

Report from the UN-GGIM: Europe Working Group on Data Integration

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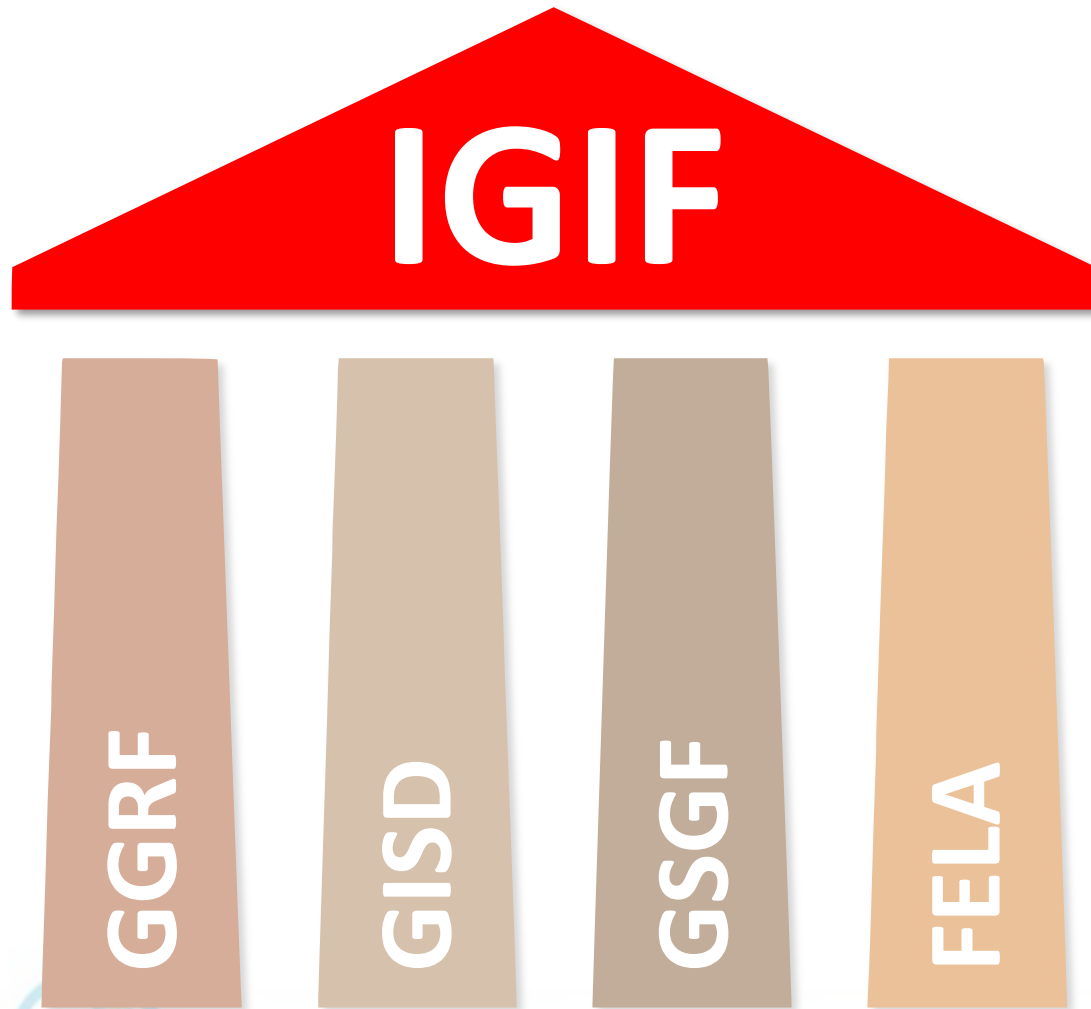
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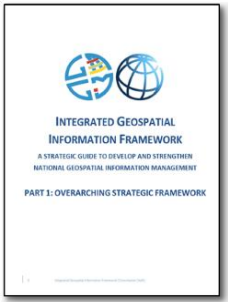
Joint UN-GGIM: EUROPE – ESS - UNECE meeting on the Integration
of Statistical and Geospatial Information
24 March 2021



UN-GGIM – Global Geospatial Information Management



Integrated Geospatial Information Framework (IGIF)



Global Geodetic Reference Frame (GGRF)



Framework on GI & Services for Disasters (GISD)



Global Statistical and Geospatial Framework (GSGF)



Framework for Effective Land Administration (FELA)



[...]

