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Advancing on the Work Plan 2022 – 2024

DEVELOPING CAPACITY-ASSESSMENT TOOLS AND MATURITY MODELS FOR STATISTICAL AND GEOSPATIAL INTEGRATION

The Expert Group on the Integration of Statistical and Geospatial Information

Santiago, 2 - 3 December, 2022

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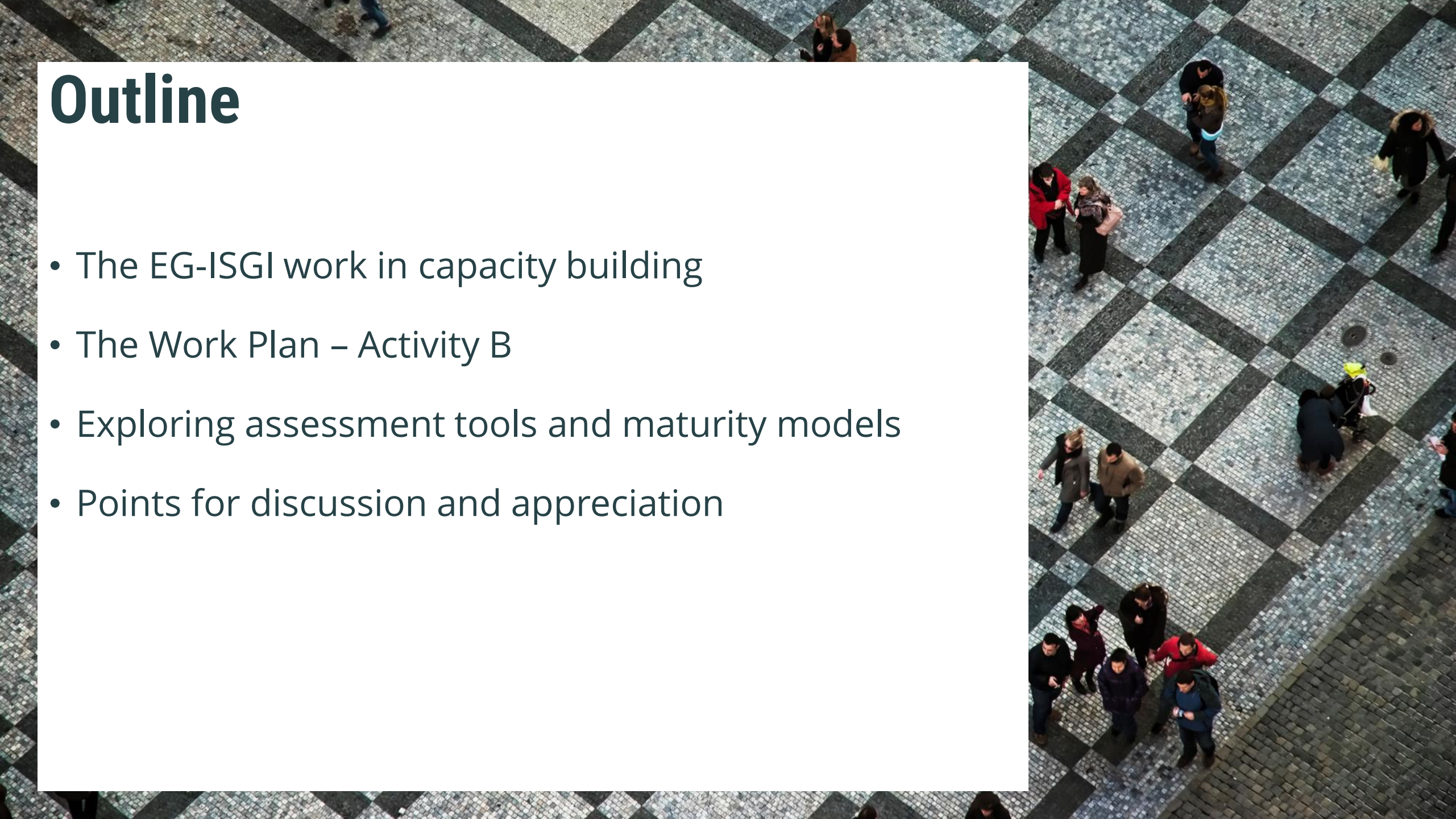
Outline

- The EG-ISGI work in capacity building
- The Work Plan – Activity B
- Exploring assessment tools and maturity models
- Points for discussion and appreciation



Capacity building – What has been done until now by the EG?

