proven very successful in the statistical domain, with international comparable statistics based on solid ethical fundamentals as a result. The INSPIRE Directive is a good example on how to get spatial information harmonised and accessible for Europe. The UN-GGIM should play an important role in developing and promoting an international quality framework for spatial information, including geospatial statistics, building on principles similar to the CoP.

### **3.6 Creating and maintaining a knowledge-base**

When it comes to the sharing and re-use of the wealth of information across Europe and the rest of the world relating to the use, analysis and management of geospatial information we find wheels being reinvented. This is caused by a lack of consistency in the content and the difficulty in discovering and accessing useful information in a timely and structured way.

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<sup>14</sup> [For example the following ISO standards are used: Geographic information – Geography Markup Language, \(GML\) \(ISO 19136:2007\); Geographic information – Web Feature Service \(ISO 19142:2010\); Geographic information – Web map server interface \(ISO 19128:2005\)](#)

<sup>15</sup> [http://ec.europa.eu/isa/documents/isa\\_iop\\_communication\\_en.pdf](http://ec.europa.eu/isa/documents/isa_iop_communication_en.pdf)

<sup>16</sup> [http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/code\\_of\\_practice](http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/code_of_practice)

In Europe, a large body of knowledge is already available but the resources would benefit of a more structured access. The identified need for a global knowledge base<sup>17</sup> has been carried forward to be addressed by a future UN-GGIM: Europe but with an initial specific focus on a best practice/knowledge database of spatial analysis projects in order to make the activity manageable.

It is recommended that UN-GGIM: Europe supports a harmonised access to existing knowledge. This includes: 1) identifying relevant repositories; 2) identifying requirements for knowledge management and discovery; and 3) exploring how analyses can be done across different communities and languages. This will serve as input to the global UN GGIM Knowledge Base.

### **3.7 The use of multiple data sources for the production of geospatial information**

The increased ability of citizens to use new technologies to create and share useful data and information leads to an urgent need to address challenges and to exploit the opportunities of data from multiple sources.

The two most obvious data sources are crowd-sourced voluntary geographical information and geo-referenced Big Data which results from mobile devices, machine to machine transactions and sensors. Big Data also plays an increasing role in the statistical world and in fact in the UN.

The reusability of data from multiple sources offers great potential, but also the challenge of bypassing traditional methods of quality management, access control and privacy safeguards. This creates new situations for intellectual property rights, liability issues, and the possibility of unintended or even harmful reuse by third parties. Related to this issue is the question of accountability for private sector companies or public administrations who store such information.

UN-GGIM: Europe could, when established, consider work that helps address challenges as well as the growing importance and added value of geospatial information from multiple sources. Topics to be addressed are many: roles and actors; purpose; data ownership / IPR / privacy; interoperability; quality, completeness, homogeneity and accuracy (including inequalities introduced by social aspects), etc. A situation should be avoided whereby only big businesses can afford the processing of these data, leading to a structural disadvantage of smaller businesses.

The European and national spatial data infrastructures should be able to integrate and combine such data (and related infrastructures) with authoritative data and to address some of the challenges mentioned above. In this respect, the ELF platform may be a good basis to combine and interoperate authoritative data and data from multiple sources. This work is consistent with and will enrich the Data Value Chain Strategy of the European Commission which aims at extracting maximum value from data by building on the intelligent use of multiple data sources.

### **3.8 Cooperation to remove barriers at the point of use**

Access to many countries reference data is limited by licence conditions, and in some countries the level of associated charging is high due to the fact that for many NMCA's public finance does not cover 100% of their production and distribution costs. The way these restrictions are implemented may create obstacles at the point of use. Removing these obstacles is important for applications such as sustainable development and emergency management services necessitating specific access conditions compatible with their requirements.

