

# UN-GGIM & UN SDGs – How can INSPIRE support the better integration of geospatial information and statistics and the UN SDG monitoring?

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UN-GGIM  
EUROPE

UNITED NATIONS  
COMMITTEE OF EXPERTS ON  
GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT



SUSTAINABLE  
DEVELOPMENT GOALS



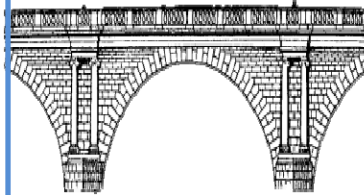
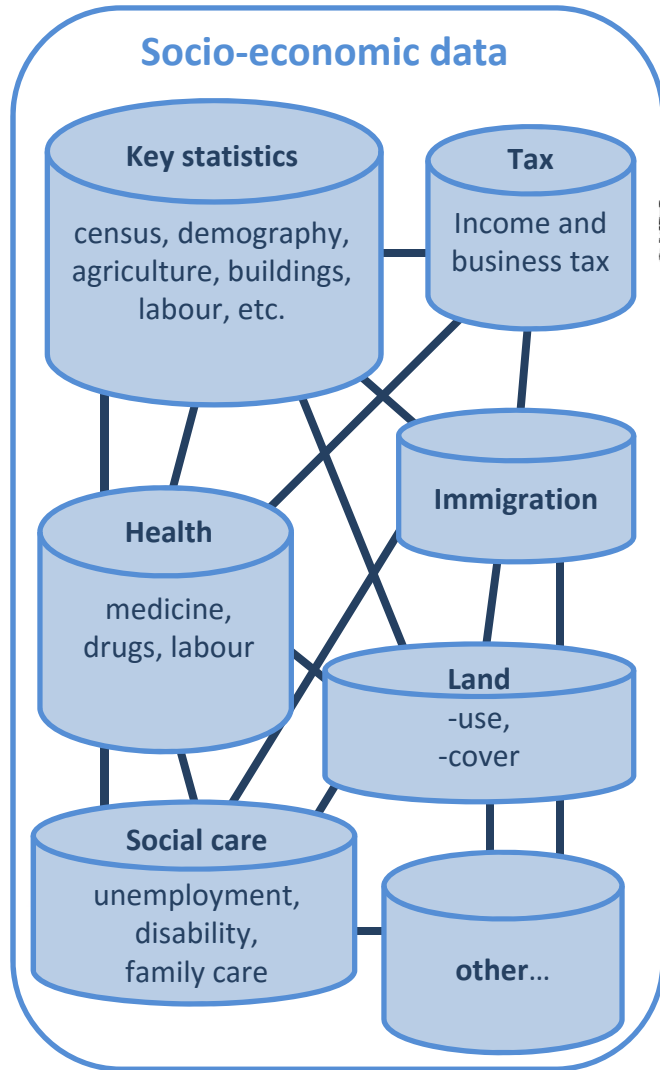
# Content

- Connecting geospatial and statistical communities – „Building bridges“
- UN SDG indicators through a ‚geographic location lens‘
- UN-GGIM: Europe – WG Data Integration to support the global UN SDG monitoring using INSPIRE



# Connecting geospatial and statistical communities

## Statistical Community



Bridge  
Between  
Statistics  
and  
Geospatial

Source: Petri, Eurostat

## Geo Community

**Spatial Data Infrastructure**  
– Quality, License, time stamps, ...

**INSPIRE Annex I & II spatial data sets & services**

Administrative Units

Addresses, geogr. Names

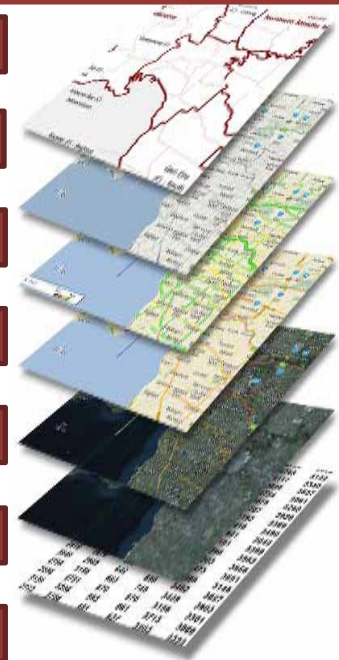
Transport, Hydrography

Land and Properties

Elevation

Orthophoto/Remote Sensing

Positioning



# Connecting geospatial and statistical communities --- 2021 Round of Censuses ---

- *“... undertaking a census can provide a **catalyst for the statistical and mapping agencies** to work together to the benefit of both agencies and the community. Even more importantly and at both the global and regional levels there is a continuing initiative to ensure a **complete integration of statistical and geospatial information** as a critical piece of national systems for providing comprehensive overview of many social, economic and environmental phenomena.”*

