

## Working Group on Data Integration

*Statistics Portugal participation as a WG member*



**UN-GGIM: EUROPE**

UNITED NATIONS INITIATIVE ON  
GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT

Workshop on Statistics for  
Sustainable Development Goals

Genève, 17-18 April 2019



**UN-GGIM: Europe** is a regional committee of the United Nations Initiative on Global Geospatial Information Management

It was formally established on 1 October 2014 and aims to ensure that NMCA and NSI, EU institutions and associated bodies work together to contribute to a more effective management and availability of geospatial information

### Executive Committee

<b>Chair</b>	Tomaz Petek, Slovenia
<b>Vice Chairs</b>	Dorine Burmanje - Netherlands Antonio Arozarena Villar - Spain
<b>Member</b>	Hansjörg Kutterer, Germany
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<b>Member</b>	Janusz Dygaszewicz, Poland
<b>Member</b>	Francisco Vala, Portugal
<b>Member</b>	David Henderson, United Kingdom of Great Britain and Northern Ireland

### Three Working Groups



#### **Core data**

Contact: François Chiré (França)



#### **Data integration**

Contact: Pier-Giorgio Zaccheddu (BKG, Alemanha)



#### **Geodetic Reference Frame**

Contact: Markku Poutanen (NLS, Finland)



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**Statistics Portugal** has been actively participating in the UN-GGIM: Europe initiative since the beginning, mainly in the activities of the **Working Group on Data Integration**

**Statistics Portugal** participated in the activities developed in the work plan for the period 2015-2017 and assumed the coordination of one of the two tasks established for the work plan defined for the period 2017-2019

The participation of **Statistics Portugal** in the activities of the WG on Data Integration has benefited from a close articulation with Portugal's NMCA  
→ DGT - Directorate-General for Territory



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## UN-GGIM: Europe WG on Data Integration

### Work plan 2015-2017 – Tasks developed

#### Task 1

##### Definition of priority user needs for combinations of data

Lead: Sweden (SE), Contact point: Marie Haldorson, Statistics Sweden

Country representation: NMCA & NSI Sweden, NMCA France, NMCA & NSI Poland, **NSI Portugal**, Germany, NMCA Netherlands, NMCA Denmark, NMCA United Kingdom, JRC (EC)

Report [Data Integration – Definition of priority user needs for combinations of data](#) → **11 PT use cases**

#### Task 2

##### Recommendations for methods implementing the prioritized combinations of data

Lead: United Kingdom(UK), Contact point: James Norris, Ordnance Survey

Country representation: NMCA United Kingdom, NSI Austria, NSI Turkey, NSI Italy, NSI Germany, NSI Portugal

Report 1 [Review of current European Interoperability Frameworks and geospatial and statistical integration projects regarding methods of combinations of data](#)

Report 2 [Review current use of data from multiple sources to identify case studies and best practices relevant for combinations with core data](#)

#### Task 3

##### Recommendations about how to manage side-effects induced by data combinations

Lead: Austria (AT), Contact point: Markus Jobst, BEV Austria

Country representation: NMCA Austria, NMCA Finland, NMCA United Kingdom, NMCA Germany, Eurostat (EC)

Report [How to manage side-effects induced by data combinations](#)



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# Task 1

## Definition of priority user needs for combinations of data

**Statistics Portugal** provided use cases with a focus on geospatial and statistical integration, including spatial analysis tools for data combination, visualization and dissemination

### Use Case on Accessibility to Schools in Portugal

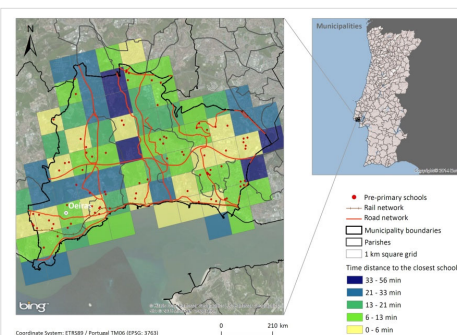
*"In Portugal a study was carried out using census data linked to buildings in combination with road network and school locations.*