Europe has gained important experience in this area, in particular related to the Copernicus Emergency Management Services (EMS). For example, specific data access arrangements were established and in 2013 online services in 20 countries have already been made available to, and used by, Copernicus EMS. It is recommended that UN-GGIM: Europe i) promotes the adoption of the principles underlying the provision of data to Copernicus EMS across all the countries of UN-GGIM: Europe; ii) stimulates other thematic communities to adopt data sharing provisions for dynamic and statistical data (e.g. hydrographical measurements, population statistics, extents of historical flood areas, and land use); and iii) helps to improve coordination and harmonisation of data.

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<sup>17</sup> <http://ggim.un.org/2nd%20Session/E-C20-2012-5%20Inventory%20of%20Issues%205%20July.pdf>

### **3.9 Joint projects**

In Europe there is good experience in resolving technical challenges through projects.

Some progress has been made on licence harmonisation (for example 3 European products were delivered under harmonised licenses for up to 45 countries).

The geospatial and statistical communities have recently agreed, for the first time, to propose joint projects to develop functioning data infrastructures and information systems. The upcoming 2020 round of censuses in Europe is a strong driver for this and will be a very good opportunity to enhance the cooperation between NSI and NMCAs, but other statistical topics, e.g. transport or land use must also remain on the agenda.

A Eurostat Task Force is working on the integration of statistics and geospatial information together with a number of Eurostat projects playing an important role in progress the aim of advancing the integration of statistical data and geospatial information at the national and European level. Joint projects can benefit from the existing professional network, the European Forum for Geostatistics, where involvement from NMCA's have been and will be crucial to further develop grid based statistics. These efforts will be supported by the work in UN-GGIM: Europe.

## Annex A

# **Articles of the Europe Region of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM: Europe)**

## **Title 1: Recitals, background and context.**

Whereas:

- (1) The United Nations Initiative on Global Geospatial Information<sup>18</sup> Management (UN-GGIM) welcomes regional committees as an efficient way to make progress and provide useful input to the global UN-GGIM process.
- (2) The Europe Region of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM: Europe) will comprise representatives of the European UN Member States.
- (3) UN-GGIM: Europe shall take into account the global agenda and that of other UN-GGIM regional committees.
- (4) For European Union Member States a raft of laws exist and programmes are being developed which impact upon public authorities responsible for geospatial and statistical information e.g. INSPIRE, the Re-use of Public Sector Information, SEIS, and Copernicus.
- (5) EFTA countries have legalized many laws and programmes of the EU and some non-EU member states have found the EU legal frameworks for geospatial information to be good models and follow them on a voluntary basis. Hence in practical terms, working under UN-GGIM: Europe will be a continuation and extension of existing practice.
- (6) European UN Member States and the UN-GGIM Secretariat agree that the best way to build UN-GGIM: Europe is to fully respect and use existing structures, in order to avoid duplication of effort, work and costs, and to maximise synergies.
- (7) There is a long standing tradition in Europe of cooperation on geospatial and for statistical information through EuroGeographics, the European Statistical System, other bodies and with many parts of the European Institutions.
- (8) Formal contact points for the UN are the Ministries of Foreign Affairs; nonetheless effective communications will be required at an expert level.

## **Title 2 Form, Name Purpose and Activities of the Committee**

### **Article 1 - Form and name**

1.1 The Committee shall be called the Europe Regional Committee of the United Nations Committee of Experts on Global Geospatial Information Management, hereinafter called UN-GGIM: Europe.

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<sup>18</sup> In the context of UN-GGIM Europe 'Geospatial' information is taken to mean: 'geographic information and any data which has an explicitly geographic component including tabular data and statistical information associated with locations.'

1.2 UN-GGIM: Europe does not have separate legal personality.

1.3. UN-GGIM: Europe shall operate within the scope of the United Nations Committee of Experts on Global Geospatial Information Management. UN-GGIM aims at playing a leading role in setting the agenda for the development of global geospatial information and promoting its use to address key global challenges. It provides a forum for liaison and coordination among UN Member States and between UN Member States and international organizations.