- The Global Statistical Geospatial Framework (GSGF)
- The Global Survey on Readiness to Implement the GSGF
- UN Statistics Wiki–pages on the GSGF
- How-to-article on Principle 1 - Use of fundamental geospatial infrastructure and geocoding
- The GSGF Implementation Guide
  - Including national experiences/recommendations – from 30 Member States
  - A living document, periodically revised by the EG-ISGI to reflect prevailing good practices, innovations and developments in this domain.

The Implementation Guide - Outline

- The Overall Implementation of the GSGF
- The Implementation of the Principles of the GSGF
  - Principle 1: Use of fundamental geospatial infrastructure and geocoding
  - Principle 2. Geocoded unit record data in a data management environment
  - Principle 3. Common geographies for the dissemination of statistics
  - Principle 4. Statistical and geospatial interoperability
  - Principle 5. Accessible and usable geospatially enabled statistics
- National Response to COVID-19
  - How has the GSGF supported your national response to COVID-19?
  - How could the GSGF have supported your national response to COVID-19, if it had been implemented? What were/are the barriers in its implementation?

EG-ISGI Work Plan 2022 – 2024:
B. 'Developing capacity-assessment tools and maturity models for statistical and geospatial integration'

'The Global survey to diagnose readiness at the country level for implementing the GSGF':

- Identified clear trends on the global progress of implementing and operationalising the GSGF.
- Underscored the importance of strengthening statistical-geospatial integration.

Deliverable:

- Explore the development of a **capacity-assessment tool** that helps countries assesses their **maturity of statistical-geospatial integration**.

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Rationale for self-assessment processes:

(Experiences from bilateral capacity building activities)

- Establishes a comprehensive common understanding of current state - for leaders and experts to see how it fits their strategies on statistical and geospatial integration
- Establishes a basis for a ToR when planning a project
- Starting point for structuring and prioritising tasks
- Crucial input to fact finding process of consultants/experts on missions (training or other activities)

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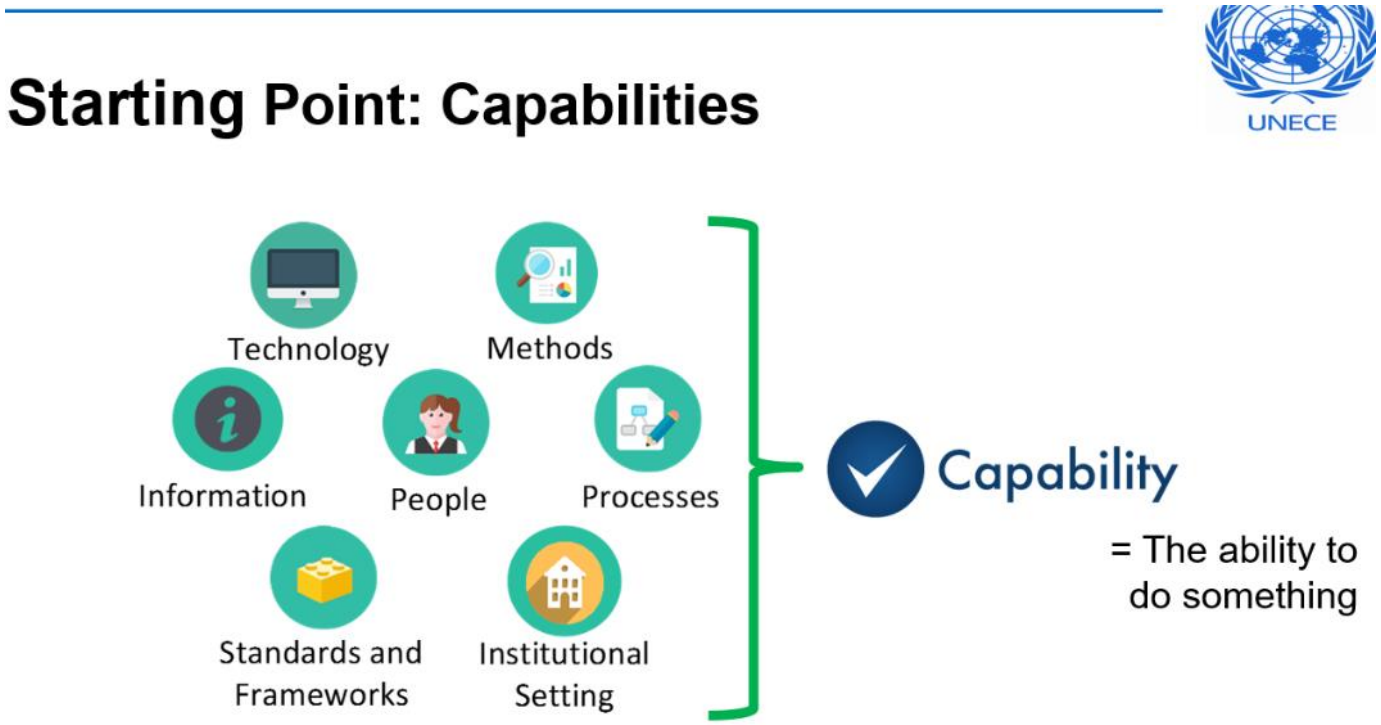
Exploring capacity-assessment tools and maturity models 1.