*The result showed the time distance to the closest pre-primary school on foot, both for census districts and for grids. This way it was possible to derive new statistical information relevant for decisions on school locations."*

#### Relevant use case for SDG 4



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Time distance to the closest pre-primary school on foot by 1 km square grid [Oeiras municipality]



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# Task 1

## Definition of priority user needs for combinations of data

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### Use Case on Potential territorial coverage of broadband internet access in Portugal

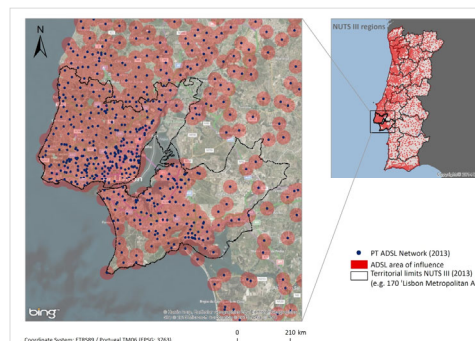
*"Based on the theoretical curves that relate the speed according to the distance for copper cables and resorting to GIS techniques it was possible to calculate areas of influence within a 2 500 m range.*

*The combination of applied buffer zones with the Administrative Map of Portugal and by using Geospatial Analysis techniques, made it possible to obtain the broadband internet access areas of influence at a regional and local level. This analysis allowed mapping the broadband coverage level of the territory. "*

#### Relevant use case for SDG 9



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



Broadband internet access areas of influence (buffer zones)



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## UN-GGIM: Europe WG on Data Integration

### Work plan 2017-2020 – Tasks defined

#### Task 1

#### Policy Outreach Paper – Lead by Eurostat (Ekkehard Petri)

- ✓ Promote the benefits of the integration of statistical and geospatial data aiming at responsible ministries but also relevant stakeholders
- ✓ Make use of recommendations and findings of WG reports already published

#### Task 2

#### Select and analyse SDG indicators – Lead by NSI PT (Francisco Vala)

- ✓ Analyse data integration aspects
- ✓ Reflect cross-cutting issues regarding the integration of geospatial and statistical data based on a Global, European and National perspective



***The territorial dimension in SDG indicators: geospatial data analysis and its integration with statistical data***



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## ***The territorial dimension in SDG indicators: geospatial data analysis and its integration with statistical data***

### AIM

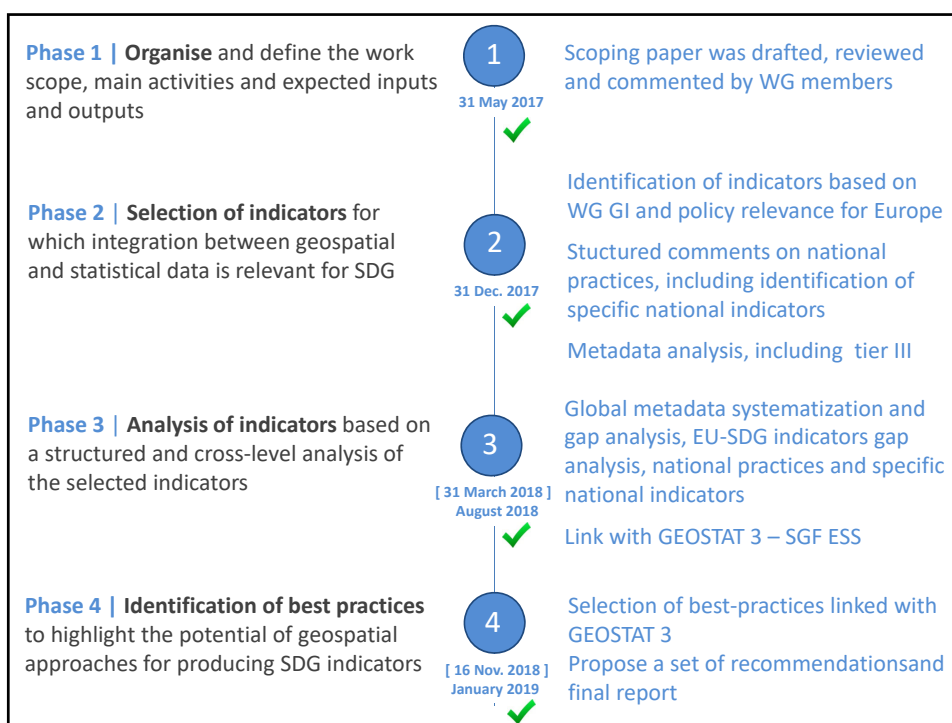
To address the territorial dimension of the Sustainable Development Goals indicators by focusing on the contribution of geospatial data analysis and its integration with statistical data based on a global, European and national perspective