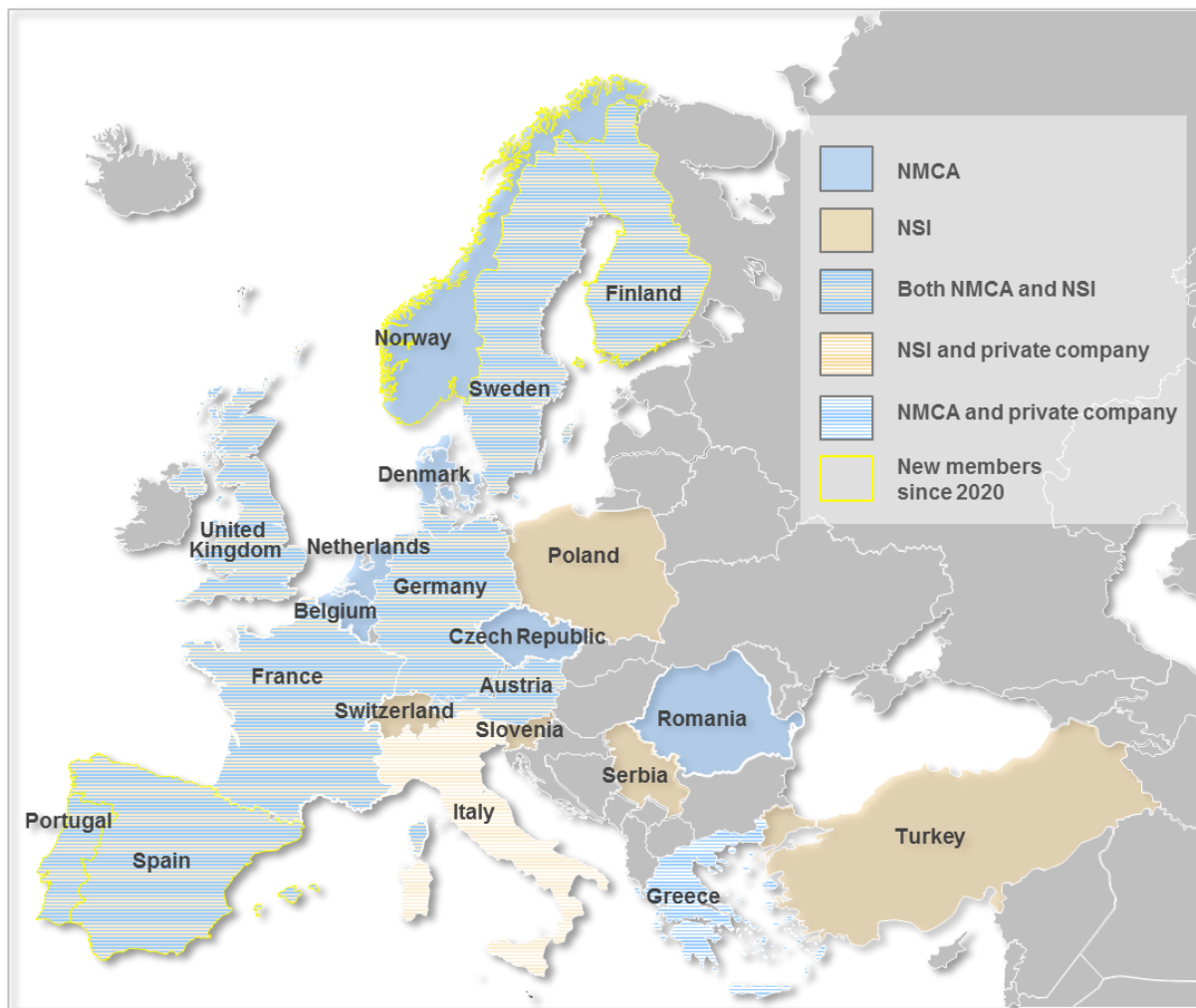


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Working Group on Data Integration – distribution across Europe



- 25-30 members from Member States affiliated to geospatial and statistical agencies
- Private companies
- Observer organisations, like Eurostat, JRC, EEA, University of Bonn