The Task Team Capacity Building has gathered information on some assessment tools and a couple of maturity models:

- For ‘fact finding’ on what is available and possibly adaptable to fit the task at hand.
- The TT CB met virtually 15 November
  - Short presentations on the tools and models
  - Discussed pros & cons
  - Agreed on a list of features/specifications that assessment tools and maturity models should meet (later in this presentation).

Exploring assessment tools … 2.

- **UNECE (Steven Vale):** Maturity Models for Official Statistics

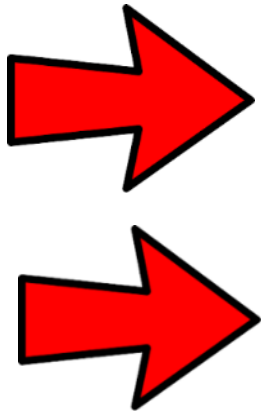


- By addressing only '…*one of these dimensions, e.g. training people, or providing software, this will not ensure that an organisation has the capability to do seasonal adjustment!*'

Maturity Model – generic example

- **Focus** on capacity development where it is most needed

	Maturity Levels				
Dimensions	**Initial awareness**	**Pre-implementation**	**Early implementation**	**Corporate implementation**	**Mature implementation**
People	Description	Description	Description	Description	Description
Methods	Description	Description	Description	Description	Description
Technology	Description	Description	Description	Description	Description
Standards / frameworks	Description	Description	Description	Description	Description
Processes	Description	Description	Description	Description	Description
Information	Description	Description	Description	Description	Description
Institutional setting	Description	Description	Description	Description	Description



More Information

- UNECE Statistical Capacity Development Strategy
  - https://unece.org/sites/default/files/2020-11/Statistical%20capacity%20development%20strategy%20final.pdf
- Modernisation Maturity Models (GSBPM, GAMSO, etc.)
  - https://statswiki.unece.org/pages/viewpage.action?pageId=129172266
- Risk Management Maturity Model
  - https://statswiki.unece.org/display/GORM/Chapter+8%3A+Risk+management+maturity+model
- Data Stewardship Maturity Model
  - In preparation

Exploring assessment tools … 3.

- **Paris 21 (Philippe Gafishi):** Draft – ‘Self-assessment tool on geospatial data integration in official statistics (SAT-Geo)’ – an 8-step system with checklists

More Information

- Paris21 Guide on Geospatial Data Integration in Official Statistics
  - https://paris21.org/geospatial
- The NSDS lifecycle
  - https://new.nsdsguidelines.paris21.org/en/nsds-lifecycle
- ADAPT model
  - https://paris21.org/advanced-data-planning-tool-adapt
- Tool for Assessing Statistical Capacity
  - https://www.census.gov/data/software/tasc.html

Exploring assessment tools … 4.

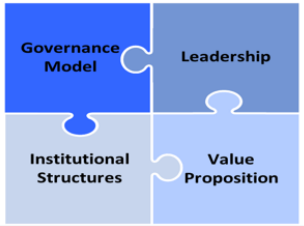
World Bank IGIF Baseline Diagnostic Tool

- Huge! Spreadsheets. Weighted scores
- The Data Audit concept could be simplified and become useful.

- ‘The primary purpose of the DT is to collect the necessary information to complete an assessment of the baseline (current state) of development of the Spatial Data Infrastructure (SDI).’