The work took into consideration, at the global level, the activities of the IAEG-SDG WG GI, and also the background and experiences of European and national initiatives addressing the SDGs from a geospatial perspective



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Selected SDG indicators			
	<b>11.2.1</b> <i>tier II indicator</i> Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities Indicator coordinator: Austria (NSI)		<b>11.3.1</b> <i>tier II indicator</i> Ratio of land consumption rate to population growth rate Indicator coordinator: Portugal (NSI)
			<b>15.1.1</b> <i>tier I indicator</i> Forest area as a proportion of total land area Indicator coordinator: Italy (e-GEOS)
	<b>11.7.1</b> <i>tier III indicator</i> 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 Indicator coordinator: Sweden (NSI)		

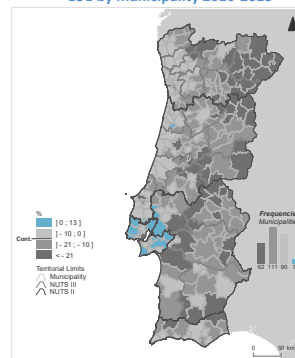


### 11.3.1 Ratio of land consumption rate to population growth rate

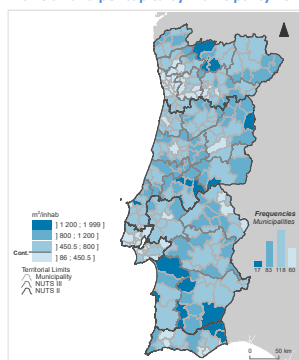
Based on the Land Use and Land Cover Map (COS) produced by the Directorate-General for Territory (PT NMCA) Statistics Portugal published a set of Land Use and Land Cover Statistics (LULC Statistics)

Calculation at municipality level of SDG 11.3.1 indicator based on the **Land Use Efficiency (LUE)** formula as proposed by the Joint Research Centre

LUE by municipality 2010-2015



Artificial land per capita by municipality 2015



Dissemination of the standard statistical methodological document

Challenge as LULCStats was the first statistical operation disseminated by Statistics Portugal based on a geospatial data source and on its integration with statistical data

Calculation at municipality level of the corresponding EU SDG indicator **Artificial land per capita** defined by Eurostat to monitor Goal 11 at the EU level



INSTITUTO NACIONAL DE ESTATÍSTICA  
STATISTICS PORTUGAL

The participation of **Statistics Portugal** in UN-GGIM: Europe WG on Data Integration activities has provided an opportunity:

- 1 to be part of a relevant network focused on the discussion and promotion of geospatial and statistical data integration and to benefit from other experiences and best practices
- 2 to study and discuss experiments on combining geospatial and statistical data as a way to improve processes and methodologies, harmonize concepts, definitions and procedures, and produce relevant statistical indicators
- 3 to strengthen the collaboration with PT NMCA, including shared views in international forums and greater cooperation on each others projects

**A new mandate and work plan is set to be defined soon and a wide and active participation from European UN Member-States will be fundamental**



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