Work Plan of the Working Group 2019-2022

Task 1

Analysing further SDG indicators
→ Subgroup I, led by NSI Portugal

Task 2

Analysing future trends in data integration (methods)
→ Subgroup II, led by NMCA Belgium & Austria

Task 3

Advisory group for data integration issues



Task 1 **SDG indicator analysis (Subgroup I)**

Lead: Statistics Portugal (INE)

AIM

Provide methodological, operational and technical guidance in the use of geospatial data and statistics to compute SDG indicators, with a European and national perspective, and reflecting on solutions which may contribute to reduce statistical burden and increase the level of detail of SDG indicators

LINES OF WORK

- ✓ **Benchmarking pan-European data sources**
comparative analysis between pan-European and national methodologies, data sources and results
- ✓ **Integration of pan-European data sources with national data sources**
analyse the combination of pan-European with national data sources to extract new relevant information for indicators computation

EXPECTED OUTPUTS

- ✓ **Standard methodological/technical documents**
compiling the solutions analysed and the normative methodological guidance
- ✓ **Flyers/leaflets**
synthesising and illustrating the approaches analysed and the main results



Scoping Paper describing the work planned



The integration of geospatial data and statistics to compute SDG indicators:
requirements and practices

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


Version 1.0
2020-02-19

Endorsed by UN-GGIM: Europe
Plenary Meeting, June 2020



Task 1 SDG indicator analysis (Subgroup I)

- Assessment Matrix in March 2020
 - For 10 indicators Subgroup members provided input to an assessment matrix
 - A total of 12 replies were received, depending on the SDG indicator
 - Top Prio: **11.2.1, 15.3.1**
- Input from EEA in April 2020
 - Top Prio: 14.5.1, 15.1.1, 15.3.1
- Poll in July 2020
 - Express interest in the SDG analysis and select indicators
 - Top Prio: **11.3.1, 15.1.1**
- Templates for normative guidance on indicator calculation and recommendations



Indicator Calculation and Discussion & Recommendations:

11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

Rationale:

A. Indicator calculation and discussion builds upon UN use cases, discussing the methodology, data sources on pan-European data sources.

B. Normative guidelines is based on the previous syn including UNGGIM: Europe suggested operational recommendations on how to improve the Europea

General guidelines:

- Information should be presented in a clear, simple and su
- Whenever relevant insert links to reference documents a

A. INDICATOR CALCULATION AND DISCUSSION

1. DEFINITION

[UN definition]
[Present a clear definition of the scope of indicator being t
[Cross-reference with fields 2 'Indicator disaggregation' an

2. METHODOLOGY

[Present the outline of the methodology for indicator calcu
computation...]
[Cross-reference with field 5 'Methodology' and 12 'Altern

3. DATA SOURCES

[Identify and present the data sources with a focus on Pan
data sources systematization and discuss advantages and c
[Present separately national and pan-European data: four
[Cross-reference with fields 6 'Data sources', 7 'Data them
European and national data sources' of the template fram

Example of table to summarize information of geospatial d

Name	Source	Periods of reference available	Frequency

Example of table to summarize information for statistical d

Name	Source	Periods of reference available	Freq

4. COMPUTATION

[Present and discuss the calculation of the indicator using a step-by-step approach]
[Cross-reference with fields 9 'Geospatial data analysis and integration', 11 'Limitations and foreseen developments', 12 'Alternative approaches' and 13 'Integration of pan-European and national data sources' of the template framework]

5. RESULTS

[Present and discuss results in the form of maps/graphs of indicator calculation]
[Cross-reference with field 10 'Results' of the template framework highlighting i) national use cases results based on national and pan-European data sources (benchmarking); ii) combination of national data sources with pan-European to produce new insights/dimensions of analysis]

B. NORMATIVE GUIDELINES

1. ALGORITHM WORKFLOW

[Discuss approaches to calculate the indicator resorting to the algorithm workflow and using the decision tree presented below for both datasets and methodology]