## **Article 2 - Purpose and Activities**

2.1. UN-GGIM: Europe shall identify European issues relevant to geospatial information management and recommend necessary actions on them for the furtherance of the discussions in UN-GGIM so that the economic, social and environmental benefits of European geospatial information are maximized.

2.2. While fully respecting existing European as well as national frameworks and capabilities, in the context of European geospatial information management, UN-GGIM: Europe shall aim to the following objectives. To:

- encourage implementation in Europe of the recommendations of UN-GGIM particularly those aimed at disaster management and the support of sustainable development;
- promote an understanding of the need for and use of geospatial information and the importance of effective management of it;
- share experiences and best practice in geospatial information management, for example with INSPIRE, and consult on matters of common interest;
- provide guidance on the institutional framework which defines the policy, legislative, financial and administrative arrangements for building, maintaining, accessing, applying standards and achieving geospatial interoperability at local, regional and global level;
- support capacity building, donor funding and other measures, for the development of geospatial information and spatial data infrastructure development in Europe;
- provide strategic leadership and vision on the management and development of geospatial information strategy and policies within Europe including national location strategies and a sustainable European Location Strategy;
- cooperate in the development of a European geospatial information infrastructure which supports the integration of statistics and avoids duplication of cost, effort and data;
- establish links with other relevant United Nations programmes and international bodies and cooperate with international scientific and professional organizations and institutions.

## **Title 3: Membership**

### **Article 3 –Members**

3.1 Membership of UN-GGIM: Europe is open to UN Member States in Europe. Each European UN Member State shall nominate a single expert representative. A number of

additional persons may be nominated by the Representative as experts to attend meetings of UN-GGIM: Europe.

3.2 Members can participate in all the activities of UN-GGIM: Europe, can be elected to the Executive Committee and vote in the plenary meeting of UN GGIM Europe.

3.3 Observers may be admitted to meetings and contribute to the work of UN-GGIM: Europe but will not be members.

3.4 At commencement the European Commission shall be an Observer of UN-GGIM: Europe. Further Observers will be considered from other European Institutions, professional, research and academic organizations or associations, which have an interest in geospatial or statistical information management.

3.5 Observers can only participate in the activities of UN-GGIM: Europe, with the approval of the Plenary meeting of UN-GGIM: Europe and on the occasion of a specific invitation from the Chair or their deputy.

#### **Article 4 – Rights and Obligations of the Members**

4.1 Each member shall be represented by a ‘head of delegation’ who shall be responsible for consulting with, and representing, relevant bodies in their country. A number of additional persons may be nominated by this representative as experts to attend meetings of the Committee.

4.2 Members shall endeavour to attend UN-GGIM: Europe plenary meetings and take actions necessary and appropriate to develop and promote the aims of UN-GGIM: Europe and may, with the approval of the Chair, represent UN-GGIM: Europe in specific functions or at events.

4.3 Each member shall adhere to the Articles of UN-GGIM: Europe and its Rules of Procedure and work to their normal high professional standards in an open and transparent manner and in full cooperation with the other members.

4.4 Each member participating in UN-GGIM: Europe shall have one vote. With the exception of changes to these articles, dissolution of UN-GGIM: Europe and Rule 15, decisions of UN-GGIM: Europe shall be taken by a majority of the Representatives present and voting.

4.45 Each member should consider the recommendations from UN-GGIM: Europe within the remit of, and as implemented in, the plenary meeting. The members will individually decide on implementation of the recommendations, dependent on circumstances such as a member’s national rules, laws or administrative practices. If their national rules, laws and administrative practices permit, the members belonging to the European Union should consider promoting the recommendations from UN-GGIM: Europe within the institutions of Europe.

#### **Title 4: Bodies of UN-GGIM: Europe: Executive Committee and Secretariat**

##### **Article 5 - Executive Committee**

5.1 UN-GGIM: Europe shall be managed by an Executive Committee which shall have full powers to carry out the objectives of the UN-GGIM: Europe members in that respect.