**Principles and Recommendations for Population and Housing Censuses: the 2020 Round** Rev 3, March 2015

Statistical Commission

**The 2021 round of censuses is an opportunity to address this issue:**

- by collecting statistical and geospatial data at the same time
- collecting and geocoding at detailed capture levels of geography and aggregating to higher levels, geocoding and grid statistics
- global statistical and geospatial framework



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# UN-GGIM: Europe – Work Plan 2015-2018

The substantial part of the proposed Work Plan for 2015 – 2018 is the continuation of the Plan adopted in 2015:

## Work Group A: Core Data

1. Specifications of core data (*End of 2016*)
2. Economic model for production & distribution of core data (*End 2017*)
3. Existing political & financial frameworks supporting core data availability (*Mid-2018*)

## Work Group B: Data Integration

1. Definition of the priority user needs for data combinations (*accomplished*)
2. Recommendation for implementing prioritized combinations of data (*Mid-2016*)  
→ To be completed in November 2016
3. Recommendation how to manage side-effects induced by data combinations (*Mid-2016*)  
→ To be completed in October 2016

→ **Follow-up work plan 2017 – 2020:** “As a European contribution to the global process on developing a framework for monitoring UN SDG indicators, UN-GGIM: Europe will through the WG on “Data Integration”, ensure a two-way interaction with the IAEG-SDG Working Group on Geospatial Information.”



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# SUSTAINABLE DEVELOPMENT GOALS



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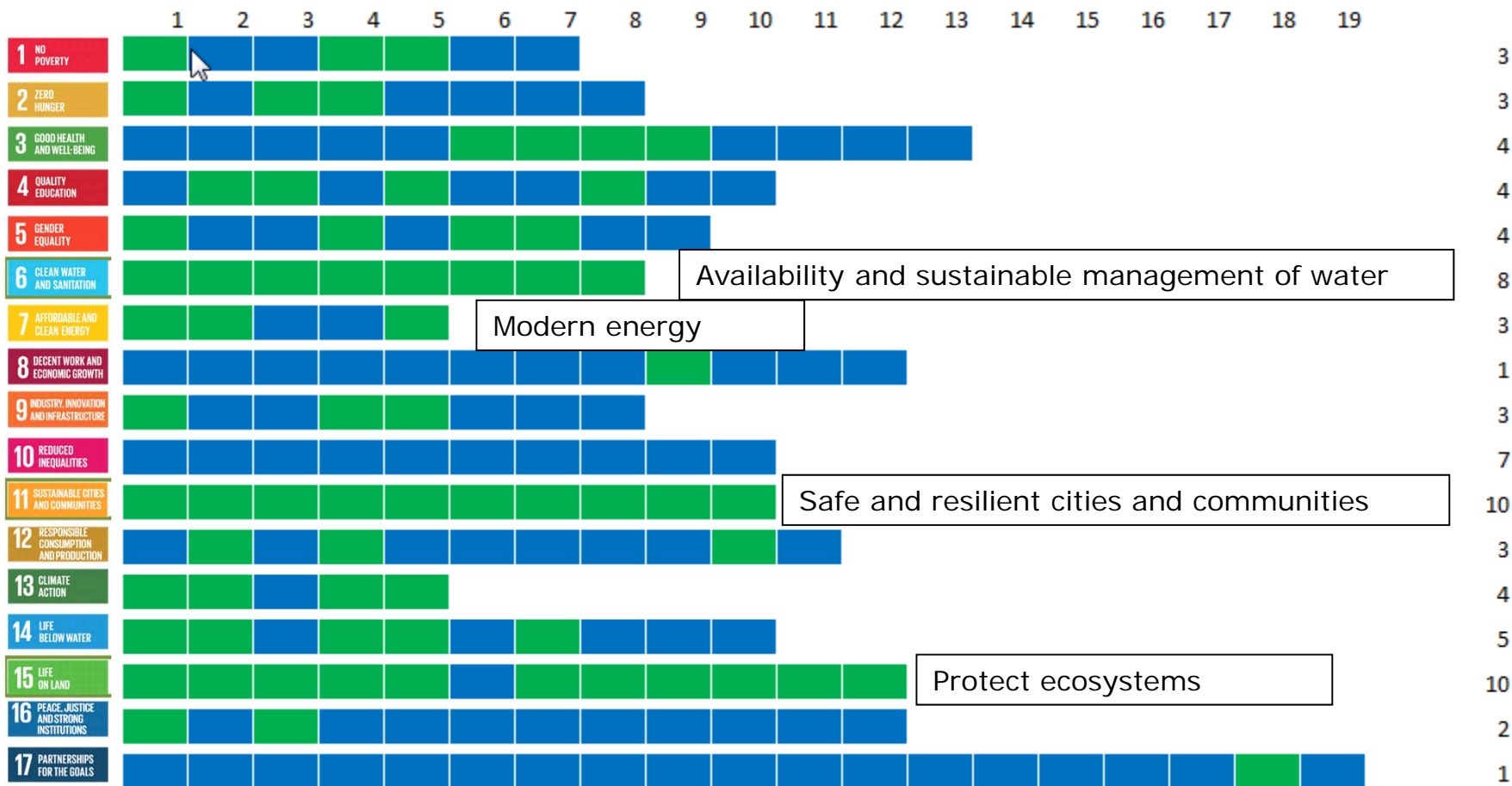