Example on assessing data sources (indicator 11.2.1: public transportation stops)

```

graph TD
    Q1{Is national level GIS data available in public transport stops available in GIS format?}
    Q1 -- Yes --> Q2{Are there other data sources on public transportation stops available?}
    Q1 -- No --> Q2
    Q2 -- Yes --> Q3{Do these data include reliable information?}
    Q2 -- No --> Q4{Are there statistical survey data available (representing mobility in public transport services)?}
    Q3 -- Yes --> Q5{Do you have a reliable definition of bus stops and tram stops?}
    Q3 -- No --> Q4
    Q4 -- Yes --> Q6{Do you have a reliable definition of bus stops and tram stops?}
    Q4 -- No --> Q7{Use the location of public transportation stops without any further check to your knowledge. Do you have a reliable definition of bus stops and tram stops?}
    Q5 -- Yes --> Q8{Apply the national definition to select the GIS to be included in the creation of service areas}
    Q5 -- No --> Q9{Apply the proposed harmonized definition to select the GIS to be included in the creation of service areas}
    Q6 -- Yes --> Q8
    Q6 -- No --> Q9
    Q7 -- Yes --> Q8
    Q7 -- No --> Q9
    Q8 --> Q10{The national definition is used to select the GIS to be included in the creation of service areas}
    Q9 --> Q11{The proposed definition is used to select the GIS to be included in the creation of service areas}
    Q10 --> Q12{Use the location of public transportation stops without any further check to your knowledge. Do you have a reliable definition of bus stops and tram stops?}
    Q11 --> Q12
    Q12 -- Yes --> Q13{Use these data as a proxy to compute indicator 11.2.1. Do you have a reliable definition of bus stops and tram stops?}
    Q12 -- No --> Q14{Reporting on this indicator is not possible. A plan is needed for data provision}
    
```



Task 1 SDG indicator analysis (Subgroup I) – inputs from countries

SDG Indicator	Indicator coordinator	Inputs from WG Data Integration	Inputs from UNGGIM: Europe Secretariat call
11.2.1-Access to public transport	Jerker Moström - Statistics Sweden	11 inputs: AT, CH, DK, DGREGIO, FI, NL, PL, PT, SL SE, TR	Reply from Armenia
11.3.1-Ratio of land consumption	Eva Ivits-Wasser - EEA	6 inputs: AT, DK, FI, DE (U. Bonn), PT, UK	
15.1.1-Forest area	Annemarie Bastrup-Birk - EEA	5 inputs: AT, CZ, DE (BKG), RS, UK	Reply from Armenia https://sdg.armstat.am/15-1-1/ Input from Czech Rep.
15.3.1-Land degradation	Fabio Volpe - eGEOS	5 inputs: AT, ESTAT, FI, DE, IT	Reply from DK and LV Input from CH, Azerbaijan, Belarus

Task 1 SDG indicator analysis (Subgroup I) – next steps

Phase 1

ORGANIZE

Until 31 May 2020



- ✓ Create a concept note and a scoping paper with the main phases
- ✓ Consolidate the first list of SDG indicators
- ✓ Define assessment matrix
- ✓ Define a template framework for indicator analysis

Phase 2

SELECT AND ANALYSE

Until 31 March 2021

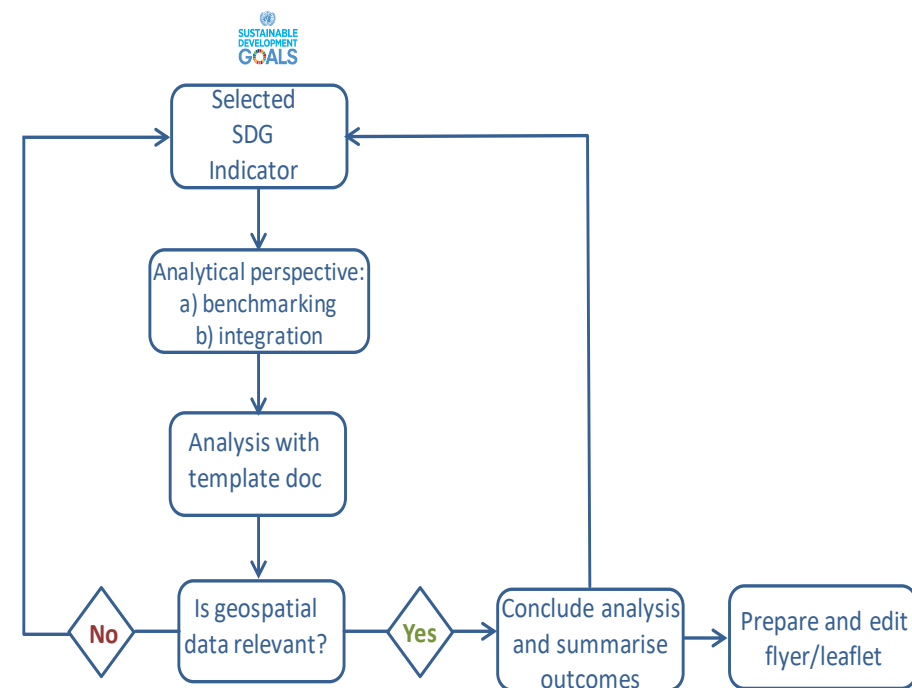
- ✓ Select SDG indicators on the result of the assessment matrix
- ✓ Nominate indicator coordinators
- ✓ Use template framework for indicator analysis
- Compile and review solutions and provide normative guidance