5.2 The Executive Committee comprises nine persons including a Chair and Vice Chair.

5.3 The Chair, Vice Chair and Executive Committee members shall be elected, by simple majority, for a three year term at a Plenary meeting of UN-GGIM: Europe.

5.4 The Chair or Vice Chair, depending on availability, will chair UN-GGIM: Europe meetings. During meetings their primary responsibility is to the role of chair. To ensure that they are able to remain impartial, but for their European UN Member State to still vote, they may designate someone else from their national delegation to participate and vote in plenary meetings in their place.

5.5 The Executive Committee shall:

- Plan and coordinate a programme of work which the members agree is needed to meet the objectives of UN-GGIM: Europe;
- Plan and manage the activities that UN-GGIM: Europe undertakes for UN-GGIM in consultation with the UN-GGIM Secretariat;
- Manage the continuing administrative affairs of UN-GGIM: Europe;
- Make recommendations to UN-GGIM: Europe on objectives, activities and a work programme;
- Prepare and submit reports on activities of UN-GGIM: Europe to the Plenary meeting, UN-GGIM secretariat, the Committee of Experts on UN-GGIM and relevant international bodies;
- Represent the interests of Europe in the world's geospatial information management community;
- Promote UN-GGIM guidelines to the members of UN-GGIM: Europe;
- Take opportunities to give presentations to related bodies at conferences and other relevant events;
- Examine and approve arrangements for all the meetings organized or sponsored in the name of UN-GGIM: Europe.

5.6 The Executive Committee shall meet as often as necessary and at least once a year. The date and place shall be determined by the Chair. Meetings may be virtual in nature. A majority of the Executive Committee must attend to form a quorum.

5.7 Depending on the meeting agenda the Chair may, at their discretion, invite third parties such as Observers or topic experts to an Executive Committee meeting or appropriate part of it.

5.8 The Executive Committee shall be assisted to carry out its function by a Secretariat.

## **Article 6 – Secretariat**

6.1 A member of UN-GGIM: Europe shall be granted responsibility for providing a secretariat to UN-GGIM: Europe by a majority vote of the members at a Plenary meeting of UN-GGIM: Europe.

6.2 The responsibility for providing the secretariat shall not be tied to the position of Executive Committee membership.

6.3 The Secretariat shall be responsible for secretarial, clerical, and administrative duties, maintaining records etc. including arranging meetings, taking minutes and collecting and circulating documents to support the effective and smooth operation of UN-GGIM: Europe.

6.4 A member offering to fulfil the role of secretariat shall provide UN-GGIM: Europe members with a proposal detailing how the service will be provided and its costs paid for.

6.5 The secretariat shall report to the Executive Committee as the Committee shall require.

## **Title 5: Plenary Meetings**

### **Article 7 - Timing, format, organization and key elements of the meeting**

7.1 The Plenary meeting of UN-GGIM: Europe shall be convened at a time and place convenient to the members. A Plenary meeting will normally be held each calendar year.

7.2 The Chair of the Executive Committee of UN-GGIM: Europe, or if not available the Vice Chair, chairs the meeting.

7.3 The Executive Committee, along with the member from the host European UN Member State, will be responsible for organizing the Plenary meeting, including the agenda and identification of any invited speakers. The UN-GGIM secretariat may provide administrative support, such as issuing invitations and publication of proceedings.