# SUSTAINABLE DEVELOPMENT GOALS

## 17 goals and 169 targets

1/3 geospatial (Eurostat)      2/3 no geospatial relation

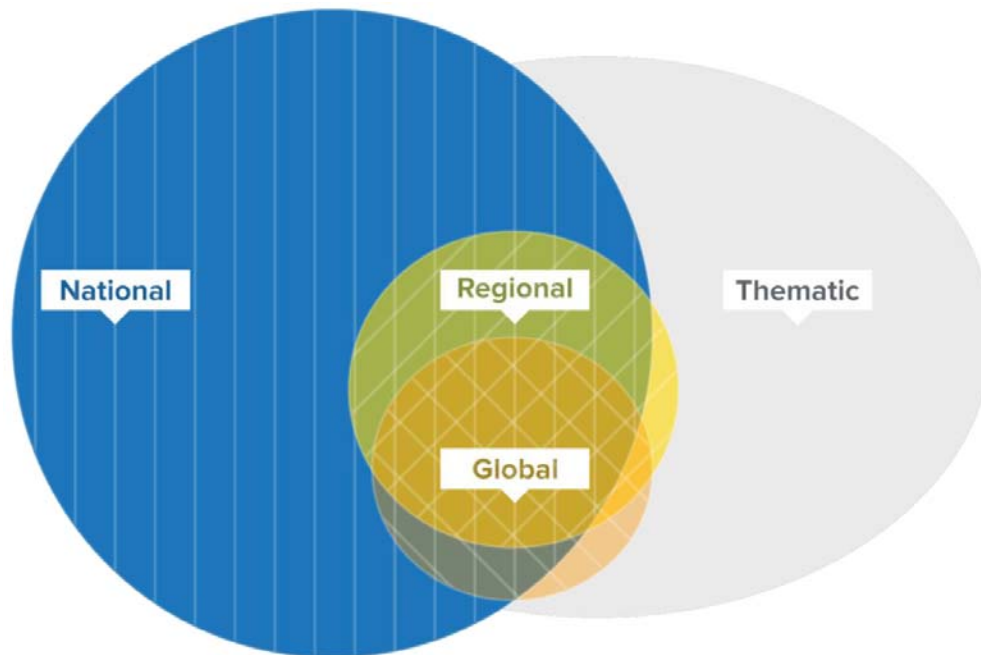


Source: Eurostat





# SUSTAINABLE DEVELOPMENT GOALS



## Global monitoring:

- Each target (169) shall be measured → at least 1 indicator/target
- Global indicators to be measured by all Members States
- Additionally regional and national indicators
- Predominantly taken from official data
- Status - # 231 indicators:
  - 40% negotiated (calculation possible)
  - 30% to be adapted
  - 10% calculation not yet possible
  - 20% to be determined





# SUSTAINABLE DEVELOPMENT GOALS

Examples: geospatial data can support the indicator measurement



Indicator 2.4.1:

Percentage of agricultural area under sustainable agricultural practices

**Denominator:** Agricultural Area = sum of arable land + permanent crops + permanent meadows and pastures (FAOSTAT)

**Numerator:** Land areas under productive and sustainable agricultural practices are those where indicators selected across the environmental, economic and social dimensions reach certain predefined values



Indicator 6.5.2:

Proportion of transboundary basin area with an operational arrangement for water cooperation

Indicator 6.6.1:

Change in the extent of water-related ecosystems over time



Indicator 15.1.1:

Forest area as a proportion of total land area

Indicator 15.3.1:

Proportion of land that is degraded over total land area

Indicator 15.4.2:

Mountain Green Cover Index

<http://spaceflightnow.com/soyuz/vs07/images/>  
<http://www.d-copernicus.de/>



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# SUSTAINABLE DEVELOPMENT GOALS

## Possible conflicts of interest for the monitoring and reporting...



**Competition of different actors**  
concerning the definition of methods, coordination



**Competition of different analysis levels**  
global vs. national vs. regional



**Competition of available geospatial data**  
remote sensing data vs. In-situ (geospatial reference vs. thematic)



**Competition of different analysis methods**  
for different resolution levels / scales



**Information exchange and coordination needed**  
between organisations, working groups (national, European)

Lessons learned from the  
INSPIRE framework and  
implementation...