World Bank IGIF Baseline Diagnostic Tool

STRATEGIC PATHWAY 1

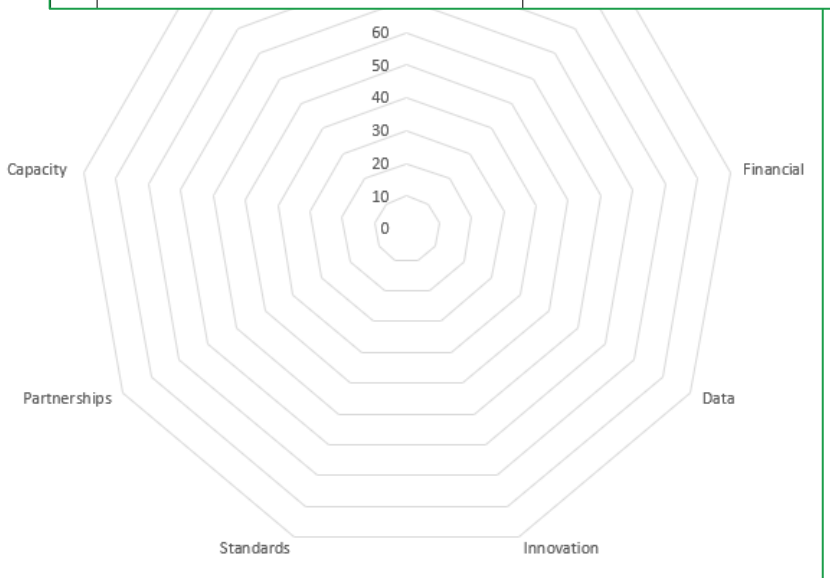


Governance and Institutions

This strategic pathway establishes the leadership, governance model, institutional arrangements, and a clear value proposition to strengthen multi-disciplinary and multi-sectoral participation in, and a commitment to, achieving an Integrated Geospatial Information Framework.

The objective is to attain political endorsement, strengthen institutional mandates and build a cooperative data sharing environment through a shared vision and understanding of the value of an Integrated Geospatial Information Framework, and the roles and responsibilities to achieve the vision.

Ref	Indicator	Scoring Guide	Notes from Interview	Score	Weight	Weighted Score	Guidance
1,1	**LEADERSHIP**: Is there a "advocate" in government that is leading, engaging and promoting the benefits of a National SDI across all levels of government organizations, and with the private sector, academia, and the local community?	0 = None. 25 = Informal role. 50 = Defined role and person exists with vision. 75 = Actively driving change across government with tangible outcomes. 100 = Actively driving change across government, the private sector, academia, and the local community with tangible outcomes.		0	1	0	**This indicator assesses the strength of t the National SDI initiative.** There should be a clearly identifiable individu influential, that is actively leading, engaging a National SDI vision and associated benefits a groups, resulting in tangible outcomes towar development and implementation of a Nation government digital transformation agenda. Tl political buy-in and provides support at crisis program.
1,2	**GOVERNING BODY**: Has a Governing Body been established (or part of Digital Transformation governance) to provide leadership, direction and oversight for SDI-related activities and projects?	0 = None. 25 = Leader and institution appointed to establish Governing Body and governance model. 50 = Terms of Reference of Governing Body agreed. 75 = Members appointed to Governing Body. 100 = Governing Body active and starting to deliver elements of the SDI.		0	1	0	**This indicator identifies the maturity of th**



Icon	Data Theme	Themes / Datasets Currently Available	Responsible Organization	Does the annual budget adequately support updating?	Data Format and Technology	Geos ar
	Example: Geographical Names	*The Official Geographic Names Dataset includes: approved road names, and geographical features such as hills, monuments, waterways, ocean features (Inlets), localities, and administrative boundaries.*	*Geographic Names Office, Survey Department, Ministry of Lands*	*The annual budget supports 4 full time staff. There is typically a 3 month lag between the request for the approval of a name and its gazettal.*	*Official Geographic Names Dataset - Microsoft Excel File (Structured fields). Other geographic names datasets (1i) Cadaster (with Road Names) - MicroStation; (ii) Topographic Database and Census Bureau data - ArcGIS.*	*There nami use. guide place publis*
	Geodetic Reference Frame					
	Geographical Names					
	Addresses					
	Functional Area					
	Buildings and Settlements					
	Land Parcels					
	Transport Networks					
	Elevation and Depth					

More Information

Version Information:		
		Diagnostic Tool: version 4.0 Released: 28th August 2021
		IGIF Part 2: UN Publication Approved August 2021 with minor revisions to January 2021.
Copyright Statement		

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Exploring assessment tools … 5.