7.4 Key elements of the Plenary meeting include:

- Receiving reports from:
  - UN-GGIM: Europe members;
  - the Committee of Experts on UN-GGIM;
  - other UN-GGIM Regional bodies;
  - the Executive Committee on activities since the previous meeting;
- Considering proposals for future work by UN-GGIM: Europe;
- Electing members of the Executive Committee and the Chair and Vice Chair;
- Voting on an annual work plan and proposals:
  - for amendment of the Articles and Rules of Procedure;
  - for providing a secretariat to UN-GGIM: Europe.
  - to grant Observer status for organisations not representing a European UN Member State;

### **Article 8 - Working Groups**

8.1 Working Groups may be established by the Executive Committee to meet specific objectives of UN-GGIM: Europe.

8.2 Each Working Group shall, where possible, be chaired by a member of the Executive Committee.

8.3 Working Groups shall report to the Executive Committee on their activities, together with recommendations for consideration by UN-GGIM: Europe.

8.4 Working Group Chairs are able to appoint coordinators for key activities within their work programme and these coordinators will report to the Working Group Chair.

8.5 Procedures covering the day to day running of the Working Groups will be set out from time to time by the Executive Committee of UN-GGIM: Europe.

## **Title 6: Financing, Funds and Expenses**

### **Article 9 - Costs**

9.1 Delegations and other representatives shall bear all of their own costs for participating in all activities of UN-GGIM.

9.2 Expenses for arranging UN-GGIM: Europe Plenary, Executive Committee and Working Group meetings shall be borne by the host European UN Member State where the meeting is held, except where a financial contribution is approved by the UN-GGIM: Europe Plenary meeting.

9.3 Arrangements for meeting the costs of the administration of UN-GGIM: Europe shall be approved by a Plenary meeting of UN-GGIM: Europe on the basis of a proposal, or proposals, made by one or more member.

9.4 The Executive Committee shall be responsible for the allocation of all and any funds of UN-GGIM: Europe and its Working Groups.

## **Title 7: Supplementary**

### **Article 10 - Revision of the Articles**

10.1 The Articles may only be amended at a UN-GGIM: Europe Plenary meeting by a two-thirds majority of the European UN Member States present.

### **Article 11 - Dissolution of UN-GGIM: Europe**

11.1 UN-GGIM: Europe may be dissolved by a two-thirds majority of the European UN Member States present at a UN-GGIM: Europe Plenary meeting.

11.2 In the event of dissolution of UN-GGIM: Europe, any funds remaining after settlement of liabilities of UN-GGIM: Europe will be transferred to the European UN Member States in such manner and amount as may be approved by the members.

### **Article 12 - Effective Date of Articles**

12.1 The Articles shall take effect from the date they are approved by a two-thirds majority of the European UN Member States present at a UN-GGIM: Europe Plenary meeting.

**Done at {place} on {dd/mm/2014}**

# **UN-GGIM: Europe**

## **RULES OF PROCEDURE**

### **I. OFFICERS**

#### **Rule 1**

The Chair shall preside over the meetings of UN-GGIM: Europe and its Executive Committee.

#### **Rule 2**

If the Chair is absent from a meeting or any part thereof, the Vice-Chair shall preside. The Vice-Chair acting as Chair shall have the same powers and duties as the Chair.

### **II. SECRETARIAT**

#### **Rule 3**

The Secretariat shall act in the capacity of secretary in all Plenary meetings of UN-GGIM: Europe.

#### **Rule 4**

The Secretariat shall be responsible for making all necessary arrangements for meetings and generally shall perform all other work which the Executive Committee and UN-GGIM: Europe may require.

#### **Rule 5**

If the member granted responsibility for providing the secretariat is no longer able to fulfil their responsibility they should give the Executive Committee a minimum of six months' notice of their withdrawal.

### **III. CHANGES TO THE ARTICLES**

#### **Rule 6**

Any proposal for amendment of the Articles shall be submitted to the Chair in time for inclusion in the notice of meeting and agenda, which should be sent to members not later than 4 weeks prior to a Plenary meeting.

### **CONDUCT OF BUSINESS**

#### **Rule 7**

To be recognised as such a UN-GGIM: Europe meeting shall comprise of at least half of its active membership.