Phase 3

DOCUMENT

Until 31 December 2021

- Summarise the outcomes and as an input for flyer/leaflets
- Conciliate outcomes and findings with subgroup II for a conclusive report for future actions



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Task 2 Data Integration Methods (Subgroup II)

Lead: NMCA Belgium + Austria

AIM

Analysis of different data integration methods used across Europe like “Table Joining Services” (TJS), “Linked Data” (LD) or “geocoding”. The benefits, adequacy of each method to use cases will be scanned and best practices will be identified and realistic examples of these methods shown.

An impact assessment at economic and organization level will be investigated.

LINES OF WORK

- ✓ **Evaluate former deliverables** of the WG Data Integration
- ✓ **Evaluate links to the GSGF and GSGF-Europe and connect with GEOSTAT-4**
- ✓ **Identify best practices** for data input, creation, maintenance and management
- ✓ Consider **economic, political and social level** of each method
- ✓ **Determine Pros and Cons** of each methods **and recommendations**

EXPECTED OUTPUTS

- ✓ **Management summary (brochure)**
- ✓ **Other output options to be discussed...**

Scoping Paper describing the work planned



Data Integration Methods: Scoping Paper

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

Final
2020-06-18

Endorsed by UN-GGIM: Europe
Plenary Meeting, June 2020

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Task 2

National examples compiled and reviewed, covering:

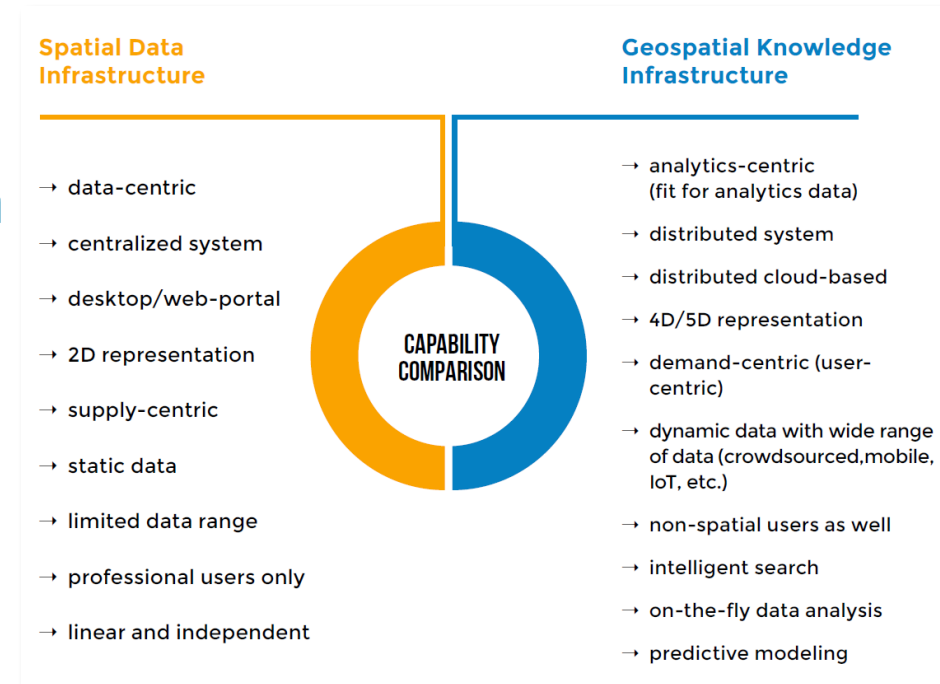
- Field of application (Project)
- Method (TJS, LOD, etc.)
- Description
- Agencies involved
- Data used
- Requirements
- Advantages and disadvantages
- Fitness to purpose
- Conditions for sustainable use (organisational)
- Categorisation (study, experimental, in use)
- Main message

[illegible]

Task 2 Data Integration Methods (Subgroup II)

The political and strategical context...