GEOSTAT 4-project (Rina Tammisto):

Established the 'GSGF Europe'

- Includes 'Requirements & Recommendations' which:
  - Breaks down the GSGF into small, concrete and manageable pieces
  - Can be used as a roadmap to assist organisations implementing the GSGF (Europe) in a systematic and consistent way
  - Can be used as basis for self-assessment
  - Is available as PDF, Excel and web format

- GSGF Europe adapts the global GSGF to the European statistical and geospatial operating environment + Surrounding frameworks on which the GSGF builds.
- https://www.efgs.info/gsgf-europe-geostat-information-service/

Requirements and Recommendations

The implementation of the GSGF in Europe is supported by a top-down structure of elements leading from more universal principles via requirements and recommendations to hands-on good practice cases with examples from the Member States. The requirements are considered fundamental actions to start the implementation of the framework, answering the question "What". Each of these requirements connects to a set of more detailed recommendations answering the question "How".

The aim of the requirements and recommendations, assigned to each GSGF principle, is to break down the fairly extensive framework into small, concrete and manageable pieces. The collection of requirements and recommendations is intended as a checklist to assist organisations implementing the GSGF in Europe in a more systematic and consistent way.

The checklist of Requirements and Recommendations to download

Principle1 Principle2 Principle3 Principle4 Principle5

Filter 1 -

Filter 2 -

Show 10 entries

Search:

GSGF Principle	Nr of Requirement	Name of Requirement	Nr of Recommendation	Name of Recommendation	Description
P1	1.1	Use data from National Spatial Data Infrastructures	1.1.1	Use authoritative and INSPIRE compliant geospatial data and services	Any geospatial information used to geospatially enable or display statistical or other data (location information and/or reference data for geocoding), or to produce statistical content, should preferably be built on agreed, authoritative and INSPIRE compliant geospatial data and services.
P1	1.1	Use data from National Spatial Data Infrastructures	1.1.3	Define roles and responsibilities of organisations involved in production of geospatial information	The different roles and responsibilities of various organisations involved in production of geospatial information should be well defined through formal protocols, agreements and Memorandum of Understanding (MoU). For instance, it should be agreed who maintains what information and how often data are updated. Custodian and stewardship models may need to be established to identify the most relevant stakeholders for a geospatial data source. MoU contributes to broaden the scope of geospatial and statistical integration within the design and production of statistical indicators and geospatial statistics, and also provides a context for modernisation and harmonisation of concepts and methodologies, bearing in mind the need to meet quality standards.
P1	1.1	Use data from National Spatial	1.1.4	Establish common geospatial reference data repositories within	The NSDIs must establish a reference data repository building on relevant, authoritative geospatial data and services, and promote the use of open data, in order to help both public and private actors to support their

Exploring assessment tools and maturity models 6.

Task Team virtual meeting 15 November 2022 -

Conclusions:

- Self-assessment – essential for understanding current level of maturity in a certain space and time.
- Maturity levels are not fixed - important to identify gaps and needs for improvement.
- Assess multiple categories of capabilities
- Keep it simple!

- Ensure usefulness also for small steps.
- Design to capture a fundamental level, assume nothing is in place.
- Target audience = low and middle income countries based on gross national income (GNI) per capita

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Points for discussion and appreciation

- The EG-ISGI agreed we needed to develop a capacity assessment tool – following discussions in the EG-ISGI, we propose to expand the scope to include simple and generic maturity models;
- The TT:CB is considering adapting such tools as developed by Paris 21, the GEOSTAT 4-project and the IGIF, working to simplify and bring together elements from these to come up with a self-assessment tool helping countries on their journey into statistical and geospatial integration;

Points for discussion and appreciation

- PARIS21 has kindly offered the option to elaborate the draft SAT-geo self-assessment tool as a joint venture between PARIS21 and the EG-ISGI (combining resources and capacity building expertise from Paris21 with statistical-geospatial expertise of the EG-ISGI);
- The TT:CB welcomes this offer and welcomes other members of the EG-ISGI to participate in this work – we will also aim to update the HLG-IGIF on our progress.

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Thank you for your attention!

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