# SUSTAINABLE DEVELOPMENT GOALS

There are still some questions to be answered...

- Who is in charge nationally to consolidate the information for the Members States?
- Which national ministry will be in charge for the coordination?
- Which national organization collects and submits the reports to the UN?
- Which national organisation validates the information compiled for the UN?
- What about regional analysis for Europe?
- What cooperation efforts between NSIs and NMCA's are envisaged?

Roles and tasks for the NMCA's, NSIs,...

INSPIRE (and Copernicus) for European analysis and reports



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# UN structure for the SDG monitoring

global

Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG SDGs)

- provide a proposal of a global indicator framework (and associated global and universal indicators)”

IAEG SDGs Working Group on „Geographic Information“ (IAEG SDG WG GI)

- advance the understanding and the role of geospatial information in contributing to the indicator framework

regional

UN-GGIM:Europe Work Group „Data Integration“

- Contribute to the global process and ensure a two-way-interaction with the IAEG SDG WG GI



# Support of „Task Team UN-GGIM“ for IAEG SDG (led by DK) 2016

2030 Agenda - Sustainable Development Goals	Geospatial context	Target	Indicator	Addresses	Administrative units	Built-up area polygons	Cadastral parcels	Geographical names	Habitats and biotopes	Transport networks	....	Additional geometry
<b>Goal 1</b>	<b>End poverty in all its forms everywhere</b>											
<b>Indicator disaggregation:</b> (List the indicator disaggregation, geographic location and other characteristics of the implementation of the SDGs).		1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	X	Using INSPIRE framework and structures...							
<b>Current suggested use of geospatial data for</b> (by the existing metadata – the “as-is” situation).												
<b>Suggested geospatial data integration</b>												
<b>GAP analysis:</b> (Describe what changes in use of suggested/current procedure for monitoring the indicators - going from the “as-is” situation in the current situation to the “to-be” situation).												
<b>List required geospatial data:</b> (Develop a list from themes which are required to support the “to-be” situation).		<b>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</b>										
<b>Data quality requirements:</b> (List in general terms relevant parameters: Resolution, completeness, location accuracy, etc. certain international standards should be followed, resolution and disaggregation).		9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1 Proportion of the rural population who live within 2 km of an all-season road		X					X		
<b>Data availability:</b> (List the data availability: 1) geospatial data, 2) Source: Accessible through services or are there restriction on use).												
<b>Data collection:</b> (Describe how the geospatial data are collected – are there many sources to collect from).		<b>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</b>										
<b>Data interpretation:</b> (Describe which analysis, procedures and comparisons are needed to provide the results needed to support the reporting requirements (“to-be” situation)).		11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities		X	X						“Open space” polygons
<b>Method of integration:</b> (Describe how the geospatial data are envisaged to be integrated in the monitoring cycles).												



# Tasks assigned to IAEG SDG WG GI supported by the UN-GGIM:Europe WG Data Integration 2016-2017

- Review the agreed global indicators through a 'geographic location' lens;
- Review the "metadata" compiled for the global indicators through a 'geographic location' lens;
- Consider and review the tier classifications for the agreed global indicator, their level of "maturity" and appropriateness from a 'geographic location' lens;
- Identify existing geospatial data gaps, geospatial methodological and measurement issues;
- Consider how geospatial information can contribute to the indicators and metadata;
- Propose means of addressing data gaps and issues



# Tasks assigned to IAEG SDG WG GI supported by the UN-GGIM:Europe WG Data Integration **beyond 2017**

- Propose **strategies for undertaking methodological work** on specific areas for improving disaggregation by geographic location and in particular for national and sub-national reporting
  - And in this regard, to report to the High-Level Group, Statistical Commission and Committee of Experts on Global Geospatial Information Management; and
- Review options and provides guidance to IAEG-SDGs on the **role of National Statistical Offices** in considering and applying Earth observations and geospatial information primarily as a means to contribute to and validate data as part of official statistics.



# Specific tasks for the UN-GGIM:Europe WG Data Integration

- Develop practical examples (best practice) on specific national implementations on how Geospatial Information can support in processes in achieving the SDGs and where the need shows to measure, monitor and mitigate challenges
- suggest links between communities: demographic, statistical and environmental data together with the Geospatial Location – ranging from the conceptual level to specific indicators.





# How can INSPIRE support or be used?

- Availability of INSPIRE spatial data sets & services will change the methods for data integration and interaction of communities
- Lessons learned from the INSPIRE framework and implementation will be beneficial for the setup of the national, regional and global UN SDG indicator framework
- INSPIRE (and Copernicus) spatial data & services shall be used for European UN SDG analysis and reports



# Thank you for your kind attention!



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