- 4th Industrial Revolution is changing the world
- New technologies will require a next-generation geospatial infrastructure
- Keywords: European Data strategy, European Green Deal, Data spaces,...
- Subgroup II evaluates the practical examples in the context of the new developments and will provide conclusions for the future data integration of geospatial and statistical data

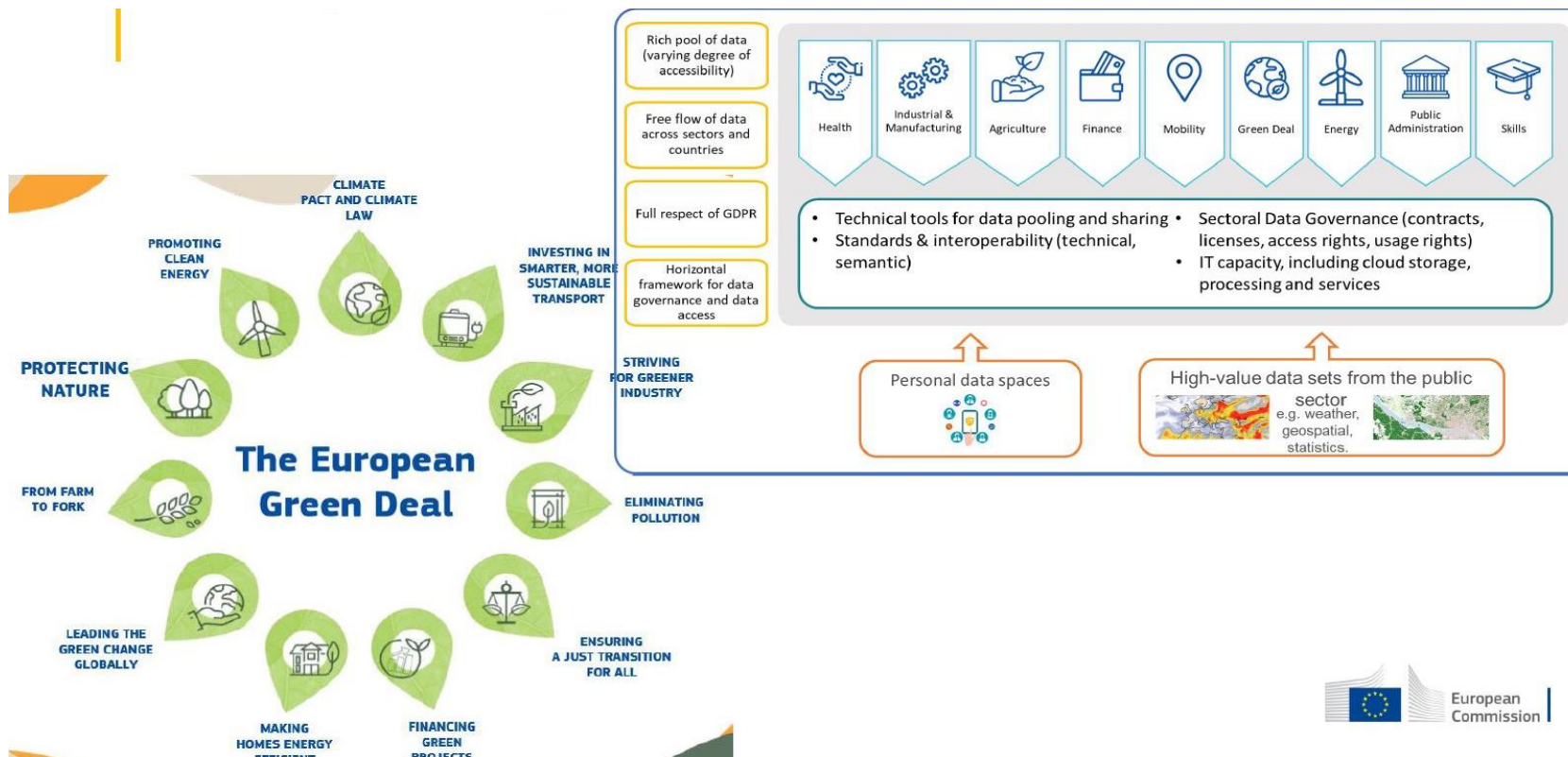


© <https://geospatialmedia.net/pdf/GKI-Discussion-Document-Ver1.0.pdf>



Task 2 Data Integration Methods (Subgroup II)

Keywords: European Green Deal, Data Spaces,...