#### **Rule 8**

In addition to exercising the powers conferred upon them elsewhere by these rules, the Chair shall declare the opening and closing of each meeting of UN-GGIM: Europe, direct the discussion at such meetings, ensure observance of these Rules, grant the right to speak, put questions to the vote and announce decisions. They shall rule on points of order and, subject to these rules of procedure, shall have complete control over the proceedings.

**Rule 9**

The Chair may, in the course of the discussions, propose to the meeting closure of the list of speakers or the close of the debate. They may also propose the suspension or the adjournment of the meeting or the adjournment of the debate on the item under discussion. They may also call a speaker to order if their remarks are not relevant to the matter under discussion.

**Rule 10**

The Chair, in the exercise of their functions, remains under the authority of UN-GGIM: Europe.

**Rule 11** No one may address the UN-GGIM: Europe Plenary meeting without having previously obtained the permission of the Chair. The Chair shall call upon speakers in the order in which they have signified their desire to speak.

**Rule 12**

Debates shall be confined to the topic before UN-GGIM: Europe and the Chair may call a speaker to order if their remarks are not relevant to the subject under discussion.

**Rule 13**

Proposals and amendments shall normally be introduced in writing and submitted to the Secretariat of UN-GGIM: Europe, who shall circulate copies to the Representatives not later than 4 weeks prior to a Plenary.

**Rule 14**

A proposal, amendment or motion may be withdrawn by its sponsor at any time before voting has commenced, provided that it has not been amended. A proposal or a motion thus withdrawn may be re-introduced by any Representative.

**Rule 15**

When a proposal or amendment has been adopted or rejected, it may not be reconsidered unless UN-GGIM: Europe, by a two-thirds majority of the Representatives present and voting, so decides. Permission to speak on the motion to reconsider shall be accorded only to two speakers opposing the motion, after which it shall be put to the vote immediately.

**IV. VOTING****Rule 16**

UN-GGIM: Europe shall make best endeavours to ensure that its work is accomplished by general agreement.

**Rule 17**

UN-GGIM: Europe shall normally vote by show of hands. All elections shall be held by secret ballot, unless otherwise decided by UN-GGIM: Europe.

**Rule 18**

When an amendment is moved to a proposal, the amendment shall be voted on first. When two or more amendments are moved to a proposal, UN-GGIM: Europe shall first

vote on the amendment furthest removed in substance from the original proposal and then on the amendment next furthest removed therefrom, and so on until all the amendments have been put to the vote. Where, however, the adoption of one amendment necessarily implies the rejection of another amendment, the latter amendment shall not be put to the vote, if one or more amendments are adopted the amended proposal shall then be voted on. A proposal is considered an amendment to another proposal if it merely adds to, deletes from or revises part of that proposal.

**Rule 19**

In the case when two or more proposals relate to the same question, UN-GGIM: Europe shall, unless it decided otherwise, vote on the proposals in the order in which they were submitted. UN-GGIM: Europe may, after each vote on a proposal, decide whether to vote on the next proposal.

**Rule 20**

In the case when one person or one delegation is to be elected and no candidate obtained the required majority in the first ballot, a second ballot shall be taken, which shall be restricted to the two candidates obtaining the largest number of votes in the first ballot.

**Rule 21**

In the case when a vote is equally divided on matters other than elections, a second vote shall be taken. If this vote is also equally divided, the proposal shall be regarded as rejected.

V. **LANGUAGE**

**Rule 22**

English shall be the working language of UN-GGIM: Europe.

**Rule 23**

A speaker may use a language other than English if they provide for interpretation into English.

VI. **MEETINGS**

**Rule 24**

Attendance at meetings of UN-GGIM: Europe shall be by invitation. UN-GGIM: Europe Plenary and Executive Committee meetings and those of the Working Groups shall be open to members of all UN-GGIM Regions and to others by invitation.

VII. **PARTICIPATION OF ADVISORS AND OBSERVERS**

**Rule 25**

The Chair may seek the opinions of Observers members and invited topic experts.