Data integration as part of data spaces...



© https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/452667656/%5BPRES1%5D_MIG11_Policy_info.pdf



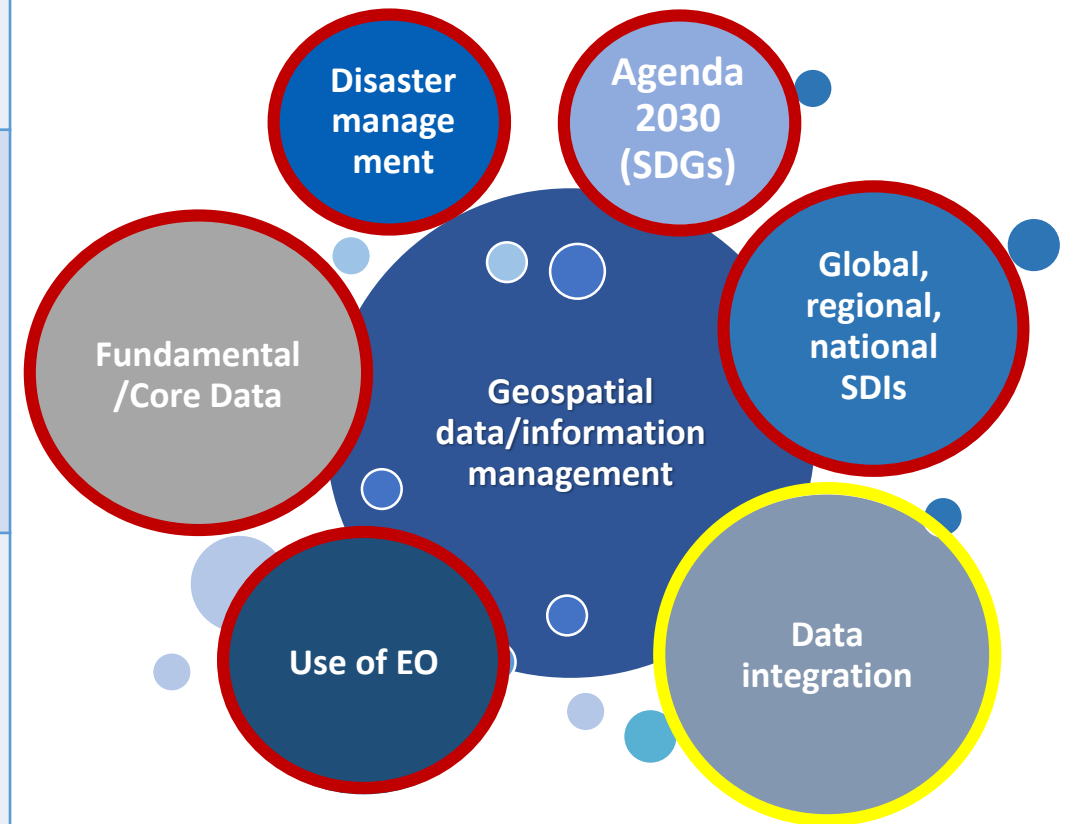
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Task 3 Working Group as “Advisory Group” – a thematic view...

Level	Stakeholder	Topics (keywords)
Global	UN-GGIM, StatCom (→ UN EG ISGI), UN DRR, Group on Earth Observation (GEO), (UN) IAEG SDG, ...	IGIF (GSGF), Sendai, SDGs,...
Europe	UN-GGIM: Europe, Eurostat (GEOSTAT-4) Other EC-DG, EEA,... UNECE, EuroGeographics, ...	GKI/Data spaces, INSPIRE, Copernicus/ EuroGEO,...
National	NSOs, NMCAAs,...	National SDIs,...



Where are we?

Task 1 - Subgroup I:

- Technical synthesis for SDG indicators
- Deliverable: Provision of operational and technical guidance

Task 2 - Subgroup II:

- Elaborate national best practice examples for data integration; but now looking for European ones
- Describe data integration methods in the context of the European strategies and developments (Data spaces, Geospatial Knowledge Infrastructure)
- Deliverable(s): (1) for senior advisers/managers and (2) a derived leaflet dedicated to policy makers

→ both tasks to be concluded most probably in December 2021



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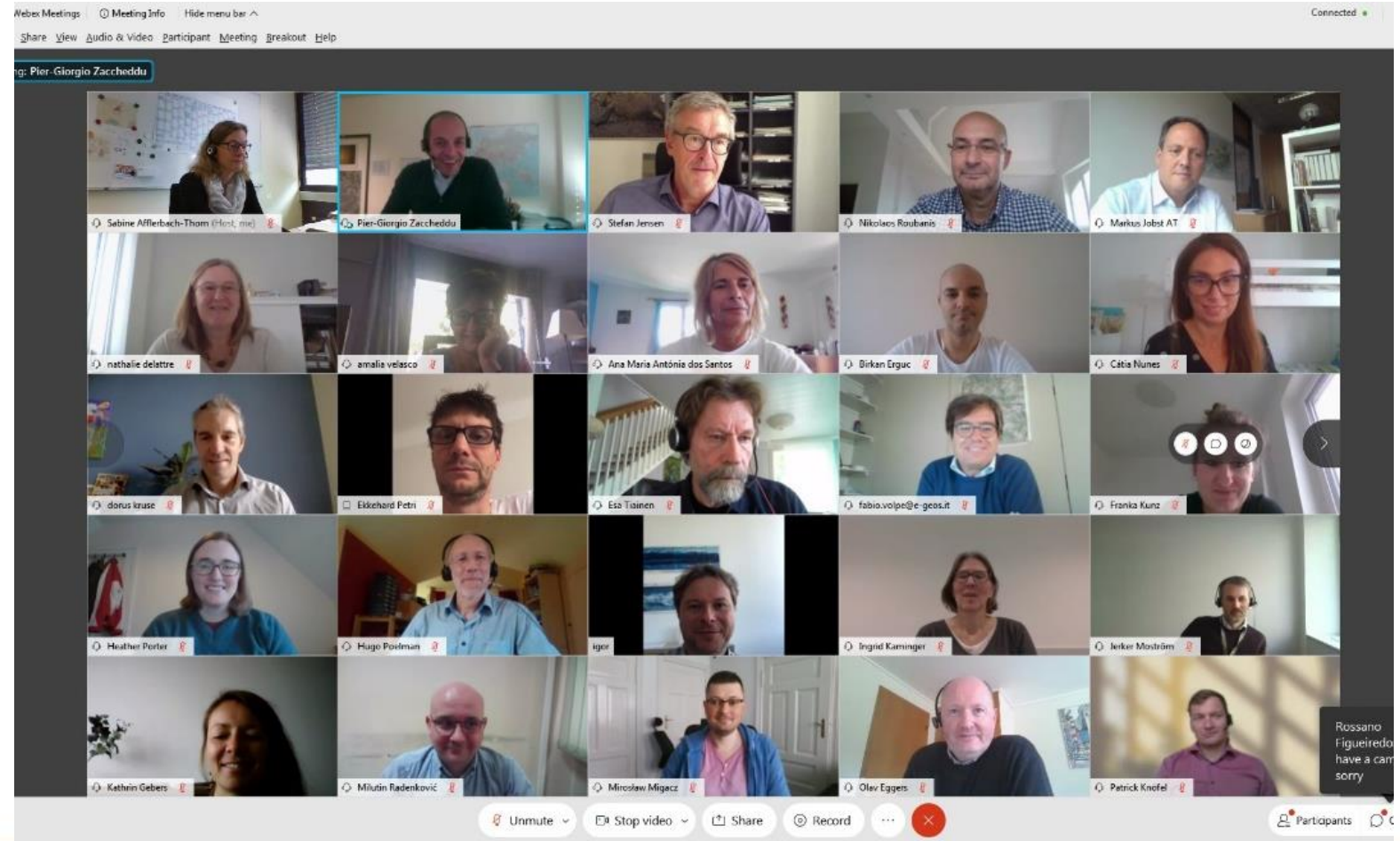
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Where are we?

Last Working Group meeting on the 29-30 September 2020, held virtually due to Corona pandemic, 40 participants

Several Subgroup meetings in the meantime



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Questions?

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